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MACOM

2015 Product Selection Guide

2015 Product Selection Guide

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Partners from RF to Light



2015 Product Selection Guide

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www.macom.com

MACOM's 2015 Product Selection Guide features our catalog of 3,000+ products. Inside are detailed product specifications designed to help engineers quickly evaluate and select the right products to differentiate their designs. We've expanded our selection guide to include our key technologoes to further assist you in your selection process.

We have more than sixty years of hands-on experience designing and building analog semiconductor technology across the RF, microwave, millimeterwave, and photonic spectrum. Our team works with you, engineer-to-engineer, to identify solutions and inspire success in markets from Aerospace to Automotive, Infrastructure to Industrial, and Military to Medical.

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MACOM's broad portfolio of products, combined with our global organization of expert engineers, can help you solve the world's most demanding wireless and wireline application challenges.

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MACOM™

Partners from RF to Light

Why MACOM?



Partners from RF to Light

MACOM (**www.macom.com**) is a leading supplier of high performance analog RF, microwave, millimeterwave and photonic semiconductor products that enable next-generation Internet and modern battlefield applications. Recognized for its broad catalog portfolio of technologies (GaN, GaAs, InP, SiGe, HMIC™, and Silicon) and products, MACOM serves diverse markets, including high speed optical, satellite, radar, wired and wireless networks, industrial, medical, and mobile devices. A pillar of the semiconductor industry, we thrive on more than 60 years of solving our customers' most complex problems, serving as a true partner for applications ranging from RF to Light.

Headquartered in Lowell, Massachusetts, MACOM is certified to the ISO9001 international quality standard and ISO14001 environmental management standard. MACOM has 26 design centers and sales offices throughout North America, Europe, Asia and Australia.

RF to Light Capabilities

MACOM offers end-to-end customer solutions and support, from proprietary process technologies to high-quality customer service. MACOM can produce and process semiconductor materials, design and manufacture complex devices, and combine these devices into multi-function components. We offer dual-use technologies that enable us to service commercial and aerospace and defense markets. We have unique technologies and capabilities to create innovative design solutions, including:

- Si, GaAs, AlGaAs, InGaAs, InP, GaN, SiPh, SiGe, and RF CMOS IC products
- Unique processes: HMIC, GMIC™ and AlGaAs™
- In-house design, fabrication, assembly, and screening capabilities
- Foundry service
- Build-to-print turnkey assembly capabilities
- Multiple design and sales locations to provide global coverage
- Wide spectrum coverage from RF to millimeterwave frequencies
- One of the broadest selections of standard and custom products in the industry

Commercial, Industrial and Military Products

This guide features our catalog of 3,000+ products. We work with you, engineer-to-engineer, to provide custom products to meet your unique application-specific requirements. If you cannot find a product that meets your needs in this guide, please contact us and we will work together to develop or recommend an appropriate solution. Our team of product managers and engineers is available to support all product and management needs, and offer the experience and attention to detail that ensure success.

Quality and Reliability

MACOM is committed to delivering high-quality products and services that meet our customers'and internal operations' needs in terms of delivery, reliability, performance and value. Process controls are implemented to ensure that tasks are performed properly the first time, so that products and services meet established, agreed-to requirements. It is the personal responsibility of every MACOM employee to ensure quality, customer satisfaction, continual improvement, maintenance of our quality management system and compliance with customer and regulatory requirements.

Design and Manufacturing Facilities

MACOM has multiple design centers, Si, GaAS, and InP fabrication, manufacturing, assembly and test, and operational facilities throughout North America, Europe, Asia, and Australia.

How to Purchase

Sales Representatives and Distribution Partners

Find solutions for your most complex applications today! You can purchase MACOM products online, direct through our sales offices, and through one of our many distribution and sales representative partners.

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To see inventory availability from MACOM and our Distributors click on the Order tab on your selected product page at **www.macom.com**

MACOM produces custom products and modifications to standard products to meet your specific requirements. Please contact us with your specifications if you cannot find a standard product for your application. See the back cover of this catalog for contact information.

Or visit us at www.macom.com for more information.

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MACOM Markets and Applications



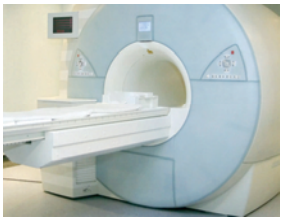
Aerospace & Defense

- Avionics and Air Traffic Control
- Communication
- Electronic Warfare
- Hi-Rel and Space
- Radar



Wireless Networking and Communication

- Global Positioning Systems
- Wireless Backhaul
- Wireless LAN (WiFi)
- Wireless Infrastructure



Industrial, Scientific and Medical

- Healthcare
- Industrial
- Test and Measurement



Optical Networking

- Client Side
- Datacenter
- FTTx
- Line Side
- Metro



Broadcast Video

- Cameras
- Distribution Ampliers
- Format Conversion
- Monitors
- Routers and Switches



Enterprise Solutions

- Backplane Connectivity
- Packet Switchers and Routers
- Storage Area Networks
- Transport Networks/OTN



Surveillance

- Cameras
- DRVs



Wired Broadband

- CATV Head-End
- CATV HFC Infrastructure
- CATV/Satellite Set Top Box
- FTTx Infrastructure

Recognized for our broad portfolio of technologies and products, MACOM serves a range of diverse markets and thrives on more than 60 years of solving our customers' most complex problems. MACOM as a true partner for applica-tions ranging from RF to Light.

For more in-depth information, visit www.macom.com/applications

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Partners from RF to Light

MACOM Technologies

Silicon (Si)

Leveraging our deep understanding of silicon technology, MACOM offers a broad portfolio of product offerings ranging from PIN and varactor tuning diodes to multi-hundred watt silicon power MOSFETs. *Key applications include aerospace and defense, industrial, scientific & medical, test and measurement, CATV and wired broadband, and wireless networking.*

Gallium Arsenide (GaAs)

For over three decades, MACOM has been the world leader in the advancement of GaAs technology, producing state-of-the-art, high performance discrete devices; control components; mixed signal processing and converters; driver amplifiers; CATV amplifiers; LNAs; and power amplifiers as single purpose and multi-function MMICs. *Key applications include industrial, scientific and medical, global positioning system, CATV and wired broadband, wireless backhaul, aerospace and defense, and satellite communication.*

Aluminium Gallium Arsenide (AlGaAs)

Band gap engineering has been used to produce novel semiconductor structures in the microwave industry for over two decades. These band gap principles have been applied to the development of MACOM's AlGaAs technology, resulting in a significant advancement in the RF performance of PIN diodes. *Key applications include industrial, scientific and medical, test and measurement, wireless backhaul, and aerospace and defense.*

Indium Phosphide (InP)

MACOM has assumed a key position in the market as a premier supplier of both photonic devices such as lasers, and optoelectronics products such as high speed modulator drivers, based on InP technology. *Key applications include laser diodes for silicon photonics; data centers; mobile backhaul; access networks and metro markets; and modulator drivers for 100G and 400G coherent networks, metro networks, and data centers.*

Gallium Nitride (GaN)

Having taken a leadership role, MACOM is driving the commercialization of GaN into mainstream applications. Offering the RF and microwave industry's only portfolio of both GaN on Si and GaN on SiC products, and spanning a wide range of package options for pulsed and continuous wave applications, we have firmly established ourselves as leaders across all GaN variants and all end market applications. *Key applications include industrial, scientific and medical, civil and military radar, and communications.*

Silicon Photonics (SiPh)

MACOM is focused on integrated silicon microphotonics. These technologies enable high performance optics with low power in small form factors. Silicon microphotonics in particular brings the benefits of high-density, low-cost and performance scalability, similar to silicon CMOS chip manufacturing. *Key applications include 100G/400G datacom, telecom-metro and long-haul applications, functional passive optical elements including AWGs, optical filters, couplers, and splitters.*

Silicon Germanium (SiGe)

Building upon a long history in designing integrated circuits and subsystems for radar and mmW markets, MACOM leads the way in applying SiGe BiCMOS technology to both commercial and military needs. We see SiGe as a high value, differentiating technology which we will continue to leverage in MACOM's core product segments. *Key applications include high-speed optical network transceivers, base stations, wired broadband communications, high speed cross-point switches, and global positioning systems.*

Heterolithic Microwave Integrated Circuit (HMIC)

Developed at MACOM, this process joins two different materials—glass and silicon—into a single monolithic structure. This technology integrates the best properties of each material and therefore allows monolithic circuit solutions that reduce both size and cost. *Key applications include CATV and wired broadband, wireless backhaul, industrial, scientific and medical, test and measurement, and chip and wire high frequency microwave applications.*

MACOM produces and processes semiconductor materials, and offers unique technologies and capabilities to create innovative design solutions to solve our customers' most complex challenges.

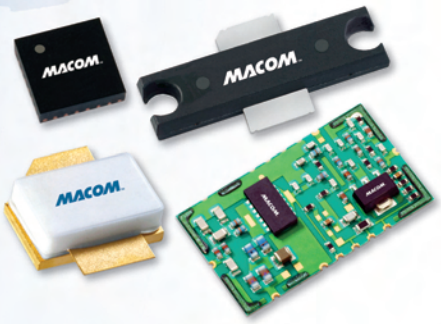
For more in-depth information, visit www.macom.com/technologies

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MACOM RF Power Products

Next generation high power semiconductor technology

MACOM offers a broad range of RF power transistor products—bare die/discrete devices, modules, and pallets designed to operate from 1 MHz to 3.5 GHz. Our high power transistors are ideal for communications, avionics, radar, and industrial, scientific, and medical applications. MACOM's product portfolio provides both standard and custom solutions using bipolar, MOSFET, and Gallium Nitride (GaN) technologies.



GaN on SiC

> Discrete devices, modules, and pallets designed to operate from 1 MHz to 3.5 GHz
> Excellent RF performance, power, gain, gain flatness, efficiency, and ruggedness, utilizing a 0.5 micron HEMT process

GaN on Si

> Discrete transistors and integrated amplifiers utilizing a 0.5 micron HEMT process
> Includes a broad range of RF power transistor products as discrete devices and modules
> Designed to operate from 1 MHz to 6 GHz
> Excellent RF performance, power, gain, gain flatness, efficiency, and ruggedness

Hybrid Amplifiers

> Optimized for commercial air traffic control and military radar applications
> New surface mount technology (SMT) laminate packaged modules
> Supports standard surface mount assembly for high-volume manufacturing
> Improves assembly yield and lowers component count
> Available for the S-, L- and avionics bands

Bipolar

> Discrete devices, modules, and pallets from 1 MHz to 3.5 GHz
> For civil avionics, communications, networks, radar, and industrial, scientific, and medical applications
> All gold metallization fabrication processes ensures high performance and long term reliability

MOSFET

> TMOS and DMOS RF power MOSFET transistor products as discrete devices from 1 MHz to 1.0 GHz
> All gold metallization fabrication processes ensures high performance and long term reliability

GaN Pallets

> Optimized for commercial air traffic control and military radar applications
> Support 50 ohm in and out impedances
> Benefits include improved assembly yield, lower component count, and reduced touch labor
> Available for the S-band

RF Power Transistors GaN on SiC: Pulsed

Part Number	Min Freq (MHz)	Max Freq (MHz)	Operating Voltage (V)	Output Power (W)	Min. Gain (dB)	Pulse Width (µs)	Duty Cycle (%)	Test Freq (MHz)	Package Type and/or Size
MATR-GCHJ04-022050	1	4000	50	15	15	3000	10	1200-1400	Die (0.75 x 0.90 x 0.10)
MATR-GCHJ04-066050	1	4000	50	50 60	11.3 18	1000	10	2700 - 3500 1030 - 1090	Die (0.75 x 1.70 x 0.10)
MAGX-000025-150000	1	2500	50	150	18	300	20	1200-1400	P-256
MAGX-000040-00500P	1	4000	50	5	13 11	1000 3000	10 20	1600	SOT-89
MAGX-000035-01000P	1	3500	50	10	14.8 14	1000 3000	10 20	1600	3 x 6 mm DFN-14
MAGX-000035-01500P	1	3500	50	15	19.5 14.2	1000 3000	10 20	1600 2600	3 x 6 mm DFN-14
MAGX-000035-05000P	1	3500	50	50	18 17	1000 3000	10	1600	3 x 6 mm DFN-14
MAGX-000035-09000P	1	3500	50	90	17.5 16.6	1000 3000	10	1600 1300	3 x 6 mm DFN-14
MAGX-000035-015000	1	3500	50	15	15.5 15	1000 3000	10 20	1200 - 1400	P-260
MAGX-000035-01500S	1	3500	50	15	15.5 15	1000 3000	10 20	1200 - 1400	P-254A
MAGX-000035-045000	1	3500	50	50 60	11.3 18	1000	10	2700 - 3500 1030 - 1090	P-253
MAGX-000912-125L00	960	1215	50	125	20	128	10		P-237
MAGX-000912-250L00	960	1215	50	250	19	128	10		P-237
MAGX-000912-500L00	960	1215	50	500	19.8	128	10		P-238
MAGX-000912-500L0S	960	1215	50	500	19.8	128	10		P-261
MAGX-000912-650L00	960	1215	50	650	20.5	128	10		P-238
MAGX-000912-650L0S	960	1215	50	650	20.5	128	10		P-261
MAGX-001090-600L00	1030	1090	50	600	21.4	32	2		P-238
MAGX-001090-600L0S	1030	1090	50	600	21.4	32	2		P-261
MAGX-001090-700L00	1030	1090	50	700	20.5	32	6.4		P-238
MAGX-001090-700L0S	1030	1090	50	700	20.5	32	6.4		P-261
MAGX-001214-125L00	1200	1400	50	125	19	300	10		P-237
MAGX-001214-250L00	1200	1400	50	250	19	300	10		P-237
MAGX-001214-500L00	1200	1400	50	500	19.2	300	10		P-238
MAGX-001214-500L0S	1200	1400	50	500	19.2	300	10		P-261
MAGX-001214-650L00	1200	1400	50	650	19	300	10		P-238
MAGX-001220-100L00	1200	2000	50	100	14	300	10		P-258
MAGX-002731-100L00	2700	3100	50	100	12	500	10		P-258
MAGX-002731-180L00	2700	3100	50	180	11	300	10		P-253
MAGX-002731-180L0S	2700	3100	50	180	11	300	10		P-259
MAGX-003135-120L00	3100	3500	50	120	11.8	300	10		P-258

RF Power Transistors GaN on SiC: CW

Part Number	Min Freq (MHz)	Max Freq (MHz)	Operating Voltage (V)	Output Power (W)	Min. Gain (dB)	Duty Cycle (%)	Package Type
MAGX-000245-014000	1	2500	50	14	15.2	100	P-260
MAGX-000245-025000	1	2500	28	25	12	100	P-253
MAGX-000035-01000P	1	3500	50	10	14.5	10	3 x 6 mm DFN-14
MAGX-000035-010000	30	3500	50	10	19	100	P-260
MAGX-000035-01000S	30	3500	50	10	19	100	P-254A
MAGX-000040-00500P	1	4000	50	4	10	10	SOT-89

RF Power Transistors GaN on Si: CW

Part Number	Min Freq (MHz)	Max Freq (MHz)	Supply Voltage (V)	Output Power P_{SAT} (W)	Gain (dB)	Test Freq (MHz)	Package
NPA1006	20	1000	28	12.5	14	900	6 x 5 mm DFN-8
NPA1003QA	20	1500	28	5	18	1000	4 mm PQFN-16
NPT1010B	1	2000	28	100	20	900	Flange Ceramic
NPT1010P	1	2000	28	100	20	900	Flange Ceramic
NPT2022	1	2000	48	100	20	900	TO272
NPT2010	1	2200	48	100	17	2100	Flange Ceramic
NPT2021	1	2500	48	45	12.8	2500	TO272
NPA1007	30	2500	28	10	11	2000	6 x 5 mm DFN-8
NPT1007B	1	2500	28	10	11	2000	Flange Ceramic
NPT25100B	1	2700	28	90	16	2500	Flange Ceramic
NPT25100P	1	2700	28	90	16	2500	Flange Ceramic
NPA1008	20	2700	28	5	12	1900	4 x 4 mm PQFN-24
NPT2020	1	3500	48	50	17	2100	Flange Ceramic
NPT1015B	1	3500	28	45	14	2500	Flange Ceramic
NPT35050AB	3300	3800	28	50	13	3500	Flange Ceramic
NPT1012B	1	4000	28	25	13	3000	Flange Ceramic
NPTB00025AB	1	4000	28	25	13	3000	Flange Ceramic
NPTB00025B	1	4000	28	25	13	3000	Flange Ceramic
NPTB00050B	1	4000	28	—	—	—	Flange Ceramic
MAGX-011086	1	6000	28	4	9	5800	4 mm PQFN-24
NPT2018	1	6000	48	12.5	17.5	2500	6 x 3 mm PDFN-14
NPTB00004A	1	6000	28	5	17	2500	SOIC-8NE
NPTB00004D	1	6000	28	5	17	2500	SOIC-8NE

RF Power Transistors GaN on Si: Pulsed

Part Number	Min Freq (MHz)	Max Freq (MHz)	Supply Voltage (V)	Output Power P_{SAT} (W)	Gain (dB)	Test Freq (MHz)	Package
NPT1004D	1	3000	28	45	11	2500	SOIC-8
NPT25015D	1	3000	28	23	14	2500	SOIC-8
NPT2019	1	6000	48	25	16	2500	3 x 6 mm DFN-14
NPT35015D	3000	4000	28	18	11	3500	SOIC-8

RF Power Hybrid Amplifiers: GaN Amplifiers

Part Number	Min Freq (MHz)	Max Freq (MHz)	Operating Voltage (V)	Output Power (W)	Gain (dB)	Pulse Width (µs)	Duty Cycle (%)	Package Type
MAMG-000305-050L0L	380	480	50	50	28	300	10	LGA2414
MAMG-000305-050L0M	380	480	50	50	28	300	10	LGA2414
MAMG-000912-090PSM	960	1215	50	90	30	300	10	LGA2414
MAMG-001214-090PSM	1200	1400	45	90	30.5	1000	10	LGA2414
MAMG-001215-090L0L	1200	1450	45	90	30.5	1000	10	LGA2414
MAMG-001215-090L0M	1200	1450	45	90	30.5	1000	10	LGA2414
MAMG-002735-085L0L	2700	3500	50	85	23 23	1000 750	10 20	LGA2414
MAMG-002735-030L0L	2700	3500	50	30	25.5 20	1000 750	10 20	7 x 7 mm PQFN-28

Note: Part numbers are RoHS compliant ◆ indicates non-RoHS compliant
Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box.
All specifications are subject to change.

RF Power Transistors: Silicon Bipolar

Part Number	Min Freq (MHz)	Max Freq (MHz)	Pout (W)	Gain (dB)	Efficiency (%)	Package Type
MRF421	1	30	100	10	40	Flange Ceramic
MRF428	2	30	150	13	45	Flange Ceramic
MRF429	2	60	150	13	45	Flange Ceramic
MRF422	2	30	150	10	40	Flange Ceramic
MRF426	2	30	25	22	35	Flange Ceramic
MRF454	2	30	80	12	50	Flange Ceramic
MRF455	2	30	60	13	55	Flange Ceramic
MRF448	2	30	250	12	45	Flange Ceramic
MRF141G	5	175	300	12	50	Flange Ceramic
MRF316	30	200	80	10	55	Flange Ceramic
MRF314	30	200	30	10	50	Flange Ceramic
MRF317	30	200	100	9	55	Flange Ceramic
MRF313	100	400	1	15	45	Flange Ceramic
MRF393	100	500	100	9.5	55	Flange Ceramic
MRF392	100	400	125	10	55	Flange Ceramic
MRF587	100	500	—	13	—	Flange Ceramic
MRF321	150	400	10	12	50	Flange Ceramic
MRF323	150	400	20	10	50	Flange Ceramic
2N6439	225	400	60	7.8	55	Flange Ceramic
MRF327	225	400	80	7.3	50	Flange Ceramic
MAPR-000912-500S00	960	1215	500	9	45	Flange Ceramic
MAPRST0912-50	960	1215	50	9.1	40	Flange Ceramic
MAPRST0912-350	960	1215	350	9.4	45	Flange Ceramic
MRF1004MB	960	1215	4	10	40	Flange Ceramic
MRF10031	960	1215	30	9	40	Flange Ceramic
MRF10005	960	1215	5	8.5	45	Flange Ceramic
MRF10120	960	1215	120	8	50	Flange Ceramic
MRF1000MB	960	1215	0.7	10	—	Flange Ceramic
MRF1150MB	960	1215	150	7.8	35	Flange Ceramic
MRF1090MB	960	1215	90	8.4	35	Flange Ceramic
MAPR-001090-350S00	1025	1150	350	9	45	Flange Ceramic
MAPR-001011-850S00	1025	1150	850	7.8	42	Flange Ceramic
MRF10150	1025	1150	150	9.5	40	Flange Ceramic
MRF10350	1025	1150	350	8.5	40	Flange Ceramic
MRF10502	1025	1150	500	8.5	40	Flange Ceramic
MAPRST1030-1KS	1030	1030	1000	8	45	Flange Ceramic
PH1090-700B	1030	1090	700	7.5	50	Flange Ceramic
PH1090-15L	1030	1090	15	9	40	Flange Ceramic
PH1090-550S	1030	1090	550	7.4	55	Flange Ceramic
PH1090-175L	1030	1090	175	8.3	55	Flange Ceramic
PH1090-350L	1030	1090	350	8	55	Flange Ceramic
PH1090-75L	1030	1090	75	9	45	Flange Ceramic
PH1113-100	1100	1300	100	8	52	Flange Ceramic
MAPR-001214-380M00	1200	1400	380	8.8	45	Flange Ceramic
PH1214-3L	1200	1400	3	5.7	40	Flange Ceramic
PH1214-300M	1200	1400	300	8.75	50	Flange Ceramic

Note: Part numbers are RoHS compliant ◆ indicates non-RoHS compliant
Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box.
All specifications are subject to change.

RF Power Transistors: Silicon Bipolar (continued)

Part Number	Min Freq (MHz)	Max Freq (MHz)	Pout (W)	Gain (dB)	Efficiency (%)	Package Type
PH1214-25L	1200	1400	25	9.5	50	Flange Ceramic
PH1214-55EL	1200	1400	55	6.6	50	Flange Ceramic
PH1214-0.85L	1200	1400	0.85	9.3	30	Flange Ceramic
PH1214-12M	1200	1400	12	9	45	Flange Ceramic
PH1214-30EL	1200	1400	30	7.8	50	Flange Ceramic
PH1214-25M	1200	1400	25	9.5	50	Flange Ceramic
PH1214-110M	1200	1400	110	7.4	50	Flange Ceramic
PH1214-2M	1200	1400	2	7	45	Flange Ceramic
PH1214-80M	1200	1400	80	7.5	50	Flange Ceramic
PH1214-100EL	1200	1400	100	6	52	Flange Ceramic
PH1214-6M	1200	1400	6	7	45	Flange Ceramic
PH1214-220M	1200	1400	220	7.4	50	Flange Ceramic
PH1214-40M	1200	1400	40	8.5	50	Flange Ceramic
MRF16006	1600	1640	6	7.4	40	Flange Ceramic
PH1617-2	1600	1700	2	10	35	Flange Ceramic
PH2226-50M	2200	2600	50	8	45	Flange Ceramic
PH2226-110M	2200	2600	110	8	40	Flange Ceramic
MAPR-002731-115M00	2700	3100	115	7.6	38	Flange Ceramic
MAPR-002729-170M00	2700	2900	170	9	45	Flange Ceramic
PH2729-65M	2700	2900	65	8.5	40	Flange Ceramic
PH2729-130M	2700	2900	130	7.5	40	Flange Ceramic
PH2729-8.5M	2700	2900	8.5	8.1	35	Flange Ceramic
PH2729-25M	2700	2900	25	9.2	45	Flange Ceramic
PH2731-5M	2700	3100	5	7	30	Flange Ceramic
PH2729-110M	2700	2900	110	6.8	35	Flange Ceramic
PH2731-20M	2700	3100	20	8.2	45	Flange Ceramic
PH2731-75L	2700	3100	75	7	40	Flange Ceramic
PH2856-160	2856	2856	160	7.5	40	Flange Ceramic
PH2931-20M	2900	3100	20	8.2	45	Flange Ceramic
PH3134-30S	3100	3400	30	7.5	35	Flange Ceramic
PH3134-55L	3100	3400	55	7.5	35	Flange Ceramic
PH3134-20L	3100	3400	20	7.5	35	Flange Ceramic
PH3134-25M	3100	3400	25	7.5	35	Flange Ceramic
PH3135-65M	3100	3500	65	7.5	35	Flange Ceramic
PH3134-10M	3100	3400	10	8	35	Flange Ceramic
PH3135-25S	3100	3500	25	7.5	35	Flange Ceramic
PH3135-5M	3100	3500	5	8.5	30	Flange Ceramic
PH3135-90S	3100	3500	90	7.5	35	Flange Ceramic
PH3134-65M	3100	3400	65	7.5	35	Flange Ceramic
PH3135-20M	3100	3500	20	7.5	35	Flange Ceramic

Note: Part numbers are RoHS compliant ◆ indicates non-RoHS compliant
Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box.
All specifications are subject to change.

RF Power Transistors: MOSFET

Part Number	Min Freq (MHz)	Max Freq (MHz)	Pout (W)	Gain (dB)	Efficiency (%)	Package Type
MRF176GU	5	400	150	14	50	Flange Ceramic
MRF151A	5	175	150	13	40	Flange Ceramic
MRF176GV	5	225	200	17	55	Flange Ceramic
MRF175LU	5	400	100	10	55	Flange Ceramic
MRF140	5	150	150	15	40	Flange Ceramic
MRF175GU	5	400	150	12	55	Flange Ceramic
MRF141	5	175	150	18	40	Flange Ceramic
MRF173CQ	5	175	80	13	60	Flange Ceramic
MRF136Y	5	400	30	14	54	Flange Ceramic
MRF148A	5	175	30	18	40	Flange Ceramic
MRF158	5	500	2	16	55	Flange Ceramic
MRF174	5	200	125	9	50	Flange Ceramic
MRF175GV	5	225	200	14	65	Flange Ceramic
MRF177	5	400	100	12	60	Flange Ceramic
MRF173	5	175	80	11	60	Flange Ceramic
MRF166C	5	500	20	13.5	50	Flange Ceramic
MRF166W	5	500	40	14	50	Flange Ceramic
MRF134	5	400	5	11	50	Flange Ceramic
MRF151	5	175	150	13	40	Flange Ceramic
MRF137	5	400	30	13	60	Flange Ceramic
MRF150	5	150	150	17	45	Flange Ceramic
MRF275G	5	500	150	10	50	Flange Ceramic
MRF160	5	500	4	16	55	Flange Ceramic
MRF154	5	80	600	17	45	Flange Ceramic
MRF275L	5	500	100	8.8	55	Flange Ceramic
MRF151G	5	175	300	14	50	Flange Ceramic
MRF157	5	80	600	21	45	Flange Ceramic
MRF136	5	400	15	16	60	Flange Ceramic
DU2880V	30	175	80	13	60	Flange Ceramic
DU2860T	30	175	60	13	60	Flange Ceramic
DU28120T	30	175	120	13	60	Flange Ceramic
DU2880U	30	175	80	13	60	Flange Ceramic
DU1215S	30	175	15	9.5	60	Flange Ceramic
DU2810S	30	175	10	13	55	Flange Ceramic
DU2880T	30	175	80	13	60	Flange Ceramic
DU28120V	30	175	120	13	60	Flange Ceramic
DU2805S	30	175	5	11	55	Flange Ceramic
DU2820S	30	175	20	13	60	Flange Ceramic
DU28200M	30	175	200	13	55	Flange Ceramic
DU2860U	30	175	60	13	60	Flange Ceramic
DU2840S	30	175	40	13	60	Flange Ceramic
MRF171A	100	200	45	17	60	Flange Ceramic
UF28100H	100	500	100	10	50	Flange Ceramic
UF2820R	100	500	20	10	50	Flange Ceramic
UF2815B	100	500	15	10	50	Flange Ceramic
UF2805B	100	500	5	10	50	Flange Ceramic
UF2840P	100	500	40	10	50	Flange Ceramic
UF2820P	100	500	20	10	50	Flange Ceramic
UF2810P	100	500	10	10	50	Flange Ceramic

Note: Part numbers are RoHS compliant ◆ indicates non-RoHS compliant
Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box.
All specifications are subject to change.

RF Power Transistors: MOSFET (continued)

Part Number	Min Freq (MHz)	Max Freq (MHz)	Pout (W)	Gain (dB)	Efficiency (%)	Package Type
UF28100V	100	500	100	10	50	Flange Ceramic
UF28100M	100	500	100	10	50	Flange Ceramic
UF2840G	100	500	40	10	50	Flange Ceramic
UF28150J	100	500	150	8	55	Flange Ceramic
LF2802A	500	1000	2	10	40	Flange Ceramic
LF2805A	500	1000	5	10	50	Flange Ceramic

RF Power Hybrid Pallets: GaN Pallets

Part Number	Min Freq (MHz)	Max Freq (MHz)	Operating Voltage (V)	Output Power (W)	Min. Gain (dB)	Pulse Width (µs)	Duty Cycle (%)	Package Size (mm)
MAPG-002729-350L00	2700	2900	50	400	11.5	300	10	50.8 x 22.9 x 5.8

GaN and GaAs Device Bias Sequencer

Supply Number	Positive Supply Voltage (V)	Positive Supply Current (mA)	Negative Supply Voltage (V)	Negative Supply Current (mA)	Output Gate Voltage (V)	Output Gate Current mA)	Pulse Enable TTL Voltage (V)	Package
MABC-001000-DP000L	50	14	-6	-3	2.3	-8 to 0	50	SMJ2307
MABC-001000-DPS00L	50	14	-6	-3	0	-8 to 0	50	SMJ2307

RF Power: Silicon Bipolar Pallets and Modules

Part Number	Min Freq (MHz)	Max Freq (MHz)	Pout (W)	Gain (dB)	Efficiency (%)	Package Type
MAPM-020512-010C00	20	512	10	25	17	Nickel Plated Aluminum Housing
PHA2729-300M	2700	2900	300	7.5	36	Pallet
PHA2731-140L	2700	3100	140	7	35	Pallet
MAPPST2933-190M	2900	3300	190	7	35	Pallet
MAPP-003134-150L00	3100	3400	150	8	36	Pallet
MAPP-003134-180M00	3100	3400	180	7.5	36	Pallet
PHA3135-130M	3100	3500	130	7.4	35	Pallet

See Appendix — page 90 for GaN Product Part Number Nomenclature Reference

Note: Part numbers are RoHS compliant ◆ indicates non-RoHS compliant
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MACOM Optoelectronics

Products to meet the growing demand for data capacity

MACOM supports a large portfolio of components and lasers for optical communications, from long haul core networks to FTTx access networks. The portfolio addresses the high performance analog interfaces between electrical and optical domains, and provides solutions to meet the demanding size, power, and signal integrity requirements of today's high speed networks— which are expanding to meet the continuously growing demand for data capacity. Ideal data center solutions—both short reach multi-mode applications and long reach single-mode fiber applications. These products include high performance modulator drivers, transimpedance amplifiers, clock/data recovery circuits, and FP & DFB lasers for enterprise and optical systems operating up to 100 Gbps and beyond. For FTTx, MACOM has the broadest portfolio of lasers, laser drivers, limiting amplifiers, and TIAs covering systems from EPON to XGPON.



Clock and Data Recovery

- Removes jitter from signals in high data rate systems
- Offers design flexibility and cost-reduction features
- Uses Mindspeed signal conditioning technology for lower cost board materials and components with increased design margins
- Ideal for Ethernet, Fiber Channel, InfiniBand, SONET, PCIe, telecom, datacom, and enterprise applications

Optical Modulator Drivers

- From 1 Gbps up to more than 100 Gbps,
- For high performance Mach-Zehnder modulators, externally modulated lasers (EML) and directly modulated lasers (DML)
- Solutions for FTTx and short range pluggable transceivers to ultra-long haul transponders for submarine applications
- Solutions for Data Center VCSEL based, multimode-fiber applications
- Die and surface mount packages

Laser and Modulator Drivers: FTTx

- Maximum signal integrity with minimum power dissipation in the smallest form factor
- Single, dual and quad channel models
- Applications from FTTx and short range pluggable transceivers to ultra-long haul transponders for submarines
- Packaging solutions include: GPPO modules, surface mount package, and bare die for integration in a TOSA

Optical Post Amplifiers

- Convert differential or single-ended analog signals to high-speed digital outputs
- Available in a number of speeds, covering 155 Mbps to 12.5 Gbps applications

Transimpedance Amplifiers (TIAs)

- For line and client side 10G, 40G and 100G fiber optic receivers
- Includes linear TIAs for long haul coherent receivers and limiting TIAs for shorter range NRZ based receivers
- Solutions for data center short wavelength, multimode-fiber applications
- Available in die form for integration with photo-detectors in an optical sub-assembly

Clock and Data Recovery

Part Number	Description	Max Data Rate (Gbps)	Supply Voltage	Channels (#)	Switch Matrix Size	Package Type and Size (mm)
MATA-37044	Four Channel 25G / 28G CDR with Integrated TIA	28.05	1.8 & 3.3	4	—	Die
MALD-37045	Four Channel 25G / 28G CDR with Integrated VCSEL Driver	28.05	1.8 & 3.3	4	—	Die
M21012	42 Mbps to 3.2 Gbps Quad Multi-Rate CDR	3.2	1.8-3.3	4 x 4	4 x 4	10 x 10 72-pin QFN
M21050	3.2 Gbps Quad Duplex Multi-rate CDR	3.2	1.8-2.5	8 x 8	8 x 8	10 x 10 72-pin QFN
M37040	Four Channel 25G / 28G CDR with Integrated Limiting Amplifier	28.05	2.5-1.8	4	1 x 2	7 x 7 48-pin LFGA
M37041	Four Channel 25G / 28G CDR with Integrated Input Equalizer	28.05	2.5-1.8	4	1 x 2	7 x 7 48-pin LFGA
M37046	Four Channel 25G / 28G CDR Limiting Amplifier	28.05	1.8	4	—	4 x 4.5 CSP
M37047	Four Channel 25G / 28G CDR with Integrated EML Driver	28.05	1.8	4	—	4 x 4.5 CSP
M37049	Four Channel 25G / 28G CDR with Input Equalizer	28.05	1.8 & 3.3	4	—	4 x 4.5 CSP

Client Side EML Drivers

Part Number	Description	Application Data Rate (Gbps)	Channels (#)	Max Output Voltage (Vpp)	Rise/Fall Times (pS)	Package Type and Size (mm)
MAOM-002207	28 Gbps EML Driver	100	1	2.5	12	Die 1.045 x 0.945
MAOM-003401	Low Power, Quad Channel 28 Gbps EML Driver	100	4	1.6	12	SMD 10 x 10 x 1.4
MAOM-37051A	Quad Channel 28 Gbps CDR with EML Driver	100	4	2.5	12	SMD 11 x 7
MAOM-002203	28 Gbps EML Driver	100	1	2.5	12	SMD 4 x 4 x 2.3
MAOM-02204A	Quad Channel 28 Gbps EML Driver	100	4	2.5	12	SMD 14 x 8 x 2.3
MAOM-002200	28 Gbps EML Driver	100	1	2.5	12	SMD 4 x 4 x 2.3
M37047	Four Channel 25G / 28G CDR with EML Driver	100	4	—	—	CSP 4 x 4.5
MAOM-003115	28 Gbps Linear EML Driver	400	1	2	—	SMD 4 x 4 x 2.3
MAOM-004115	Quad Channel 28 Gbps Linear EML Driver	400	4	2	—	SMD 14 x 8 x 2.3
MAOM-001200	11.3 Gbps EML Driver	11.3	1	3	27	SMD 4 x 4
MAOM-001201	11.3 Gbps EML Driver	11.3	1	2.3	27	SMD 3 x 3

Client Side DML Drivers

Part Number	Description	Max Data Rate (Gbps)	Channels (#)	Max Output Current (mApp)	Package
MAOM-002301	28 Gbps DML Driver	28	1	70	Die
MAOM-002304	Quad Channel 28 Gbps DML Driver	28	4	70	Die

Note: Part numbers are RoHS compliant ◆ indicates non-RoHS compliant
Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box.
All specifications are subject to change.

Line Side Modulator Drivers

Part Number	Description	Max Data Rate (Gbps)	Channels (#)	Max Output Voltage (Vpp)	Rise/Fall Times (pS)	Package Type and Size (mm)
MAOM-003105	Quad Channel 32 Gbps MZ Modulator Driver	32	4	8	12	Module 24.5 x 34.6 x 5.43
MAOM-003104	Quad Channel 32 Gbps MZ Modulator Driver	32	4	8	11	Module 25 x 40 x 6.5
MAOM-002105	32 Gbps MZ Modulator Driver		32	1	8 12	SMD 14.4 x 7 x 2.3
MAOM-002103	32 Gbps MZ Modulator Driver		32	1	8 12	SMD 14.4 x 7 x 2.3
MAOM-003106	Dual Channel 32 Gbps MZ Modulator Driver	32	2	7.5	12	SMD 10 x 10 x 2.3
MAOM-003108	Dual Channel 32 Gbps Linear MZ Modulator Driver	32	2	6	12	SMD 10 x 10 x 2.3
MAOM-03404A	Quad Channel 32 Gbps Limiting Differential MZ Modulator Driver	32	4	5	12.5	SMD 14 x 9.1 x 2.3
MAOM-003405	Quad Channel 32 Gbps MZ Modulator Driver	32	4	6.5	12.5	SMD 13 x 19 x 2.3
MAOM-003407	Quad Channel 32 Gbps Linear MZ Modulator Driver	32	4	6	12.5	SMD 13 x 19 x 2.3
MAOM-03409B	Quad Channel 32 Gbps Linear Differential Modulator Driver	32	4	4	12.5	SMD 14 x 9.1 x 2.3
MAOM-003414	Quad Channel 32 Gbps Linear MZ Modulator Driver	32	4	6	12.5	GPPO 41 x 29 x 6.4
MAOM-003415	Quad Channel 32 Gbps Limiting MZ Modulator Driver	32	4	5	12.5	SMD 14 x 9.1 x 2.5
MAOM-003417	Quad Channel 32 Gbps Linear MZ Modulator Driver	32	4	4.5	12.5	SMD 14 x 9.1 x 2.5
MAOM-002108	28 Gbps Differential MZ Modulator Driver IC	28	1	6.5	12	SMD 4.7 x 6.5 x 2.3

Lasers and Modulator Drivers: FTTx

Part Number	Description	Max Data Rate (Gbps)	Supply Voltage (V)	Channels (#)	Max Output Mod Current (mA)	Package
M02097	LED Driver/Limiting Amplifier	0.5	3.3, 5	1	120	5 mm QFN
M02068	622 Mbps, Laser Driver	1	3.3	1	85	4 mm BCC+24L
M02094	VCSEL/FP Laser Driver	2	3.3, 5	1	45	4 mm QFN
M02067	Laser Driver	2.1	3.3	1	85	4 mm QFN
M02066	Laser Driver	2.5	3.3	1	85	4 mm BCC+24L
M02090	Burst Mode Laser Driver/Limiting Amplifier	2.5	3.3	1	100	5 mm QFN
M02098	Burst Mode Laser Driver/Limiting Amplifier	2.5	3.3	1	100	5 mm QFN
M02077	Laser Driver/Limiting Amplifier	3.1	3.3	1	100	4 mm QFN
M02099	Burst Mode Laser Driver/Limiting Amplifier + DDMI controller & APD DC-DC Controller	3.1	3.3	1	100	4 mm QFN
M02100	Burst Mode Laser Driver/Limiting Amplifier + DDMI controller & EEPROM	3.1	3.3	1	100	4 mm QFN
M02069	VCSEL Driver	4.3	3.3, 5	1	45	4 mm QFN
M02061	Laser Driver	4.3	3.3, 5	1	2.5	4 mm QFN
M02170	Laser Driver	11.3	3.3	1	100	5 mm QFN
M02171	Dual Loop VCSEL Driver	11.3	3.3	1	25	5 mm QFN
M02172	EML Driver	11.3	3.3	1	2.5	5 mm QFN
M02076	Laser Driver/Limiting Amplifier + DDMI controller & APD DC-DC Controller	3.1	3.3	1	100	4 mm QFN
M02190	DML Laser Driver/Limiting Amplifier with Integrated Tx/Rx CDR	12.5	*CONTACT MACOM*			
M02193	DDMI Controller + EEPROM & APD DC-DC Controller	12.5	*CONTACT MACOM*			
M02180	Burst Mode Laser Driver/Limiting Amplifier + Rx CDR + DDMI Controller + APD DC-DC Controller & EEPROM	12.5	*CONTACT MACOM*			
M02095	2.5 Gbps, 3.3/5 V Laser Driver/Limiting Amplifier	1.25	3.3, 5	1	85	5 mm QFN
M02096	2.5 Gbps, 3.3/5 V Laser Driver/Limiting Amplifier	4.3	3.3, 5	1	85	5 mm QFN

Optical Post Amplifers

Part Number	Description	Max Data Rate (Gbps)	Supply Voltage (V)	Channels (#)	Input Sensitivity	Package
M02046	1.25 Gbps, 3.3 or 5V Post-Amplifier	1.25	3.3, 5	1	12.8	5 x 6.2 mm QSOP
M02040	2.1 Gbps, 3.3 or 5V Post-Amplifier	2.1	3.3, 5	1	2	3 mm QFN
M02050	3.2 Gbps, 3.3 or 5V Post-Amplifier	2.5	3.3	1	13.5	3 mm QFN
M02142	11.3 Gbps Limiting Amplifier	11.3	3.3	1	13	3 mm QFN
M02140	12.5 Gbps, Low Power Post-Amplifier	12.5	3.3	1	8	4 mm QFN
M02044	622 Mbps Post-Amplifier	0.622	3.3, 5	1	2.5	5 x 6.2 mm QSOP

Transimpedance Amplifiers: Communications

Part Number	Description	Data Rate Max (Gbps)	Differential Transimpedance Gain (kohm)	Small Signal Bandwidth (GHz)	Input Overload Current (mA)	Input Referred Noise (IRN, RMS nA)	Optical Sensitivity with PIN (dBm)	Optical Sensitivity with APD (dBm)
M02006	AGC Pre-Amplifier	0.155	260	0.1	2.2	8	-39	—
M02007	AGC Pre-Amplifier	0.156	62	0.14	2.8	8	-39	—
M02009	AGC Pre-Amplifier	0.622	36	0.4	4.5	70	-32	—
M02011	AGC Pre-Amplifier	0.622	65	0.6	4	50	-34	—
M02016	AGC Pre-Amplifier	1.25	24	1	4	130	-29l	—
M02026	CMOS TIA with AGC	1.25	112	1.05	4	120	-31	—
M02028	CMOS TIA with AGC	1.25	24	1.3	4	80	-31	—
M02036	Burst Mode GPON OLT TIA	1.25	3.8	0.8	2.5	170	—	-35
M02038	Burst Mode GEPON OLT TIA	1.25	8.5	0.85	4	350	—	-34
M02014	AGC Pre-Amplifier	2.488	11	1.4	4	250	-26.5	—
M02015	AGC Pre-Amplifier	2.488	9	1.4	4	290	-26	—
M02024	AGC Pre-Amplifier	2.488	51	1.27	4	180	-28	—
M02035	Burst Mode OLT TIA	2.488	3.6	1.7	1.5	250	—	-33
M02013	AGC Pre-Amplifier	3.125	10	2.4	4	475	-23	—
M02025	CMOS TIA with AGC	3.2	20	1.45	4	120	-30	—
M02020	CMOS TIA with AGC	4.25	3.6	3.4	4	550	-23	-29
M02139	TIA with AGC	10.312	2.5	7.5	2.5	1500	-20	-27
M02129	TIA with AGC	8.5	2	7.8	3	1200	-18	-25
M02027	Ultra High Sensitivity TIA with AGC	3.125			*CONTACT MACOM*			
M02029	CMOS TIA with AGC	3.125	10	1.85	4	130	-35	—
M02131	TIA with AGC	11.3						
M03002	Low Power Single Channel TIA	28			*CONTACT MACOM*			
M03100	Low Power 4x TIA in 250µm space	28			*CONTACT MACOM*			
M03101	Low Power 4x TIA in 500µm space	28			*CONTACT MACOM*			
M03102	Low Power 4x TIA in 750µm space	28			*CONTACT MACOM*			
MATA-37044	Four Channel 25G / 28G CDR with Integrated TIA	28.05			*CONTACT MACOM*			
MATA-03806	Dual Channel Linear TIA	32	10	25	3	17	—	—

LED/Laser Drivers for Displays

Part Number	Description	Current per Channel (mA)	Maximum Current (mA)	Channels (#)	Programmable Internal PWMI Generator	Integrated PMIC Control	Automatic Power Despeckle	Electronic Laser
M08886	High Performance for Projection Displays	up to 2A	up to 4A	3	Yes	No	Yes	Yes
M08888	High Performance for Projection Displays	2A	up to 6A	3	Yes	No	Yes	No
M08889	High Performance for Projection Displays	2A	2A	3	Yes	Yes	Yes	No
M08898	For Panel-Based Projectors	2A	up to 8A	4	Yes	No	No	No
M08890	For Panel-Based Projectors	2A	up to 6A	3	Yes	No	No	No
M09000	For DLP/LCoS Displays	1.2A	1.2A	3	No	Yes	No	No
M09001	For DLP/LCoS Displays	1.2A	1.2A	3	No	Yes	No	No
M08980	For DLP/LCoS Displays	1.2A	1.2A	3	No	Yes	No	No

MACOM Silicon Photonics Technology

Photonic chipset solutions for optimized power, size and cost

Silicon Photonics (SiPh) is an emerging technology that uses semiconductor-grade silicon as the platform for the integration of active and passive integrated photonic circuits along with electronic components on a single micro-chip. With the necessary expertise, the technology enables innovative solutions utilizing silicon optical circuits and micro-optics, while allowing the optimal integration of control electronics and system packaging.

MACOM is focused on integrated silicon microphotonics. These technologies combine high performance optics with low power and small size attributes. Silicon microphotonics in particular brings the benefits of high-density, low-cost and performance scalability, similar to silicon CMOS chip manufacturing.

Key advantages

- High-index contrast for compact optical circuitry
- Strong optical effects due to the plasma dispersion effect
- High functionality covering a variety of devices, including switches, modulators, integrated photodetectors, couplers, and biosensors
- High-speed silicon (>50 Gbps) modulation
- Nanophotonic components: ring resonators, filters
- Integrated photodetectors
- Operation in the important telecom and datacom wavelength ranges (O- and C-Bands)

Key applications

- 100G/400G Datacom: data centers and campus applications
- Telecom: metro and long-haul applications
- Functional passive optical elements including AWGs, optical filters, couplers, and splitters
- High performance active elements including VOAs and phase, amplitude and frequency modulators for advanced modulation formats
- Optical engines combining optics and electronics
- Radio over fiber transport and backhaul
- Transceiver products including embedded optical modules, transmitters/receivers, and active optical cables
- Optical switch fabrics
- Metrology and sensor applications
- Medical applications like DNA, glucose, molecular and cellular analysis sensors
- Military/aerospace/scientific sensor applications
- Emerging products like 3DICs/integrated optoelectronic chips
- Consumer: easy-to-use compact cabling for desktop PC, peripherals, home media servers and networked HDTVs
- High-performance computing and data center applications
- Professional video, digital signage, digital cinemas, and video recording

Distributed Feedback Lasers

Part Number	Description	Max Data Rate (Gbps)	Wavelength (nm)	Temp Options (°)	Package Type and Size
131D-02E-KCT11-08	2.5G 1310 nm DFB NFF LD, 8 mW, Chip on Tape	2.5	1310	-20 to 85C	Die 300 x 265 x 100
131D-02E-KCT11	2.5G 1310 nm DFB NFF LD, Chip on Tape	2.5	1310	-20 to 85C	Die 300 x 265 x 100
131D-02E-LCT11	2.5G 1310 nm DFB Std LD, Chip on Tape	2.5	1310	-20 to 85C	Die 300 x 250 x 100
131D-02E-LCT11-07	2.5G 1310 nm DFB Std LD, 7 mW, Chip on Tape	2.5	1310	-20 to 85C	Die 300 x 250 x 100
131D-02E-LCT11-09	2.5G 1310 nm DFB Std LD, 9 mW, Chip on Tape	2.5	1310	-20 to 85C	Die 300 x 250 x 100
131D-02E-LCT11-10	2.5G 1310 nm DFB Std LD, 10 mW, Chip on Tape	2.5	1310	-20 to 85C	Die 300 x 250 x 100
131D-02I-KCT11	2.5G 1310 nm DFB NFF LD, Chip on Tape	2.5	1310	-40 to 85C	Die 300 x 265 x 100
131D-02I-LCT11	2.5G 1310 nm DFB Std LD, Chip on Tape	2.5	1310	-40 to 85C	Die 300 x 250 x 100
131D-02I-LCT11-07	2.5G 1310 nm DFB Std LD, 7 mW, Chip on Tape	2.5	1310	-40 to 85C	Die 300 x 250 x 100
131D-02J-LCT11-07	2.5G 1310 nm DFB Std LD, 7 mW, Chip on Tape	2.5	1310	-10 to 85C	Die 300 x 250 x 100
131D-02C-LCT11-20	2.5G 1310 nm DFB Std LD, 20 mW, Chip on Tape	2.5	1310	0 to 70C	Die 300 x 250 x 100
131D-00G-LCG11-20CW	1310 nm DFB LD 20 mW, Chip in Gel Pak	10	1310	-5 to 85C	Die 300 x 250 x 100
129D-10G-LCT11	10G CWDM DFB LD (WL -3.5/+2.5 nm), Chip on Tape	10	1290	-5 to 85C	Die 250 x 300 x 100
129D-10G-LCT11-S	10G Hi-BW CWDM DFB LD, WL -3.5/+2.5 nm, Chip on Tape	10	1290	-5 to 85C	Die 250 x 300 x 100
127D-10G-LCT11	10G CWDM DFB LD (WL -3.5/+2.5 nm), Chip on Tape	10	1270	-5 to 85C	Die 250 x 300 x 100
127D-10G-LCG11-S	Hi-BW CWDM DFB LD,WL-3.5/+2.5 nm, Chip in Gel Pak	10	1270	-5 to 85C	Die 250 x 300 x 100
131D-10G-LCG11	10G CWDM DFB LD (WL -3.5/+2.5 nm), Chip in Gel Pak	10	1310	-5 to 85C	Die 250 x 300 x 100
131D-10G-LCG11-S	Hi-BW CWDM DFB LD, WL -3.5/+2.5 nm, Chip in Gel Pak	10	1310	-5 to 85C	Die 250 x 300 x 100
131D-10G-LCT11	10G CWDM DFB LD (WL -3.5/+2.5 nm), Chip on Tape	10	1310	-5 to 85C	Die 250 x 300 x 100
131D-10G-LCT11-S	10G Hi-BW CWDM DFB LD, WL -3.5/+2.5 nm, Chip on Tape	10	1310	-5 to 85C	Die 250 x 300 x 100
127D-10G-LCT11-S	10G Hi-BW CWDM DFB LD, WL-3.5/+2.5 nm, Chip on Tape	10	1270	-5 to 85C	Die 250 x 300 x 100
127D-10G-LCG11	10G CWDM DFB LD (WL -3.5/+2.5 nm), Chip in Gel Pak	10	1270	-5 to 85C	Die 250 x 300 x 100
133D-10G-LCG11	10G CWDM DFB LD (WL -3.5/+2.5 nm), Chip in Gel Pak	10	1330	-5 to 85C	Die 250 x 300 x 100
133D-10G-LCG11-S	Hi-BW CWDM DFB LD, WL-3.5/+2.5 nm, Chip in Gel Pak	10	1330	-5 to 85C	Die 250 x 300 x 100
133D-10G-LCT11	10G CWDM DFB LD (WL -3.5/+2.5 nm), Chip on Tape	10	1330	-5 to 85C	Die 250 x 300 x 100
133D-10G-LCT11-S	10G Hi-BW CWDM DFB LD, WL-3.5/+2.5 nm, Chip on Tape	10	1330	-5 to 85C	Die 250 x 300 x 100
129D-10G-LCG11	10G CWDM DFB LD (WL -3.5/+2.5 nm), Chip in Gel Pak	10	1290	-5 to 85C	Die 250 x 300 x 100
129D-10G-LCG11-S	Hi-BW CWDM DFB LD, WL-3.5/+2.5 nm, Chip in Gel Pak	10	1290	-5 to 85C	Die 250 x 300 x 100
133D-25C-LCG11-S	25G Hi-BW 1330 nm CWDM DFB LD, Chip in Gel Pak	25	1330	0 to 70C	Die 250 x 250 x 100
127D-25B-LCG11-S	25G Hi-BW 1270 nm CWDM DFB LD, Chip in Gel Pak	25	1270	0 to 50C	Die 250 x 250 x 100
127D-25B-LCT11	25G 1270 nm CWDM DFB LD, Chip on Tape	25	1270	0 to 50C	Die 250 x 250 x 100
127D-25B-LCT11-S	25G Hi-BW 1270 nm CWDM DFB LD, Chip on Tape	25	1270	0 to 50C	Die 250 x 250 x 100
127D-25C-LCG11	25G 1270 nm CWDM DFB LD, Chip in Gel Pak	25	1270	0 to 70C	Die 250 x 250 x 100
129D-25B-LCG11-S	25G Hi-BW 1290 nm CWDM DFB LD, Chip in Gel Pak	25	1290	0 to 50C	Die 250 x 250 x 100
129D-25B-LCT11-S	25G Hi-BW 1310 nm CWDM DFB LD, Chip on Tape	25	1290	0 to 50C	Die 250 x 250 x 100
129D-25C-LCG11	25G 1290 nm CWDM DFB LD, Chip in Gel Pak	25	1290	0 to 70C	Die 250 x 250 x 100
129D-25C-LCT11	25G 1290 nm CWDM DFB LD, Chip on Tape	25	1290	0 to 70C	Die 250 x 250 x 100
131D-25B-LCG11-S	25G Hi-BW 1310 nm CWDM DFB LD, Chip in Gel Pak	25	1310	0 to 50C	Die 250 x 250 x 100
131D-25B-LCT11-S	25G Hi-BW 1310 nm CWDM DFB LD, Chip on Tape	25	1310	0 to 50C	Die 250 x 250 x 100
133D-25B-LCG11-S	25G Hi-BW 1330 nm CWDM DFB LD, Chip in Gel Pak	25	1330	0 to 50C	Die 250 x 250 x 100
133D-25B-LCT11	25G 1330 nm CWDM DFB LD, Chip on Tape	25	1330	0 to 50C	Die 250 x 250 x 100
133D-25B-LCT11-S	25G Hi-BW 1330 nm CWDM DFB LD, Chip on Tape	25	1330	0 to 50C	Die 250 x 250 x 100
133D-25C-LCG11	25G 1330 nm CWDM DFB LD, Chip in Gel Pak	25	1330	0 to 70C	Die 250 x 250 x 100
129D-25B-LCG11	25G 1290 nm CWDM DFB LD, Chip in Gel Pak	25	1290	0 to 50C	Die 250 x 250 x 100
131D-25B-LCG11	25G 1310 nm CWDM DFB LD, Chip in Gel Pak	25	1310	0 to 50C	Die 250 x 250 x 100

Note: Part numbers are RoHS compliant
Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box.
All specifications are subject to change.

Distributed Feedback Lasers (continued)

Part Number	Description	Max Data Rate (Gbps)	Wavelength (nm)	Temp Options (°)	Package Type and Size
131D-25C-LBFA1	25G 1310 nm CWDM DFB LD	25	1310	0 to 70C	Die 250 x 250 x 100
131D-25C-LCG11	25G 1310 nm CWDM DFB LD, Chip in Gel Pak	25	1310	0 to 70C	Die 250 x 250 x 100
131D-25C-LCG11-S	25G Hi-BW 1310 nm CWDM DFB LD, Chip in Gel Pak	25	1310	0 to 70C	Die 250 x 250 x 100
133D-25B-LCG11	25G 1330 nm CWDM DFB LD, Chip in Gel Pak	25	1330	0 to 50C	Die 250 x 250 x 100
127D-25B-LCG11	25G 1270 nm CWDM DFB LD, Chip in Gel Pak	25	1270	0 to 50C	Die 250 x 250 x 100
1295-25B-LCT11-S	LAN WDM, 25G, Hi-BW, DFB LD, Chip on Tape	25	1295.56	0 to 50C	Die 250 x 250 x 100
1300-25B-LCT11-S	LAN WDM, 25G, Hi-BW, DFB LD, Chip on Tape	25	1300.05	0 to 50C	Die 250 x 250 x 100
1301-25B-LCT11-S	LAN WDM, 25G, Hi-BW, DFB LD, Chip on Tape	25	1304.58	0 to 50C	Die 250 x 250 x 100
1309-25B-LCT11-S	LAN WDM, 25G, Hi-BW, DFB LD, Chip on Tape	25	1309.14	0 to 50C	Die 250 x 250 x 100
1295-25B-LCG11-S	LAN WDM, 25G, Hi-BW, DFB LD, Chip in Gel Pak	25	1295.56	0 to 50C	Die 250 x 250 x 100
1300-25B-LCG11-S	LAN WDM, 25G, Hi-BW, DFB LD, Chip in Gel Pak	25	1300.05	0 to 50C	Die 250 x 250 x 100
1301-25B-LCG11-S	LAN WDM, 25G, Hi-BW, DFB LD, Chip in Gel Pak	25	1304.58	0 to 50C	Die 250 x 250 x 100
1309-25B-LCG11-S	LAN WDM, 25G, Hi-BW, DFB LD, Chip in Gel Pak	25	1309.14	0 to 50C	Die 250 x 250 x 100
131D-02E-KT5PB	DFB NFF, 2 mm Ball Lens 6.6 mm FL w/offset, Pinout B	2.5	1310	-20 to 85C	TO-Can TO56
131D-02E-KT5UB	DFB NFF, 2 mm Ball Lens Hi-Index 6.6 mm FL, Pinout B	2.5	1310	-20 to 85C	TO-Can TO56
131D-02E-KT5TB	2.5G DFB NFF, 2 mm Ball Lens 6.6 mm FL, Pinout B	2.5	1310	-20 to 85C	TO-Can TO56
T131D-02E-LT5AB-07	2.5G DFB Std, 7 mW, Asph Lens 7.5 mm FL, Pinout B	2.5	1310	-20 to 85C	TO-Can TO56
31D-02I-KT5TB	DFB NFF TO-Can, 2 mm Ball Lens 6.6 mm FL, Pinout B	2.5	1310	-40 to 85C	TO-Can TO56
131D-02I-LT5AB	2.5G DFB Std TO-Can, Asph Lens 7.5 mm FL, Pinout B	2.5	1310	-40 to 85C	TO-Can TO56
131D-02I-LT5AB-07	DFB Std TO-Can, 7 mW, Asph Lens 7.5 mm FL, Pinout B	2.5	1310	-40 to 85C	TO-Can TO56
131D-02I-LT5CB	2.5G DFB Std TO-Can, Asph Lens 8.6 mm FL, Pinout B	2.5	1310	-40 to 85C	TO-Can TO56
131D-02I-KT5PB	2.5G DFB NFF TO-Can, 2 mm Ball Lens, Pinout B	2.5	1310	-40 to 85C	TO-Can TO56
131D-02I-LT5MB	DFB Std TO-Can, 2 mm Ball Lens 6.7 mm FL, Pinout B	2.5	1310	-40 to 85C	TO-Can TO56
131D-02I-LT5MB-07	DFB Std TO-Can, 7 mW, 2 mm Ball Lens 6.7 mm FL, Pinout B	2.5	1310	-40 to 85C	TO-Can TO56
131D-02I-LT5UB	DFB Std TO, 2 mm Ball Lens Hi-Index 6.6 mm FL, PinoutB	2.5	1310	-40 to 85C	TO-Can TO56
131D-02E-LT5DB	DFB Std TO, Asph Lens 7.5 mm FL w/offset, Pinout B	2.5	1310	-20 to 85C	TO-Can TO56
131D-10G-LT5CC	DFB TO-Can, WL +/-10 nm, Asph Lens 10.1 mm FL, Pinout C	10	1310	-5 to 85C	TO-Can TO56
131D-10G-LT5RC	DFB TO-Can, WL+/-10 nm, 2 mm Ball Lens 6 mm FL, Pinout C	10	1310	-5 to 85C	TO-Can TO56
131D-10G-LT5RC-S	Hi-BW DFB TO, WL+/-10 nm, 2 mm Ball Lens 6 mmFL, Pinout C	10	1310	-5 to 85C	TO-Can TO56
131D-10I-LT5RC-S	Hi-BW DFB TO, WL+/-10 nm, 2 mm Ball Lens 6 mmFL, Pinout C	10	1310	-40 to 85C	TO-Can TO56
127D-10G-LT5AC-S	10G Hi-BW DFB TO-Can, Asph Lens 7.5 mm FL, Pinout C	10	1270	-5 to 85C	TO-Can TO56

* NFF = Narrow Far Field

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Fabry-Perot Lasers

Part Number	Description	Max Data Rate (Gbps)	Wavelength (nm)	Temp Options (°)	Package Type and Size
131F-02I-LCT11	2.5G 1310 nm FP Std LD, Chip on Tape	2.5	1310	-40 to 85C	Die 250 x 300 x 100
155F-02I-LCT11	2.5G 1550 nm FP Std LD, Chip on Tape	2.5	1550	-40 to 85C	Die 300 x 250 x 100
131F-02I-LCT11-07	2.5G 1310 nm FP Std LD, 7 mW, Chip on Tape	2.5	1310	-40 to 85C	Die 250 x 300 x 100
131F-02I-LCT11-10	2.5G 1310 nm FP Std LD, Chip on Tape, 10 mW	2.5	1310	-40 to 85C	Die 250 x 300 x 100
131F-02I-KCT11	2.5G 1310 nm FP NFF LD, Chip on Tape	2.5	1310	-40 to 85C	Die 250 x 300 x 100
131F-02I-LCT11	2.5G 1310 nm FP Std LD, Chip on Tape	2.5	1310	-40 to 85C	Die 250 x 300 x 100
131F-10G-LCG11	10G 1310 nm FP Std LD, Chip in Gel Pack	10	1310	-5 to 85C	Die 250 x 250 x 100
131F-10G-LCT11	10G 1310 nm FP Std LD, Chip in Chip on Tape	10	1310	-5 to 85C	Die 250 x 250 x 100
131F-10I-LCT11-S	10G Hi-BW 1310 nm FP LD, Chip on Tape	10	1310	-40 to 85C	Die 250 x 250 x 100
131F-10I-LCT11	10G 1310 nm FP LD, Chip on Tape	10	1310	-40 to 85C	Die 250 x 250 x 100
131F-02I-LT5LB	FP Std TO-Can, 1.5 mm Ball Lens, 6.35 FL, Pinout B	2.5	1310	-40 to 85C	TO-Can TO56
131F-02I-LT5MB-09	2.5G FP Std TO, 9 mW, 2 mm Ball Lens 6.7 mm FL, Pinout B	2.5	1310	-40 to 85C	TO-Can TO56
152F-02I-LT5FB	2.5G FP TO-Can, Std, 1520 nm, Flat Window, Pinout B	2.5	1520	-40 to 85C	TO-Can TO56
152F-02I-LT5KB	FP TO-Can, Std, 1.5 mm Ball Lens 5.8 mm FL, Pinout B	2.5	1520	-40 to 85C	TO-Can TO56
152F-02I-LT5LB	FP TO-Can, Std, 1.5 mm Ball Lens 6.35 mm FL,Pinout B	2.5	1520	-40 to 85C	TO-Can TO56
152F-02I-LT5MB	FP TO-Can, Std, 2 mm Ball Lens 6.7 mm FL, Pinout B	2.5	1520	-40 to 85C	TO-Can TO56
131F-02I-LT5SB	FP TO-Can, Std, 1.5 mm Ball Lens 6.6 mm FL, Pinout B	2.5	1310	-40 to 85C	TO-Can TO56
155F-02I-LT5LB	FP TO-Can, Std, 1.5 mm Ball Lens 6.35 mm FL, Pinout B	2.5	1550	-40 to 85C	TO-Can TO56
155F-02I-LT5MB	FP TO-Can, Std, 2 mm Ball Lens 6.7 mm FL, Pinout B	2.5	1550	-40 to 85C	TO-Can TO56
143F-02I-LT5LB	FP Std TO-Can, 1.5 mm Ball Lens 6.35 mm FL, Pinout B	2.5	1430	-40 to 85C	TO-Can TO56
131F-02I-LT5FB	2.5G 1310 nm FP Std TO-Can, Flat Window, Pinout B	2.5	1310	-40 to 85C	TO-Can TO56
131F-06I-LT5KC	6G FP Std TO-Can, 1.5 mm Ball Lens 5.8 FL, Pinout B	6	1310	-40 to 85C	TO-Can TO56
131F-10I-LT5RC-S	10G Hi-BW FP TO, 2 mm Ball Lens 6 mm FL, Pinout C	10	1310	-40 to 85C	TO-Can TO56
131F-10I-LT5RC	10G FP Std TO-Can, 2 mm Ball Lens 6 mm FL, Pinout C	10	1310	-40 to 85C	TO-Can TO56
131F-10I-LT5K1C-S	Hi-BW FP TO, 1.5 mm Ball Lens 5.8 mm FL offset, Pinout C	10	1310	-40 to 85C	TO-Can TO56
131F-10I-LT5KC	10G FP TO-Can, 1.5 mm Ball Lens 5.8 mm FL, Pinout C	10	1310	-40 to 85C	TO-Can TO56
131F-10I-LT5KC-S	10G Hi-BW FP TO, 1.5 mm Ball Lens 5.8 mm FL, Pinout C	10	1310	-40 to 85C	TO-Can TO56

APD and PIN

Part Number	Description	Max Data Rate (Gbps)	Wavelength (nm)	Temp Options (°)	Package Type and Size
131A-02I-ACT11	APD Die, 2.5G, Chip on Tape	2.5	1310 / 1550	-40 to 85C	Die 300 x 300 x 150
131A-02I-ACG11	APD Die, 2.5G, Chip in Gel Pak	2.5	1310 / 1550	-40 to 85C	Die 300 x 300 x 150
131P-10I-SCT11	PIN Die, 10G, for S-TIA, Chip on Tape	2.5	1310 / 1550	-40 to 85C	Die 315 x 315 x 150
131P-10I-SCG11	PIN Die, 10G, for S-TIA, Chip in Gel Pak	2.5	1310 / 1550	-40 to 85C	Die 315 x 315 x 150
131P-10I-QCT11	PIN Die, 10G, Chip on Tape	10	1310 / 1550	-40 to 85C	Die 315 x 300 x 150
131P-10I-QCG11	PIN Die, 10G, Chip in Gel Pak	10	1310 / 1550	-40 to 85C	Die 315 x 300 x 150

Note: Part numbers are RoHS compliant
Detailed specifications can be found quickly on our website at macom.com by typ-
ing

MACOM Amplifiers

For voice, data and point-to-point applications for A&D and commercial markets

MACOM designs, manufactures, and supports a wide variety of amplifiers for RF, microwave, and millimeter-wave applications. Our products cover frequency ranges from 40 KHz to 90 GHz. We use a variety of semiconductor processes such as GaAs MESFET for linearity, pHEMT for power and low noise, and HBT for linearity and high gain. Additionally, our 50 to 1100 MHz cable band amplifiers exhibit best-in-class composite linearity performance. MACOM amplifiers are used in a variety of commercial and aerospace and defense applications.





Active Splitters

> Available in 2, 3, 4, 5, 6 and 8-way splits,
> Designed for todays advanced CATV, FTTx, and direct broadcast satellite (DBS) subscriber equipment
> Used in high definition flat screen TVs, set top boxes (STBs), embedded multi media terminal adapter (eMTAs), cable modems, and PCTV cards
> Surface mount PDFN and PQFN plastic packages

Amplifier Gain Blocks

> Frequencies from DC to 45 GHz
> 50 Ω and 75 Ω applications include: networks, commercial and aerospace and defense
> Plastic packaging and bare die

Linear and Power Amplifiers

> 40 KHz to 90 GHz frequencies for both linear and saturated applications including: network infrastructure, radar, test and measurement and communication systems
> Many of the power amplifiers include an on-chip temperature-compensated detector

Low Noise Amplifiers

> Frequencies from 20 MHz to 86 GHz
> For network infrastructure, radar and communication systems
> Available in a variety of packages

CATV Amplifiers

> Single-ended and Push-Pull 75 Ω broadband amplifiers cover head-end, HFC infrastructure nodes, network and drop amplifiers
> Flat gain response, low distortion and high linearity
> Offered in small, plastic leaded and leadless packages

Hybrid Amplifiers

- Gain Block
- Low Noise Amplifiers
- Limiting Amplifiers

> 10 kHz to 6 GHz
> Unconditionally stable with excellent cascadability
> Designed using thin film technology
> Hermetically sealed and screened up to space level, these amplifiers are perfect for military applications

Active Splitters

Part Number	Min Freq (MHz)	Max Freq (MHz)	Splits (#)	Gain (dB)	Noise Figure (dB)	CSO (dBc)	CTB (dBc)	Bias Current/ Voltage (mA)/(V)	Package
MAAM-009450	50	1100	3	3.5	3.8	-65	-65	100 / 5	3 mm PQFN-12
MAAM-007239	50	1100	3	6	4.5	-65	-77	125 / 5	3 mm PQFN-16
MAAM-008818	50	1100	2	3.2	3.4	-60	-63	120 / 5	2 mm PDFN-8
MAAM-008819	50	1100	3	2.6	3.8	-60	-63	120 / 5	2 mm PDFN-8
MAAM-008820	50	1100	4	3	3.8	-62	-70	120 / 5	3 mm PQFN-12
MAAM-008821	50	1100	5	3.5	3.8	-60	-70	120 / 5	3 mm PQFN-12
MAAM-008822	50	1100	3	4.5	4	-60	-63	120 / 5	2 mm PDFN-8
MAAM-008970	950	2150	2	4.8	5	—	—	60 / 5	3 mm PQFN-12
MAAM-007805	50	1100	2	8.5	4	-60	-75	100 / 5	3 mm PQFN-12
MAAM-009451	50	1100	3	3	3.5	-55	-67	90 / 3	2 mm PDFN-8
MAAM-009452	50	1100	4	2.5	3.5	-56	-65	96 / 3.3	3 mm PQFN-12
MAAM-009778	50	1100	4	2.5	4.5	-60	-65	100 / 5	3 mm PQFN-12
MAAM-009779	50	1100	5	1.5	3.9	-60	-65	110 / 5	3 mm PQFN-12
MAAM-009811	50	1100	2	2.4	4.5	-55	-65	90 / 3	2 mm PDFN-8
MAAM-009879	50	1100	2	3.5	3.8	-60	-65	100 / 5	3 mm PQFN-12
MAAM-010237	50	1100	8	1.9	4.4	-50	-65	190 / 5	4 mm PQFN-24
MAAM-010263	50	1100	6	2	4.8	-55	-65	190 / 5	4 mm PQFN-24

Amplifier Gain Blocks

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	Output P1dB (dBm)	OIP3 (dBm)	Bias Current (mA)	Package
MAAM02350	Wideband Amplifier	200	3000	17	14	24	65	Die
MAAM28000	Wideband Amplifier	2000	8000	17	14	24	60	Die
XB1007-BD	Buffer Amplifier	4000	11000	23.5	20	30	130	Die
XB1008-BD	Buffer Amplifier	10000	21000	18	20	30	130	Die
XB1004-BD	Buffer Amplifier	16000	30000	21	19	29	100	Die
XB1006-BD	Buffer Amplifier	18000	38000	21	15	25	25	Die
XB1005-BD	Buffer Amplifier	35000	45000	23	16	26	50	Die
MAAM-009116	Driver	50	1000	18	22	40	180	SOT-89
MAAM-008198-00A162	Cascadable, Hi Eff	10	1200	13	6	18	15	TO-8
MAAMSS0045	Hi Dyn Rge	1400	2000	14	16	29	45	SOIC-8EP
MAAM02350-A2	Wideband Amplifier	200	3000	18	14	24	65	CR-3
MAAM-009563	Driver Amplifier	250	3000	19.5	31	47	510	SOIC-8EP
MAAM-009286	Driver Amplifier	250	4000	15.5	27	42	155	SOT-89
MAAM-009560	Driver Amplifier	250	4000	15	29	42	225	SOT-89
XF1001-SC	Packaged HFET	0	6000	15.5	30	46.5	300	SOT-89
MAAM28000-A1	Wideband Amplifier	2000	8000	17	14	24	70	CR-3
MAAM28000-A1G	Wideband Amplifier	2000	8000	17	14	24	70	CR-10
XB1007-QT	Buffer Amplifier	4000	11000	23	19	31	100	3 mm PQFN-16
CMM0511-QT	Driver Amplifier	5000	14000	20	11	22	90	3 mm PQFN-16
MAAM-011101	Wideband Amplifier	4000	20000	16	19	30	45	1.5 x 1.2 mm TDFN-6
XB1008-QT	Buffer Amplifier	10000	21000	17	18	32	100	3 mm PQFN-16
MAAM-011132	Driver Amplifier	17700	23600	23	21	33	180	4 mm PQFN-16
MAAM-011112	Buffer Amplifier	20000	37000	24	18	30	335	3 mm PQFN-16
MAAM-011109	Wideband Amplifier	100	40000	13	18	22	170	5 mm LGA-9
XB1014-QT	Buffer Amplifier	37000	40000	21	20	30.5	63	3 mm PQFN-16
MAAM-010513	Driver Amplifier	40500	43500	23	23	32	400	5 mm LGA-12

Power Amplifiers

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	OIP3 (dBm)	Package
MAAM26100	GaAs MMIC Power Amplifier	2000	6500	19	39	Die
XP1035-BD	Linear Power Amplifier	5900	9500	26	39	Die
MAAM71100	Power, GaAs MMIC	7000	11000	18	38	Die
MAAP-015030	13 W Power Amplifier	8500	11750	25	—	Die
AM42-0007-DIE	Power, VSAT MMIC	14000	14500	22	41	Die
XP1013-BD	Power Amplifier	17000	26000	20	—	Die
MAAP-011139-DIE	Power Amplifier, 4 W	29000	31000	24	42	Die
MAAP-015036	Power Amplifier	8500	10500	17	-	Die
MAAP-011140-DIE	6 W Ka-band Power Amplifier	28000	30000	25	46	Die
MAAP-015016-DIE	4 W Ka-band Power Amplifier	32000	38000	18	—	Die
XP1018-BD	Power Amplifier	37000	42000	26	34	Die
XP1005-BD	Power Amplifier	35000	43000	26	—	Die
MAAP-010168	10 W Power Amplifier	500	3000	24	—	Ceramic Flanged-10
MAAP-010171	8 W Power Amplifier	2500	3500	27.3	—	5 mm PQFN-20
MAAP-011027	8 W Power Amplifier	5200	5900	20	—	5 mm PQFN-20
MAAM26100-B1	Power	2000	6000	19	39	CR-2
MAAM26100-P1	Power	2000	6000	20	40	CR-15
MAAP-010169	10 W Power Amplifier	2000	6000	18	—	Ceramic Flanged-10
XP1039-QJ	2.5 W Power Amplifier	5600	7100	17	48	6 mm QFN-24
XP1035-QH	0.5 W Power Amplifier	5900	9500	26	39	4 mm PQFN-24
MAAP-008924	1.2 W Amplifier, Power	10000	13300	21	42	5 mm PQFN-20
MAAP-010517	3 W Power Amplifier	14400	15400	24.5	41	5 mm PQFN-24
XP1042-QT	0.5 W Power Amplifier	12000	16000	21	38	3 mm PQFN-16
XP1043-QH	1.5 W Power Amplifier	12000	16000	21.5	41	4 mm PQFN-24
MAAP-011145-STD	Power Amplifier, 2 W	17650	19750	26	43	7 mm Cavity
MAAP-011170	Power Amplifier	37000	40000	27	38	7mm 16-lead SMD
XP1031-QK	38 GHz Power Amplifier	37000	40000	25	35.5	7 mm LGA-28
XP1080-QU	38 GHz Power Amplifier	37000	40000	25	38	7 mm LGA-16
MAAP-010512	42 GHz Power Amplifier	40500	43500	22	38.4	7 mm LGA-16

Linear Amplifiers

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	OIP3 (dBm)	Package
MAAP-015035	12 W Power Amplifier	8500	11500	36	—	Die
XP1042-BD	Power Amplifier	12000	16000	21	38	Die
MAAP-015024	Power Amplifier, 8 W	14500	17500	21	27	Die
XP1019-BD	Power Amplifier	17000	24000	18	36	Die
XP1027-BD	Power Amplifier	27000	31000	21	43	Die
XP1026-BD	Power Amplifier	27000	32000	21	40	Die
XP1003-BD	Power Amplifier	27000	35000	15	34	Die
XP1017-BD	Power Amplifier	30000	36000	16	33	Die
MAAP-011106	Power Amplifier	71000	86000	20	30	Die
MAAM-011167	Medium Power Amplifier	71000	86000	18	27	Die
MAAM-011117	Broadband, Low Distortion	50	2700	16	35	2 mm PDFN-8
MAAP-011022	7 W Pulsed High Power Amplifier	2700	3000	23	—	6 mm PQFN-28
XP1044-QL	Power Amplifier Module	4000	5900	18.5	47	7 mm SMD-28

Note: Part numbers are RoHS compliant ◆ indicates non-RoHS compliant
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Linear Amplifiers (continued)

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	OIP3 (dBm)	Package
XP1050-QJ	2.5 W Power Amplifier	7100	8500	15.5	47	6 mm QFN-24
MAAP-010518	2 W Power Amplifier	18000	20000	21	40	5 mm QFN-24
MAAP-011198	2 W Ka-band Power Amplifier	29000	31000	24.5	37	5 mm QFN-32
MAAP-011139	4 W Ka-band Power Amplifier	29000	31000	23	43	5 mm QFN-32
MAAM-011139	Driver Amplifier	27500	33400	21	32	4 mm QFN-24
MAAP-010516	4 W Power Amplifier	32000	38000	18	—	5 mm PQFN-24

Low Noise Amplifiers

Part Number	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	Noise Figure (dB)	OIP3 (dBm)	Output P1dB (dBm)	Bias Voltage (V)	Bias Current (mA)	Package
MAAM37000	3500	7000	17	1.8	24	14	4	75	Die
MAAM71200	7500	12000	16.5	2.3	22	12	4	40	Die
XL1002-BD	20000	36000	23	2.6	16	4	5	85	Die
XL1010-BD	20000	38000	17	3	—	—	4	45	Die
XL1000-BD	20000	40000	20	2	16	9	3	35	Die
MAAL-008624	400	500	21	0.9	28	17	5	60	SOIC-8
MAAL-008091	800	1000	15	1.2	30	17	5	60	SOIC-8
MAALSS0042	1500	1600	27	1.2	13	1	5	20	SOIC-8
MAALSS0044	1500	1600	21	1.6	19	6	5	8	SOIC-8
MAAL-010705	500	1600	19	0.5	32	19	4	60	2 mm PDFN-8
MAALSS0048	1400	2000	17	1.6	13	1	3	7	SOT-26
MAAL-007673	1700	2000	20	1.7	19	7	5	8	SOIC-8
MAAL-007304	500	3000	25.5	0.7	19	7	3	12	SOT-26
MAAL-009120	70	3000	11	1.4	35	18	3	80	SOT-363
MAAL-010200	70	3000	11	1.4	36	17	3	77	SOT-89
MAAL-009053	800	3000	11	1.4	35	18	3	80	SOT-363
MAAL-010570	100	3500	16	0.75	34	18.8	5	15	SOT-363
MAAL-010704	100	3500	19.5	0.9	31.5	18	3	60	SOT-363
MAAL-010706	1400	4000	17.5	0.6	34.5	19	4	60	2 mm PDFN-8
MAAL-011078	700	6000	23	0.35	33	17.5	3	50	2 mm PDFN-8
MAAM37000-A1G	3500	7000	17	2.2	25	14	4	75	Ceramic Gull Wing-8
MAAM37000-A1	3500	7000	17	2.2	25	14	4	75	Ceramic-8
XL1007-QT	3500	8000	12	2	25	8	3	40	3 mm QFN-16
MAAM71200-H1	7500	12000	15.5	2.7	21	11	4	40	Leadless Ceramic
MAAL-010528	8000	12000	20.2	1.6	26	14	4	60	3 mm PQFN
XL1010-QT	20000	38000	17	3	—	6	4	45	3 mm QFN-16
MAAL-011111	22000	38000	19	2.5	—	5	3	55	3 mm QFN-16

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CATV Amplifiers

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	OIP3 (dBm)	Bias Current (mA)	Bias Voltage (V)	Noise Figure (dB)	Package
MAAM-011184	CATV Return Path Single-Ended Amplifier	5	300	21	43	95	5	2.5	MSOP 8-EP
MAAM-011185	CATV Return Path Differential Amplifier	5	300	21.2	43	290	5	3.1	3 mm PQFN-16
MAAM-011156	Amplifier, CATV Return Path Differential	5	300	19	44	210	8	7	3 mm PQFN-16
MAAM-011186	Differential CATV Variable Gain Amplifier	5	300	39	42	280	8	3	7 mm PQFN-48
MAAMSS0044	Low Noise, Low Distortion Amplifier	50	1000	12.2	42	225	5	3.3	4 mm PQFN-20
MAAM-010144	Push Pull CATV Amplifier	50	1000	20.5	43	325	8	4.2	TSSOP-16
MAAMSS0067	Low Noise, Low Distortion Amplifier	50	1000	12.2	32	190	5	3.3	4 mm PQFN-20
MAAM-009100	Broadband CATV Amplifier	50	1000	14.3	34	105	5	3	SOT-89
MAAM-009455	CATV Push Pull Amplifier	50	1000	20.5	43	325	8	4.2	4 mm PQFN-20
MAAM-009633	Broadband CATV Amplifier	50	1200	17	37	120	8	1.9	SOT-89
MAAM-007724	Low Noise, Low Distortion Amplifier	50	1005	12.2	32	190	5	3.3	4 mm PQFN-20
MAAM-010373	Broadband CATV Amplifier	50	1100	22	40	148	8	1.66	SOT-89
MAAMSS0060	Low Noise, Low Distortion Amplifier	50	1200	17	37	120	8	1.8	SOT-89
MAAMSS0041	Low Noise, Low Distortion Amplifier	50	1200	15	36	100	8	2.7	SOT-89
MAAMSS0042	Low Noise, Low Distortion Amplifier	50	1200	15	38	110	5	3	SOT-89
MAAM-010355	CATV Power Doubler Push Pull Amplifier	45	1200	23.5	46	440	24	4.5	TSSOP-16
MAAM-011169	CATV 75 Ω Push Pull Amplifier	45	1200	25	54	480	12	4.4	5 x 7 mm PQFN40
MAAM-011177	Push Pull CATV Amplifier	45	1200	26	43	265	24	4.0	TSSOP-16
MAAM-011191	CATV Power Doubler Push Pull Amplifier	45	1200	26	46	440	24	4.5	TSSOP-16
MAAM-011182	75 Ω, 8 V RF Amplifier	45	1218	18	38	130	8	2.7	2 mm PDFN-8
MAAL-011119	Satellite TV Amplifier	900	2200	10.5	32	80	2.5	1.5	SOT-363
MAAL-009053	Satellite TV Amplifier	800	3000	11	35	80	3	1.4	SOT-363

Distributed Amplifiers

Part Number	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	Gain Flatness (dB)	Noise Figure (dB)	OIP3 (dBm)	Output P1dB (dBm)	Package
XD1008-BD	0	40000	15	0.8	4.5	27	22	Die
MAAM-015023-DIE	18000	40000	26	0.5	6	30	21	Die
XD1001-BD	18000	50000	17	1	5	24	15	Die
XD1002-BD	50	50000	9	1.5	5	17	9	Die
MAAM-011109	100	40000	13	18	3/5	22	18	5 mm LGA-9

FTTx Amplifiers

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	OIP3 (dBm)	Bias Current (mA)	Bias Voltage (V)	Noise Figure (dB)	Package
MAAM-007796	Low Noise FTTx Amplifier	50	1000	21	35	160	5	3.8	4 mm PQFN-20
MAAM-007807	CATV and 2nd Stage FTTx Amp	50	1000	9	35	60	5	3.8	SOT-89
MAAM-008863	FTTx RF Amplifier	50	1000	37	—	220	5	4.8	4 mm PQFN-24
MAAM-010239	Low Noise FTTx Amplifier	50	1000	30	35	215	5	3.5	4 mm PQFN-20
MAAM-010333	Optical Node RF Amplifier	50	1200	33	—	260	5	—	4 mm PQFN-24

Variable Gain Amplifiers

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	OIP3 (dBm)	Bias Current/Voltage mA/V	Package
MAAM-011122	Differential CATV Variable Gain Amplifier	5	300	37.5	42	280/8	7 mm PQFN-48
MAAM-010399	Differential Variable Gain Amplifier	50	1100	28	48	900/6	5 x 7 mm PQFN-40
MAAM-009320	Variable Gain Amplifier with Analog Control	400	2700	25.5	42	231/3,5	4 mm PQFN-24
MAAM-011100	Ultra Small Broadband Variable Gain Amplifier	500	20000	12	25	70/+5.-5	1.5 x 1.2 mm TDFN-6

Hybrid Amplifiers: Gain Block

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	OIP3 (dBm)	Package
CA181 ◆	Cascadable	10	250	16.5	35	Connectorized
SMA181	Cascadable	10	250	16.5	35	SMT
EA54	Cascadable, High Gain	5	250	27	16	TO-5
A75-2	Cascadable	5	250	21	19	TO-8
A181	Cascadable	10	250	16.5	35	TO-8
CA79	(non-RoHS) Cascadable	5	300	14	38	Connectorized
A79	Cascadable	5	300	14	38	TO-8
SMA79	Cascadable	5	300	14	38	SMT
A56	Cascadable, High Gain	5	400	26	27	TO-8
SMA87	Cascadable	10	400	14	33	SMT
A87	Cascadable	10	400	14	33	TO-8
CA87 ◆	Cascadable	10	400	14	33	Connectorized
EA2	Cascadable	5	400	13.5	21	TO-5
AMC-146-SMA ◆	Cascadable, High Linearity	10	500	21	35	Connectorized
AMC-151-SMA ◆	Cascadable, High Dynamic Range	5	500	12	36	Connectorized
MAAM-007502-SPA512	Cascadable, Medium Power	10	500	18	40	SMTO-8
SMRA89	Cascadable, High Gain	5	500	26.5	35	SMT
SMA74-2	Cascadable, High Efficiency	5	500	26	10	SMT
SMPA511	Cascadable, Medium Power	10	500	12.7	40	SMT
A5	Cascadable Amplifier	5	500	14.8	22	TO-8
PA511	Cascadable, Medium Power	10	500	12.7	40	TO-8
EA54-2	Cascadable, High Gain	5	500	29.5	20	TO-5
A57	Cascadable	10	500	14.7	28	TO-8
SMA57	Cascadable	10	500	14.7	28	SMT
SMA513	Cascadable	10	500	20	30	SMT
A55	Cascadable	10	500	14.7	24	TO-8
RA89-1	Cascadable, High Gain	10	500	30	36	TO-8B
A74-2	Cascadable, High Efficiency	5	500	26	10	TO-8
SMRA89-1	Cascadable, High Gain	10	500	30	36	SMT
A72	Cascadable, High Efficiency	5	500	15	26	TO-8
SMA72	Cascadable, High Efficiency	5	500	15	26	SMT
A77	Cascadable	5	500	16.5	30	TO-8
PA512	Cascadable, Medium Power	10	500	18	40	TO-8
CRA89-1 ◆	Cascadable, High Gain	10	500	30	36	Connectorized
A88	Cascadable	5	500	18.7	30	TO-8
SMA77	Cascadable	5	500	16.5	30	SMT
SMA88	Cascadable	5	500	18.7	30	SMT
RA89	Cascadable, High Gain	5	500	26.5	35	TO-8B
CRA89 ◆	Cascadable, High Gain	5	500	26.5	35	Connectorized
SMA54	Cascadable	5	500	15.5	21	SMT
CA77 ◆	Cascadable	5	500	16.5	30	Connectorized
MAAM-007502-CPA512 ◆	Cascadable, Medium Power	10	500	18	40	Connectorized
A54	Cascadable	5	500	15.5	21	TO-8
MAAM-008200-000A83	Cascadable, High Efficiency	10	500	30	10	TO-8
A513	Cascadable	10	500	20	30	TO-8
A5-5	Cascadable	5	500	15.5	21	TO-8
A5-6	Cascadable	6	600	15.5	21	TO-8
SMA77-1	Cascadable	5	600	16	30	SMT
A77-1	Cascadable	5	600	16	30	TO-8

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Hybrid Amplifiers: Gain Block (continued)

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	OIP3 (dBm)	Package
SMA5-6	Cascadable	6	600	16	21	SMT
CA77-1 ◆	Cascadable	5	600	16	30	Connectorized
A59-1	Cascadable, High Dynamic Range	10	700	10.5	36	TO-8
SMA59-1	Cascadable, High Dynamic Range	10	700	10.5	36	SMT
SMA89	Cascadable	100	800	22	30	SMT
A89	Cascadable	50	800	22	30	TO-8
A11-2	Cascadable	5	1000	16	10	TO-8
AMC-145-SMA ◆	Cascadable	10	1000	10.7	32	Connectorized
AM-177-PIN ◆	Cascadable	10	1000	12	35	TO-8-1 12.7 dia. x 11
AMC-184-SMA ◆	Cascadable	5	1000	20	20	Connectorized
CA17 ◆	Cascadable	10	1000	12	27	Connectorized
CA1021 ◆	Cascadable, High Gain	10	1000	26	26	Connectorized
CRA69 ◆	Cascadable, High Gain	10	1000	25	34	Connectorized
CRA66 ◆	Cascadable, High Gain	10	1000	37	30	Connectorized
CA66-1	Cascadable, High Gain	10	1000	27.5	28	Connectorized
SMA1021	Cascadable, High Gain	10	1000	26	26	SMT
RA66	Cascadable, High Gain	10	1000	37	30	TO-8B
SMRA69	Cascadable, High Gain	10	1000	25	34	SMT
SMA17	Cascadable	10	1000	12	27	SMT
A17	Cascadable Amplifier	10	1000	12	27	TO-8
A66-1	Cascadable, High Gain	10	1000	27.5	28	TO-8
SMA66-1	Cascadable, High Gain	10	1000	27.5	28	SMT
RA69	Cascadable, High Gain	10	1000	25	34	TO-8B
A19-1	Cascadable Amplifier	10	1000	11.5	35	TO-8
SMA19-1	Cascadable	10	1000	11.5	35	SMT
CA19-1 ◆	Cascadable	10	1000	11.5	35	Connectorized
AMC-180-SMA ◆	Cascadable	5	1000	9.7	28	Connectorized
AMC-155-SMA ◆	Cascadable, High Dynamic Range	300	1000	12.3	30	Connectorized
SMRA66	Cascadable, High Gain	10	1000	37	30	SMT
A1021	Cascadable, High Gain	10	1000	26	26	TO-8
CA66 ◆	Cascadable	10	1200	23.5	28	Connectorized
CA64 ◆	Cascadable, High Gain	10	1200	26	20	Connectorized
SMA66	Cascadable	10	1200	23.5	28	SMT
SMA64	Cascadable, High Gain	10	1200	26	20	SMT
A64	Cascadable, High Gain	10	1200	26	20	TO-8
A66	Cascadable	10	1200	23.5	28	TO-8
SMA28	Cascadable	10	1500	11	29	SMT
CA26 ◆	Cascadable	10	1500	20.5	27	Connectorized
CA24 ◆	Cascadable	5	1500	20	21	Connectorized
SMA29-1	Cascadable	10	1500	9	32	SMT
A26	Cascadable Amplifier	10	1500	20.5	27	TO-8
A29-1	Cascadable	10	1500	9	32	TO-8
A28	Cascadable	10	1500	11	29	TO-8
A25	Cascadable Amplifier	5	1500	10	21	TO-8
A24	Cascadable	5	1500	20	21	TO-8
SMA26	Cascadable	10	1500	20.5	27	SMT
SMA24	Cascadable	5	1500	20	21	SMT
A27	Cascadable	5	1500	8.5	28	TO-8
CA28 ◆	Cascadable	10	1500	11	29	Connectorized

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Hybrid Amplifiers: Gain Block (continued)

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	OIP3 (dBm)	Package
SMA27	Cascadable	5	1500	8.5	28	SMT
CA29-1 ◆	Cascadable	10	1500	9	32	Connectorized
CRA36 ◆	Cascadable, High Gain	100	2000	24	22	Connectorized
SMA36	Cascadable	100	2000	16.5	23	SMT
SMPA2010	Cascadable, Medium Power	200	2000	10	33	SMT
A38	Cascadable	10	2000	9.5	30	TO-8
CA38 ◆	Cascadable	10	2000	9.5	30	Connectorized
SMA39	Cascadable	10	2000	7.5	34	SMT
RA36	Cascadable, High Gain	100	2000	24	22	TO-8
SMA35	Cascadable	10	2000	10	21	SMT
A39	Cascadable	10	2000	7.5	34	TO-8
SMA38	Cascadable	10	2000	9.5	30	SMT
A34	Cascadable	100	2000	16	18	TO-8
A36	Cascadable	100	2000	16.5	23	TO-8
SMA37	Cascadable	10	2000	10	28	SMT
SMRA36	Cascadable, High Gain	100	2000	24	22	SMT
A37	Cascadable	10	2000	10	28	TO-8
SMA34	Cascadable	100	2000	16	18	SMT
A35	Cascadable	10	2000	10	21	TO-8
CA35 ◆	Cascadable	10	2000	10	21	Connectorized
CA36-1 ◆	Cascadable	100	2300	16.2	23	Connectorized
A36-1	Cascadable	100	2300	16.2	23	TO-8
SMA36-1	Cascadable	100	2300	16.2	23	SMT
A33-1	Cascadable	2	2400	9	19	TO-8
SMA33-1	Cascadable	2	2400	9	19	SMT
A35-1	Cascadable	2	2400	9	23	TO-8
CA33-1 ◆	Cascadable	2	2400	9	19	Connectorized
SMA35-1	Cascadable	2	2400	9	23	SMT
CA3010 ◆	Cascadable	0	2500	9.5	35	Connectorized
MAAM-007947-CA3602 ◆	Cascadable	100	2600	15	30	Connectorized
A36-2	Cascadable	100	2600	15	30	TO-8
SMA36-2	Cascadable	100	2600	15	30	SMT
SMPA38-2	Cascadable, Medium Power	200	2600	8.5	33	SMT
PA38-2	Cascadable, Medium Power	200	2600	8.5	33	TO-8
SMA43	Cascadable	100	3200	11.5	21	SMT
A43	Cascadable	100	3200	11.5	21	TO-8
CPA48 ◆	Cascadable, Medium Power	1000	4000	16	34	Connectorized
RA46	Cascadable, High Gain	1000	4000	25.5	30	TO-8B
SMPA48	Cascadable, Medium Power	1000	4000	16	34	SMT
PA48	Cascadable, Medium Power	1000	4000	16	34	TO-8B
SMRA46	Cascadable, High Gain	1000	4000	25.5	30	SMT
SMRA62	Cascadable, High Gain	2000	6000	16	28	SMT
RA62	Cascadable, High Gain	2000	6000	16	28	TO-8B
AM42-0040	Power, VSAT MMIC	5900	6400	30	42	R380/CR15
AM42-0039	Power, C-Band VSAT	5900	7100	33	45	CR15
AM42-0007	Power, GaAs MMIC	14000	14500	22	41	R380/CR15
AM42-0002	Power, VSAT MMIC	14000	14500	22	39	R380 / CR15

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Hybrid Amplifiers: Low Noise Amplifiers

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	Noise Figure (mA)	OIP3 (dBm)	Package
AMC-162-SMA ◆	Cascadable, Low Noise, Hi Dyn Rge	10	100	12.5	1.5	30	Connectorized
AMS-162-PIN ◆	Cascadable, High Dynamic Range	10	100	12.5	1.5	30	TO-8
AM-162-PIN ◆	Cascadable, High Dynamic Range	10	100	12.5	1.1	32	TO-8
A101	Cascadable, High Linearity	5	100	17	3	36	TO-8
SMA101	Cascadable, High Linearity	5	100	17	3	36	SMT
MAAM-007844-0CA801 ◆	Cascadable	10	200	27.3	2	28	Connectorized
SMA80-1	Cascadable	10	200	27.3	2	28	SMT
A80-1	Cascadable	10	200	27.3	2	28	TO-8
A71	Cascadable Amplifier	5	200	18	2.1	10	TO-8
SMA70-1	Cascadable, High Dynamic Range	10	250	8	1.8	28	SMT
CA83-1 ◆	Cascadable	10	250	35.5	2.5	9	Connectorized
A82-1	Cascadable	20	250	19	2.8	26	TO-8
SMA70	Cascadable, High Dynamic Range	10	250	8	1.6	24	SMT
SMA82-1	Cascadable	20	250	19	2.8	26	SMT
CA82 ◆	Cascadable	20	250	25	2.8	31	Connectorized
A70-1	Cascadable, High Dynamic Range	10	250	8	1.8	28	TO-8
CA231 ◆	Cascadable, High Gain	10	250	26	1.7	22	Connectorized
SMA82	Cascadable	20	250	25	2.8	31	SMT
SMA81-1	Cascadable	20	250	25	2.5	27	SMT
SMA81	Cascadable	20	250	24.5	2.6	28	Ceramic SMTO-8
A231	Cascadable, High Gain	10	250	26	1.7	22	TO-8
A70	Cascadable, High Dynamic Range	10	250	8	1.6	24	TO-8
A81-1	Cascadable	20	250	25	2.5	27	TO-8
A70-3	Cascadable, High Dynamic Range	20	250	8	2.8	40	TO-8
SMA83-1	Cascadable	10	250	35.5	2.5	9	SMT
A82	Cascadable	20	250	25	2.8	31	TO-8
SMA231	Cascadable, High Gain	10	250	26	1.7	22	SMT
A81	Cascadable	20	250	25.5	3	28	TO-8
CA70-2 ◆	Cascadable, High Dynamic Range	10	250	8	2.2	38	Connectorized
A74-1	Cascadable, High Gain	5	250	31	4.5	21	TO-8
A70-2	Cascadable, High Dynamic Range	10	250	8	2.2	38	TO-8
AMC-119-SMA ◆	Cascadable, High Linearity	30	250	8	2.5	35	Connectorized
A83-1	Cascadable	10	250	35.5	2.5	9	TO-8
CA78 ◆	Cascadable	5	300	14	3.5	35	Connectorized
SMA87-2	Cascadable	10	300	16	2.9	24	SMT
A78	Cascadable	5	300	14	3.5	35	TO-8
A87-2	Cascadable	10	300	16	2.9	24	TO-8
SMA78	Cascadable	5	300	14	3.5	35	SMT
SMA70-2	Cascadable, High Dynamic Range	10	300	8	2.2	38	Ceramic SMTO-8
SMA70-3	Cascadable, High Dynamic Range	15	300	8	2.8	40	Ceramic SMTO-8
PAW1027 ◆	Ultra Linear Power, Multi Carrier	35	350	38.5	3.7	43	SOT115J
EA1	Cascadable	5	400	14	4.3	13	TO-5
CA87-1 ◆	Cascadable	10	400	16	3.4	31	Connectorized
SMA411	Cascadable	10	400	15.8	3	24	SMT
SMA87-1	Cascadable	10	400	16	3.4	31	SMT
A87-1	Cascadable	10	400	16	3.4	31	TO-8
MAAM-008199-000A51	Cascadable	10	400	15	2.7	10	TO-8
A411	Cascadable	10	400	15.8	3	24	TO-8
CA511 ◆	Cascadable	10	500	17	3.4	33	Connectorized
MAAM-007272-SMA514	Cascadable, High Gain	5	500	28	4	32	SMTO-8
MAAM-007272-0CA515 ◆	Cascadable, High Gain	5	500	27.5	3.5	33	Connectorized
CA74 ◆	Cascadable, High Gain	5	500	30	3	20	Connectorized

Hybrid Amplifiers: Low Noise Amplifiers (continued)

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	Noise Figure (mA)	OIP3 (dBm)	Package
AMC-147-SMA ◆	Cascadable, High Linearity	5	500	17	3.4	33	Connectorized
AMC-143-SMA ◆	Cascadable	5	500	15.8	2.5	20	Connectorized
AM-131-PIN	Cascadable, Low Noise, High Linearity	5	500	11.5	4	34	TO-8
AMC-123-SMA ◆	Cascadable, Low Noise, High Linearity	5	500	10	5.5	30	Connectorized
MAAM-007272-SMA515	Cascadable, High Gain	5	500	27.5	3.5	33	SMTO-8
A515	Cascadable, High Gain	5	500	27.5	3.5	33	TO-8
CA81-2 ◆	Cascadable	20	500	24.5	3	28	Connectorized
CA75 ◆	Cascadable	5	500	21	2.1	21	Connectorized
CA76 ◆	Cascadable, High Gain	5	500	28	3	28	Connectorized
PAW1027-1 ◆	Ultra Linear Power, Multi Carrier	35	500	38	4.2	43	SOT115J
A76	Cascadable, High Gain	5	500	28	3	28	TO-8
CA531 ◆	Cascadable	10	500	31.7	2	14	Connectorized
CA180 ◆	Cascadable	10	500	16.5	3.4	33	Connectorized
SMA59	Cascadable, High Dynamic Range	5	500	11.5	4.3	36	SMT
SMA81-2	Cascadable	20	500	24.5	3	28	SMT
SMA75-3	Cascadable	10	500	20.5	1.7	16	SMT
A75-3	Cascadable	10	500	20.5	1.7	16	TO-8
SMA75	Cascadable	5	500	21	2.1	21	SMT
SMA74	Cascadable, High Gain	5	500	30	3	20	SMT
SMA531	Cascadable	10	500	31.7	2	14	SMT
SMA58	Cascadable	5	500	11.5	4	34	SMT
EA53-2	Cascadable	5	500	19	3.6	24	TO-5
SMA73	Cascadable, High Gain	5	500	32	3.5	15	SMT
A74	Cascadable, High Gain	5	500	30	3	20	TO-8
A58	Cascadable	5	500	11.5	4	34	TO-8
SMA1	Cascadable	5	500	16	2.4	11	SMT
A1	Cascadable Amplifier	5	500	16	2.4	11	TO-8
A73	Cascadable, High Gain	5	500	32	3.5	15	TO-8
SMA76	Cascadable, High Gain	5	500	28	3	28	SMT
A75	Cascadable Amplifier	5	500	21	2.1	21	TO-8
SMA76-1	Cascadable, High Efficiency	5	500	27.5	3	26	SMT
A59	Cascadable, High Dynamic Range	5	500	11.5	4.3	36	TO-8
A531	Cascadable	10	500	31.7	2	14	TO-8
A76-1	Cascadable, High Efficiency	5	500	27.5	3	26	TO-8
SMA53	Cascadable	10	500	15	3	16	SMT
A81-2	Cascadable	20	500	24.5	3	28	TO-8
MAAM-008317-CA7503 ◆	Cascadable	10	500	20.5	1.7	16	Connectorized
SMA180	Cascadable	10	500	16.5	3.4	33	SMT
MAAM-007272-0CA514	Cascadable, High Gain	5	500	28	4	32	Connectorized
A53	Cascadable	10	500	15	3	16	TO-8
A514	Cascadable, High Gain	5	500	28	4	32	TO-8
A511	Cascadable Amplifier	10	500	17	3.4	33	TO-8
A180	Cascadable	10	500	16.5	3.4	33	TO-8
A80	Cascadable	20	500	29	2.5	27	TO-8
A81-3	Cascadable	20	500	17	4	20	TO-8
SMA80	Cascadable	10	550	29	2.3	27	Ceramic SMTO-8
AM-160-PIN ◆	Cascadable, Low Noise	100	600	28.2	1.6	30	TO-8
AM-191-PIN ◆	Cascadable	100	600	23.5	2.5	32	TO-8
SMA67-1	Cascadable, High Efficiency	10	600	15	3.7	30	SMT

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Hybrid Amplifiers: Low Noise Amplifiers (continued)

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	Noise Figure (mA)	OIP3 (dBm)	Package
SMA611	Cascadable, Low Noise, Low Volt	5	700	15	3.2	24	SMT
CA67-1 ◆	Cascadable, High Efficiency	10	600	15	3.7	30	Connectorized
A67-1	Cascadable, High Efficiency	10	600	15	3.7	30	TO-8
A611	Cascadable, Low Noise, Low Volt	5	700	15	3.2	24	TO-8
A67	Cascadable, High Efficiency	10	800	14	4	30	TO-8
SMA67	Cascadable, High Efficiency	10	800	14	4	30	SMT
AMC-176-SMA ◆	Cascadable	5	1000	13.2	4	27	Connectorized
CA66-3 ◆	Cascadable, High Efficiency	10	1000	26	3	13	Connectorized
A11	Cascadable Amplifier	5	1000	14.7	3.1	10	TO-8
SMA66-3	Cascadable, High Efficiency	10	1000	26	3	13	SMT
SMA1031	Cascadable, High Gain	10	1000	28.5	2.7	22	SMT
A12	Cascadable Amplifier	10	1000	16	2.8	22	TO-8
A66-3	Cascadable, High Efficiency	10	1000	26	3	13	TO-8
A1031	Cascadable, High Gain	10	1000	28.5	2.7	22	TO-8
A18-1	Cascadable, High Dynamic Range	10	1000	14.7	3.8	30	TO-8
SMA11-2	Cascadable	5	1000	16	2.5	10	SMT
CA18-1 ◆	Cascadable, High Dynamic Range	10	1000	14.7	3.8	30	Connectorized
SMA18-1	Cascadable, High Dynamic Range	10	1000	14.7	3.8	30	SMT
SMA63	Cascadable	5	1000	16	3	15	SMT
AMC-182-SMA ◆	Cascadable, High Gain	5	1000	28.2	3.5	20	Connectorized
A63	Cascadable	5	1000	16	3	15	TO-8
SMA12	Cascadable	10	1000	16	2.8	22	SMT
MAAM-008198-SMA162	Cascadable, High Efficiency	10	1200	13	3.5	18	SMTO-8
SMA21-1	Cascadable	5	1200	15.5	2.4	11	SMT
SMA1211	Cascadable, Low Volt	10	1200	14	2.8	20	SMT
CA12 ◆	Cascadable, Low Volt	10	1200	14	2.8	20	Connectorized
CA1212 ◆	Cascadable, Low Volt	100	1200	14	1.8	29	Connectorized
A1212	Cascadable Amplifier	100	1200	14	1.8	29	TO-8
SMA1212	Cascadable, Low Volt	100	1200	14	1.8	29	SMT
MAAM-008198-0CA162	Cascadable, High Efficiency	10	1200	13	3.5	18	Connectorized
A21-1	Cascadable	5	1200	15.5	2.4	11	TO-8
A1211	Cascadable Amplifier	10	1200	14	2.8	20	TO-8
CA28-2 ◆	Cascadable, High Efficiency	10	1500	14	3.5	24	Connectorized
A28-2	Cascadable, High Efficiency	10	1500	14	3.5	24	TO-8
A25-1	Cascadable	2	1500	13.5	3	22	TO-8
SMA28-2	Cascadable, High Efficiency	10	1500	14	3.5	24	SMT
SMA25-1	Cascadable	2	1500	13.5	3	22	SMT
CA25-1 ◆	Cascadable	2	1500	13.5	3	22	Connectorized
AM-153-PIN ◆	Cascadable, Low Noise	300	1800	12.4	2.5	17	TO-8
PA38	Cascadable, Medium Power	200	2000	10	4	34	TO-8
CA32 ◆	Cascadable, Hi Linearity	100	2000	13	2.1	32	Connectorized
SMA32	Cascadable, Hi Linearity	100	2000	13	2.1	32	SMT
SMA32-1	Cascadable, Low Noise, Low Volt	100	2000	11.5	2.5	25	SMT
A32-1	Cascadable, Low Noise, Low Volt	100	2000	11.5	2.5	25	TO-8
A32	Cascadable, Hi Linearity	100	2000	13	2.1	32	TO-8
CPA38 ◆	Cascadable, Medium Power	200	2000	10	4	34	Connectorized
CA32-1 ◆	Cascadable, Low Noise, Low Volt	100	2000	11.5	2.5	25	Connectorized
SMA31-1	Cascadable	10	2000	11.5	3.5	9	SMT

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Hybrid Amplifiers: Low Noise Amplifiers (continued)

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	Noise Figure (mA)	OIP3 (dBm)	Package
A33	Cascadable	10	2000	9.5	4.5	15	TO-8
A31-1	Cascadable Amplifier	10	2000	11.5	3.5	9	TO-8
SMPA38	Cascadable, Medium Power	200	2000	10	4	34	SMT
MAAM-007501-0A2002	Cascadable	20	2700	11.5	2.5	40	TO-8
MAAM-007501-CA2002	Cascadable	20	2700	11.5	2.5	40	Connectorized
MAAM-007501-SA2002	Cascadable	20	2700	11.5	2.5	40	SMTO-8
CA4011 ◆	Cascadable, Low Noise, Low Volt	1000	4000	15.5	2	29	Connectorized
CA45-1 ◆	Cascadable	1000	4000	17.5	4	26	Connectorized
SMA45	Cascadable	1000	4000	17.5	4	29	SMT
CA45 ◆	Cascadable	1000	4000	17.5	4	29	Connectorized
A45-1	Cascadable	1000	4000	17.5	4	26	TO-8
SMA4012	Cascadable, Low Noise, Low Volt	1000	4000	18	3.5	26	SMT
A4012	Cascadable, Low Noise, Low Volt	1000	4000	18	3.5	26	TO-8
A4011	Cascadable, Low Noise, Low Volt	1000	4000	15.5	2	29	TO-8
SMA45-1	Cascadable	1000	4000	17.5	4	26	SMT
SMA4011	Cascadable, Low Noise, Low Volt	1000	4000	15.5	2	29	SMT
A45	Cascadable	1000	4000	17.5	4	29	TO-8
A61	Cascadable, Low Noise, Low Volt	2000	6000	7.5	3.2	25	TO-8
A6011	Cascadable, Low Noise, Low Volt	2000	6000	14.8	1.5	30	TO-8
SMA61	Cascadable, Low Noise, Low Volt	2000	6000	7.5	3.2	25	SMT
CA6011 ◆	Cascadable, Low Noise, Low Volt	2000	6000	14.8	1.5	30	Connectorized
SMA6011	Cascadable, Low Noise, Low Volt	1500	6000	14.8	1.5	30	Ceramic SMTO-8

Hybrid Amplifiers: Limiting Amplifiers

Part Number	Description	Max Freq (MHz)	Max Freq (MHz)	Gain (dBm)	Package
CAL7 ◆	Cascadable, Limiting Amplifier	50	500	13	SMA
LA7	Cascadable, Limiting Amplifier	50	500	12.5	TO-8
AL7	Cascadable, Limiting Amplifier	50	500	13	TO-8
SMLA7	Cascadable, Limiting Amplifier	50	500	12.5	Ceramic SMTO-8
CLA7 ◆	Cascadable, Limiting Amplifier	50	500	12.5	SMA
SMAL7	Cascadable, Limiting Amplifier	20	550	13	Ceramic SMTO-8
SMLA17	Cascadable, Limiting Amplifier	10	1000	11.5	Ceramic SMTO-8
CLA17 ◆	Cascadable, Limiting Amplifier	10	1000	11.5	SMA
LA17	Cascadable, Limiting Amplifier	10	1000	11.5	TO-8
SML1	Cascadable, Signal Limiter	5	3000	—	Ceramic SMTO-8
L1	Cascadable, Signal Limiter	5	3000	—	TO-8
SMLA45	Cascadable, Limiting Amplifier	1000	4000	11.5	Ceramic SMTO-8
CL42 ◆	Cascadable, Signal Limiter	50	4000	—	SMA
CLA45-1 ◆	Cascadable, Limiting Amplifier	1000	4000	14	SMA
LA45-1	Cascadable, Limiting Amplifier	1000	4000	14	TO-8
LA45	Cascadable, Limiting Amplifier	1000	4000	11.5	TO-8
L42	Cascadable, Signal Limiter	50	4000	—	TO-8
SML42	Cascadable, Signal Limiter	50	4000	—	SMT
SMLA45-1	Cascadable, Limiting Amplifier	800	4200	14	Ceramic SMTO-8

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MACOM Diodes

For microwave circuit applications from 1 MHz to 80 GHz

MACOM designs, manufactures, and supports one of the widest variety of PIN, Schottky, Varactor and Multiplier diodes in the industry for microwave circuit applications from 1 MHz to 80 GHz. Our Diodes are manufactured in die, SURMOUNT™, plastic and ceramic packaging for a variety of circuit configurations providing high performance.





Varactor Tuning Diodes

- GaAs constant gamma series for higher frequency and high Q applications
- Plastic packaged silicon varactor diodes for surface mount applications, including VCOs, tunable filters, and phase shifters

Varactor Multiplier Diodes

- Flip chip series for higher frequency millimeter wave applications
- Plastic packaged series for microwave frequency surface mount applications
- Ceramic packaged series for high power waveguide and coaxial applications

PIN Switch and Attenuator Diodes

- CERMACHIP® series for microwave frequency applications
- Plastic series for cost effective, surface mount applications
- AlGaAs series for low loss, high isolation millimeter wave frequency applications
- GaAs and silicon flip chip series for surface mount millimeter wave applications
- Surmount chipscale style diodes for surface mount high performance applications
- HIPAX series for high average power surface mount UHF applications
- Kilovolt series for high peak voltage HF and VHF applications
- HIPAX non-magnetic series for high average power MRI HF and VHF applications

PIN Limiter Diodes

- Die series for chip and wire high frequency microwave applications
- Ceramic packaged series for waveguide, coaxial and surface mount applications

Schottky Mixer and Detector Diodes

- Broadband and high power switch circuits: silicon and GaAs PIN switch diodes
- Analog attenuator circuits: silicon PIN attenuator diodes
- High power limiter circuits: silicon PIN limiter diodes
- Detector and mixer circuits: GaAs and silicon Schottky diodes
- Multiplier circuits: GaAs and silicon Schottky diodes
- Filter and VCO circuits: GaAs and silicon varactor diodes

Varactor Tuning Diodes

Part Number	Gamma	Total Capacitance (pF)	Quality Factor @ 50 MHz, Min	Breakdown Voltage (V)	Package
MA46600-134	0.5	0.3	8000	30	ODS-134 Die
MA46603-134	0.5	0.6	6500	30	ODS-134 Die
MA46603-276	0.5	0.6	6500	30	ODS-276
MAVR-045436-0287AT	0.5	4.7	1800	30	ODS-287
MAVR-045436-0287FT	0.5	4.7	1800	30	ODS-287
MAVR-045438-0287AT	0.5	6.8	1600	30	ODS-287
MAVR-045438-0287FT	0.5	6.8	1600	30	ODS-287
MAVR-045439-0287AT	0.5	8.2	1500	30	ODS-287
MAVR-045439-0287FT	0.5	8.2	1500	30	ODS-287
MAVR-045440-0287AT	0.5	10	1300	30	ODS-287
MAVR-045440-0287FT	0.5	10	1300	30	ODS-287
MAVR-045441-0287AT	0.5	12	1200	30	ODS-287
MAVR-045441-0287FT	0.5	12	1200	30	ODS-287
MAVR-045445-0287AT	0.5	27	900	30	ODS-287
MAVR-045446-0287AT	0.5	33	750	30	ODS-287
MA46H070-1056	0.75	0.6	4500	20	ODS-1056
MA46H071-1056	0.75	1	4500	20	ODS-1056
MA46H071-1088	0.75	1	4500	20	ODS-1088
MA46H072-1056	0.75	3	3000	20	ODS-1056
MA46H073-1056	0.75	5	2200	20	ODS-1056
MA46451-120	1	0.7	4000	22	ODS-120
MA46452-134	1	1	3000	22	ODS-134 Die
MA46461-186	1	4.7	1500	22	ODS-186
MA46H120	1	0.35	3000	15	Flip Chip
MA46H146	1	0.06	15000	26	Flip Chip
MA4ST1231-1141T	1	4.7	1700	12	ODS-1141
MA4ST1241-1141T	1	3.4	1200	12	ODS-1141
MAVR-000120-12030W	1	0.35	3000	15	Flip Chip
MAVR-000120-14110G	1	0.35	3000	20	Flip Chip
MAVR-000120-14110P	1	0.35	3000	20	Flip Chip
MAVR-000146-12030W	1	0.06	15000	26	Flip Chip
MAVR-000230-0287AT	1	5	400	12	ODS-287
MAVR-000230-0287FT	1	5	400	12	ODS-287
MAVR-000230-11410T	1	5	400	12	ODS-1141
MAVR-000240-0287AT	1	3.5	450	12	ODS-287
MAVR-000240-11410T	1	3.5	450	12	SOT
MAVR-000240-1146FT	1	3.5	450	12	ODS-1146
MAVR-000250-0287AT	1	2.7	450	12	ODS-287
MAVR-000250-0287FT	1	2.7	450	12	ODS-287
MAVR-000250-11410T	1	2.7	450	12	ODS-1141
MAVR-000250-1146FT	1	2.7	450	12	ODS-1146
MAVR-000250-12790T	1	2.7	450	12	SC-79
MAVR-000320-11410T	1	28	300	12	ODS-1141
MAVR-000330-11410T	1	13	350	12	ODS-1141
MAVR-000340-11410T	1	9.5	350	12	ODS-1141
MAVR-000350-11410T	1	6.2	400	12	ODS-1141

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Varactor Tuning Diodes (continued)

Part Number	Gamma	Total Capacitance (pF)	Quality Factor @ 50 MHz, Min	Breakdown Voltage (V)	Package
MAVR-000401-0287AT	1	10	250	22	ODS-287
MAVR-000401-0287FT	1	10	250	22	ODS-287
MAVR-000403-0287AT	1	15	250	22	ODS-287
MAVR-000403-0287FT	1	15	250	22	ODS-287
MAVR-000404-0287AT	1	18	175	22	ODS-287
MAVR-000404-0287FT	1	18	175	22	ODS-287
MAVR-000405-0287AT	1	22	175	22	ODS-287
MAVR-000405-0287FT	1	22	175	22	ODS-287
MAVR-000407-0287AT	1	33	150	22	ODS-287
MAVR-000407-0287FT	1	33	150	22	ODS-287
MAVR-000409-0287AT	1	47	150	22	ODS-287
MAVR-000409-0287FT	1	47	150	22	ODS-287
MAVR-001230-12790T	1	4.7	1700	12	ODS-1279
MAVR-001240-12790T	1	3.4	1200	12	ODS-1279
MAVR-001320-11410T	1	28.3	350	12	ODS-1141
MAVR-001320-1146FT	1	28.3	350	12	ODS-1146
MAVR-001320-12790T	1	28.3	350	12	ODS-1279
MAVR-001330-11410T	1	13.2	530	12	ODS-1141
MAVR-001330-1146FT	1	13.2	530	12	ODS-1146
MAVR-001330-12790T	1	13.2	530	12	ODS-1279
MAVR-001340-11410T	1	9.2	600	12	ODS-1141
MAVR-001340-1146FT	1	9.2	600	12	ODS-1146
MAVR-001340-12790T	1	9.2	600	12	ODS-1279
MAVR-001350-11410T	1	5.9	690	12	ODS-1141
MAVR-001350-1146FT	1	5.9	690	12	ODS-1146
MAVR-001350-12790T	1	5.9	690	12	ODS-1279
MAVR-011005-12790T	1	0.27	—	20	SC-79
MA46470-120	1.25	0.5	4000	22	ODS-120
MA46470-134	1.25	0.5	4000	22	ODS-134 Die
MA46470-276	1.25	0.5	4000	22	ODS-276
MA46471-134	1.25	0.7	4000	22	ODS-134 Die
MA46473-134	1.25	1.2	3000	22	ODS-134 Die
MA46473-186	1.25	1.2	3000	22	ODS-186
MA46474-120	1.25	1.5	3000	22	ODS-120
MA46474-134	1.25	1.5	3000	22	ODS-134 Die
MA46474-94	1.25	1.5	3000	22	ODS-94
MA46474-95	1.25	1.5	3000	22	ODS-95
MA46476-120	1.25	2	3000	22	ODS-120
MA46477-134	1.25	2.2	3000	22	ODS-134 Die
MA46477-186	1.25	2.2	3000	22	ODS-186
MA46480-134	1.25	3.8	2000	22	ODS-134 Die
MA46481-186	1.25	4.7	1500	22	ODS-186
MA46483-186	1.25	6.8	1500	22	ODS-186
MA46580-1209	1.25	0.5	3000	18	ODS-1209 Die
MA46585-1209	1.25	0.5	3000	18	ODS-1209 Die

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Varactor Tuning Diodes (continued)

Part Number	Gamma	Total Capacitance (pF)	Quality Factor @ 50 MHz, Min	Breakdown Voltage (V)	Package
MA46H200-1056	1.25	0.6	3000	22	ODS-1056
MA46H201-1056	1.25	1	3000	22	ODS-1056
MA46H201-1088	1.25	1	3000	22	ODS-1088
MA46H202-1056	1.25	3	2000	22	ODS-1056
MA46H202-1088	1.25	3	2000	22	ODS-1088
MA46H203-1056	1.25	5	1500	22	ODS-1056
MA46H203-1088	1.25	5	1500	22	ODS-1088
MA46H204-1056	1.25	10	1500	22	ODS-1056
MA46H204-1088	1.25	10	1500	22	ODS-1088
MAVR-000202-12790T	1.25	3	2000	22	SC-79
MAVR-000079-0287FT	1.3	54.1	80	12	ODS-287
MAVR-000080-0287AT	1.3	24.8	150	12	ODS-287
MAVR-000080-0287FT	1.3	24.8	150	12	ODS-287
MAVR-000081-0287AT	1.3	10.1	300	12	ODS-287
MAVR-000081-0287FT	1.3	10.1	300	12	ODS-287
MAVR-000082-0287AT	1.3	7.3	350	12	ODS-287
MAVR-000083-0287AT	1.3	5	450	12	ODS-287
MAVR-000083-0287FT	1.3	5	450	12	ODS-287
MA46413-120	1.5	1	2500	18	ODS-120
MA46416-134	1.5	1.8	2500	18	ODS-134 Die
MA46418-120	1.5	2.7	1800	18	ODS-120
MA46418-30	1.5	2.7	1800	18	ODS-30
MA46H500-1056	1.5	0.6	2500	18	ODS-1056
MA46H501-1056	1.5	1	2500	18	ODS-1056
MA46H504-1056	1.5	10	1200	18	ODS-1056

Varactor Multiplier Diodes

Part Number	Junction Capacitance min (pF)	Junction Capacitance max (pF)	Reverse Voltage (V)	Lifetime (ns)	Tt (pS)	Package
MAVR-044769-12790T	0.8	1.2	30	50	150	ODS-1279
MA144769-287T	0.8	1.2	30	50	150	ODS-287
MAVR-044767-12790T	0.8	1.2	30	50	150	SC-79
MAVR-044769-0287FT	0.8	1.2	30	50	150	ODS-287
MAVR-044767-0287AT	3	4.5	30	500	600	ODS-287

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PIN Switch and Attenuator Diodes

Part Number	Min Freq (MHz)	Max Freq (MHz)	CW Power Dissipation (W)	Total Capacitance (pF)	Dynamic Resistance (Ohm)	TI (ns)	Breakdown Votage Min (V)	Package
MA4PH611	500	0	10	1	0.4	5000	1000	ODS-1091
MA4P1450NM-1091T	1	300	30	1.8	5	8	50	ODS-1091*
MA4P1200NM-401T	5	500	5.5	1.2	0.5	2000	50	ODS-401*
MA4P1250NM-1072T	5	500	18	0.8	0.5	2000	50	ODS-1072*
MA4PK3004	0	500	50	4	0.2	65000	3000	ODS-1075
MA4P607-212	1	500	37.5	1.3	0.4	12000	1000	ODS-212 Die
MA4P506-255	1	500	13.6	0.95	0.3	3000	500	ODS-255
MA4P606-36	1	500	20	0.99	0.7	4000	1000	ODS-36
MA4PK3001	0	500	75	4	0.2	65000	3000	ODS-1084
MA4P607-43	1	500	25	2	0.4	5000	100	ODS-43
MA4P504-255	1	500	7.5	0.4	0.6	1000	500	ODS-255
MA4P606-258	1	500	20	0.98	0.7	4000	1000	ODS-258
MA4PK3000	0	500	75	4	0.2	65000	3000	ODS-1073
MA4PK2001	0	500	50	3.2	0.2	30000	2000	ODS-1082
MA4P505-255	1	500	10.7	0.55	0.4	2000	500	ODS-255
MA4PK3003	0	500	50	4	0.2	65000	3000	ODS-1085
MA4P4002B-402	0	500	12	2.2	0.5	20000	200	ODS-402
MA4PK3002	0	500	75	4	0.2	65000	3000	ODS-1074
MA4P4006B-402	0	500	12	2.2	0.5	20000	600	ODS-402
MA4P606-30	1	500	15	0.8	0.7	4000	1000	ODS-30
MA4PK2000	0	500	50	3.2	0.2	30000	2000	ODS-1027
MA4PK2002	0	500	50	3.2	0.2	30000	2000	ODS-1048
MA4PK2003	0	500	37.5	3.2	0.2	30000	2000	ODS-1080
MA4PK2004	0	500	37.5	3.2	0.2	30000	2000	ODS-1038
MA4P604-255	1	500	15	0.6	1	3000	1000	ODS-255
MA4P709-150	0	500	75	3.3	0.2	10000	1500	ODS-150
MA4P4301B-402	0	500	10	2	1	15000	100	ODS-402
MA4P1200-401T	5	500	5.5	1.2	0.5	2000	50	ODS-401
MA4P4001B-402	0	500	12	2.2	0.5	20000	100	ODS-402
MA4P607-296	1	500	25	2.35	0.4	5000	1000	ODS-296
MA4P4302B-402	0	500	10	2	1	15000	200	ODS-402
MA4P7435NM-1091T	0	1000	50	2.5	0.2	14000	1100	ODS-1091*
MA4P7002B-401T	1	1000	5	0.7	0.9	5000	200	ODS-401
MA4P7441F-1091T	0	1000	30	2.2	0.5	18000	100	ODS-1091*
MA4P7446F-1091T	0	1000	25	2.2	0.5	19000	600	ODS-1091*
MA4P1450-1091T	0	1000	30	1.8	0.5	8	50	ODS-1091
1N5719-54	1	1000	0.3	0.35	1.5	3000	100	ODS-54
MA4P4001F-1091T	0	1000	7.5	2.2	0.5	20000	100	ODS-1091
MA4P4002F-1091T	0	1000	7.5	2.2	0.5	20000	200	ODS-1091
MA47266-146	1	1000	0.5	1.5	0.6	3000	200	ODS-146
MA4P4301F-1091T	0	1000	5	2	1	15000	100	ODS-1091
MA4P606-4	1	1000	1	0.7	0.7	4000	1000	ODS-4
MA4P4006F-1091T	0	1000	7.5	2.2	0.5	20000	600	ODS-1091
MA4PH239-1079T	0	1000	1	0.8	6	2000	200	ODS-1079
MA4P504-4	1	1000	1	0.35	0.6	1000	500	ODS-4
MA47047-54	1	1000	0.3	0.3	1.5	1000	200	ODS-54
MA4P7102B-401T	1	1000	6	1	0.5	2500	200	ODS-401
MA4P7104B-401T	1	1000	6	1	0.5	2500	400	ODS-401
MA4P606-131	1	1000	15	0.6	0.7	4000	1000	ODS-131 Die

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PIN Switch and Attenuator Diodes (continued)

Part Number	Min Freq (MHz)	Max Freq (MHz)	CW Power Dissipation (W)	Total Capacitance (pF)	Dynamic Resistance (Ohm)	TI (ns)	Breakdown Votage Min (V)	Package
MA4P7101F-1072T	1	1000	11.5	1	0.5	2500	100	ODS-1072
MA44781	10	1000	1.7	1.5	0.8	200	60	ODS-1134
MA4PH237-1079T	1	1000	1	1.5	0.6	3000	200	ODS-1079
MA4P505-4	1	1000	15	0.55	0.4	2000	500	ODS-4
MA4P506-4	1	1000	1	0.85	0.3	3000	500	ODS-4
MA47208	1	1000	15	1.3	0.3	1300	1000	ODS-114
MA45471	10	1000	1.7	3.3	—	200	75	ODS-1134
MA4P7006B-401T	1	1000	5	0.7	0.9	5000	600	ODS-401
MA4P7101B-401T	1	1000	6	1	0.5	2500	100	ODS-401
MADP-000504-10720T	0	1000	2.9	0.5	0.6	1000	500	ODS-1072*
MADP-007417-1072T	0	1000	12	0.7	0.8	6500	1000	ODS-1072
MADP-011034-10720T	10	1500	6	1	0.4	300	150	ODS-1072*
MADP-000404-10720T	100	1500	7.5	0.6	0.7	100	250	ODS-1072
MADP-000488-13740W	100	1500	15	0.16	1.6	4000	900	ODS-1374 Die
MADP-000135-01340W	100	1500	50	0.15	1.2	440	200	ODS-134 Die
MADP-000235-10720T	0	1500	7.5	1.2	0.5	300	35	ODS-1072*
MADP-000234-10720T	0	1500	3	1.7	0.2	3000	500	ODS-1072
MA4P7418-1072T	0	1500	11.5	0.8	1.2	7000	1100	ODS-1072
MA4P7470F-1072T	0	1500	12	0.7	0.8	6500	800	ODS-1072*
MA4P7452F-1072T	0	1500	10	0.7	0.9	9000	150	ODS-1072*
MA4P7461F-1072T	0	1500	8	1	0.5	6000	100	ODS-1072*
MA4P7464F-1072T	0	1500	7.5	0.8	0.5	4500	400	ODS-1072*
MA4P505-1072T	0	1500	15	0.7	0.4	2000	500	ODS-1072
MA4P7002F-1072T	0	1500	10	0.7	0.9	5000	200	ODS-1072
MA4P504-1072T	0	1500	7.5	0.55	0.6	1000	500	ODS-1072
MA4P7006F-1072T	0	1500	10	0.7	0.9	5000	600	ODS-1072
MA4P7102F-1072T	0	1500	11.5	1	0.5	2500	200	ODS-1072
MA4P7104F-1072T	0	1500	11.5	1	0.5	2500	400	ODS-1072
MA4P506-1072T	0	1500	15	1	0.3	3000	500	ODS-1072
MA4P7001F-1072T	0	1500	10	0.7	0.9	5000	100	ODS-1072
MA4P1250-1072T	0	1500	18	0.9	0.5	2000	50	ODS-1072
MA4PH235-1072T	1	1500	1	1.2	0.5	300	35	ODS-1072
MADP-000208-13180W	30	1800	2.6	0.81	0.4	500	90	ODS-1318
MADP-011037-13900T	50	2000	5	0.3	0.6	1000	400	3 mm HQFN-16
MADP-000165-01340W	100	2000	50	0.06	2.5	200	200	ODS-134 Die
MADP-042508-130600	50	2000	1.3	0.6	0.9	310	100	ODS-1306 Die
MADP-042505-130600	50	2000	1.3	0.6	0.8	210	80	ODS-1306 Die
MA4P404-31	5	2000	7.5	0.58	0.6	1000	250	ODS-31
MA4P404-258	5	2000	7.5	0.58	0.7	1000	250	ODS-258
MA4P404-30	5	2000	7.5	0.4	0.6	1000	250	ODS-30
MA4PH236-1072T	10	2000	1	0.5	3	1500	600	ODS-1072
MA4P7433ST-1146T	25	2500	0.2	0.47	1.5	200	75	SOT-323
MADP-007448-0287DT	25	2500	0.3	0.37	2	400	100	SOT-23
MADP-007167-0287FT	1	2500	0.3	0.42	16	3000	200	SOT-23
MADP-007167-0287BT	1	2500	0.3	0.42	16	3000	200	SOT-23
MADP-007436-0287DT	25	2500	0.2	1.12	0.5	200	75	SOT-23
MADP-007433-0287DT	25	2500	0.3	0.42	1.5	200	75	SOT-23
MADP-007167-11410T	1	2500	0.2	0.42	16	3000	200	SOD-323
MA4P7455CA-287T	5	2500	0.3	0.35	3	1000	100	SOT-23

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PIN Switch and Attenuator Diodes (continued)

Part Number	Min Freq (MHz)	Max Freq (MHz)	CW Power Dissipation (W)	Total Capacitance (pF)	Dynamic Resistance (Ohm)	TI (ns)	Breakdown Votage Min (V)	Package
MADP-007167-0287GT	1	2500	0.3	0.42	16	3000	200	SOT-23
MA4P7447ST-287T	15	2500	0.3	1.32	0.6	1000	100	SOT-23
MA4P7436CK-287T	25	2500	0.3	1.12	0.5	200	75	SOT-23
MA4P7455CA-1146T	5	2500	0.2	0.47	3	1000	100	SOT-323
MADP-007448-12790T	25	2500	0.2	0.35	2	400	100	SC-79
MADP-007167-0287DT	1	2500	0.3	0.42	16	3000	200	SOT-23
MA4P7436ST-287T	25	2500	0.3	1.12	0.5	200	75	SOT-23
MA4P7447CA-287T	15	2500	0.3	1.32	0.6	1000	100	SOT-23
MADP-007448-0287BT	25	2500	0.3	0.37	2	400	100	SOT-23
MADP-007448-1146GT	25	2500	0.2	0.37	2	400	100	SOT-323
MA4P7455-287T	5	2500	0.3	0.47	3	1000	100	SOT-23
MADP-007455-0287DT	5	2500	0.3	0.47	3	400	100	SOT-23
MA4P7455ST-287T	5	2500	0.3	0.47	3	1000	100	SOT-23
MA4P7436-1141T	25	2500	0.2	1.11	0.5	200	75	SOD-323
MADP-007436-1146DT	25	2500	0.2	1.12	0.5	200	75	SOT-323
MA4P7433ST-287T	25	2500	0.3	0.47	1.5	200	75	SOT-23
MA4P7447-1141T	15	2500	0.2	1.31	0.6	1000	100	SOD-323
MA4P7433CK-287T	25	2500	0.3	0.47	1.5	200	75	SOT-23
MA4P7433-287T	25	2500	0.3	0.47	1.5	200	75	SOT-23
MA4P7455CK-1146T	5	2500	0.2	0.47	3	1000	100	SOT-323
MADP-007155-0287DT	15	2500	0.3	1.32	0.6	1000	100	SOT-23
MA4P7447-287T	15	2500	0.3	1.32	0.6	1000	100	SOT-23
MA4P7455CK-287T	5	2500	0.3	0.35	3	1000	100	SOT-23
MA4P7433-1141T	25	2500	0.2	0.46	1.5	200	75	SOD-323
MA4P7436-287T	25	2500	0.3	1.12	0.5	200	75	SOT-23
MA4P7433CA-287T	25	2500	0.3	0.47	1.5	200	75	SOT-23
MA4P7447CK-287T	15	2500	0.3	1.32	0.6	1000	100	SOT-23
MA4P7436CK-1146T	25	2500	0.2	1.12	0.5	200	75	SOT-323
MA4P604-258	1	2500	15	0.68	1	3000	1000	ODS-258
MA4P604-30	1	2500	15	0.5	1	3000	1000	ODS-30
MA4P7433-1146T	25	2500	0.2	0.47	1.5	200	75	SOT-323
MA4P7433CA-1146T	25	2500	0.2	0.47	1.5	200	75	SOT-323
MA4P7433CK-1146T	25	2500	0.2	0.47	1.5	200	75	SOT-323
MA4P7436-1146T	25	2500	0.2	1.12	0.5	200	75	SC-70 (3L)
MA4P7436CA-1146T	25	2500	0.2	1.12	0.5	200	75	SOT-323
MA4P7436CA-287T	25	2500	0.3	1.12	0.5	200	75	SOT-23
MA4P7436ST-1146T	25	2500	0.2	1.12	0.5	200	75	SOT-323
MA4P7447-1146T	15	2500	0.2	1.32	0.6	1000	100	SOT-323
MA4P7455-1146T	5	2500	0.2	0.47	3	1000	100	SC-70 (3L)
MA4P7455ST-1146T	5	2500	0.3	0.47	3	1000	100	SOT-323
MADP-007167-287AT	1	2500	0.3	0.42	16	3000	200	SOT-23
MADP-007433-1146DT	25	2500	0.3	0.42	1.5	200	75	SOT-323
MADP-007448-0287AT	25	2500	0.3	0.37	2	400	100	SOT-23
MADP-007448-0287FT	25	2500	0.3	0.37	2	400	100	SOT-23
MADP-007448-0287GT	25	2500	0.3	0.37	2	400	100	SOT-23
MADP-007448-11410T	25	2500	0.2	0.36	2	400	100	SOD-323
MADP-007448-1146BT	25	2500	0.2	0.37	2	400	100	SOT-323

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PIN Switch and Attenuator Diodes (continued)

Part Number	Min Freq (MHz)	Max Freq (MHz)	CW Power Dissipation (W)	Total Capacitance (pF)	Dynamic Resistance (Ohm)	TI (ns)	Breakdown Votage Min (V)	Package
MADP-007455-1146DT	5	2500	0.2	0.42	3	1000	100	SOT-323
MADP-010633-13920T	25	3000	6	0.4	0.6	1000	500	ODS-1392
MADP-010631-13920T	25	3000	5	1	0.5	200	100	ODS-1392
MADP-010630-13920T	25	3000	2	0.35	1.5	200	100	ODS-1392
MA4SPS422	50	3000	1.8	0.34	3.1	10000	200	Surmount Die
MADP-000506-014400	1	4000	10	0.7	0.3	100	500	ODS-144
MADP-007433-0287HT	25	4000	0.3	0.42	1.5	200	75	SOT-23
MADP-007433-12790T	25	4000	0.2	0.4	1.5	200	75	SC-79
MADP-042405-130600	50	4000	1.3	0.27	0.8	210	80	ODS-1306 Die
MADP-007436-12790T	25	4000	0.2	1.1	0.5	200	75	SC-79
MADP-007455-12790T	5	4000	0.2	0.45	3	1000	100	SC-79
MA4P505-36	1	4000	15	0.55	0.4	2000	500	ODS-36
MA4P303-186	20	4000	0.3	0.35	1.5	200	200	ODS-186
MA4P203-30	30	4000	5	0.35	1.5	100	100	ODS-30
MA4P203-1056	30	4000	0.3	0.35	1.5	100	100	ODS-1056
MA4P303-120	20	4000	5	0.35	1.5	200	200	ODS-120
MA4P202-276	50	4000	0.3	0.25	2.5	60	100	ODS-276
MA4P506-131	1	4000	13.6	0.7	0.3	3000	500	ODS-131 Die
MA4P303-1088	20	4000	0.3	0.47	1.5	200	200	ODS-1088
MADP-007167-0287HT	1	4000	0.3	0.42	16	3000	200	SOT-23
MADP-042408-130600	50	4000	1.5	0.36	0.6	380	100	ODS-1306 Die
MADP-007437-0287BT	5	5000	0.3	0.42	6	2000	200	SOT-23
MADP-007437-0287DT	5	5000	0.3	0.42	6	2000	200	SOT-23
MADP-007438-0287FT	5	5000	0.2	0.42	10	3000	200	SOT-23
MADP-007438-0287DT	5	5000	0.3	0.42	10	3000	200	SOT-23
MA4P7437-1141T	5	5000	0.2	0.46	6	2000	200	SOD-323
MADP-007438-0287BT	5	5000	0.3	0.42	10	3000	200	SOT-23
MA4P7437-287T	5	5000	0.3	0.47	6	2000	200	SOT-23
MADP-007437-0287FT	5	5000	0.3	0.42	6	2000	200	SOT-23
MA4P7455-1141T	5	5000	0.2	0.46	3	1000	100	SOD-323
MA4P7438-287T	5	5000	0.2	0.47	10	3000	200	SOT-23
MA4P7438-1141T	5	5000	0.2	0.46	10	3000	200	SOD-323
MA4P7437CA-287T	5	5000	0.3	0.47	6	2000	200	SOT-23
MA4P7438-1146T	5	5000	0.2	0.47	10	3000	200	SOT-323
MA4P7438CA-287T	5	5000	0.3	0.47	10	3000	200	SOT-23
MADP-042308-130600	50	6000	1	0.14	1.3	280	100	ODS-1306 Die
MADP-008120-12790T	10	6000	0.2	0.15	2.5	200	100	SC-79
MADP-042305-130600	50	6000	1	0.14	1.3	180	80	ODS-1306 Die
MA4SPS421	50	6000	1.8	0.13	6.2	5000	200	Surmount Die
MA4P505-131	1	6000	10.7	0.35	0.4	2000	500	ODS-131 Die
MADP-017015-1314	1	6000	5	0.32	0.7	1300	115	ODS-1314 Die
MADP-017025-1314	1	6000	5	0.23	1	2300	1335	ODS-1314 Die
MADP-030015-1314	1	6000	11.5	0.78	0.5	1600	115	ODS-1314 Die
MADP-030025-1314	1	6000	11.5	0.5	0.6	2800	135	ODS-1314 Die
MA4P504-144	1	8000	7.5	0.4	0.6	10	500	ODS-144
MA4P604-131	1	8000	15	0.3	1	3000	1000	ODS-131 Die
MA47222	1	8000	3.8	0.4	1.6	160	150	ODS-144

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PIN Switch and Attenuator Diodes (continued)

Part Number	Min Freq (MHz)	Max Freq (MHz)	CW Power Dissipation (W)	Total Capacitance (pF)	Dynamic Resistance (Ohm)	TI (ns)	Breakdown Votage Min (V)	Package
MA47223	1	8000	7.5	0.4	0.6	1000	500	ODS-144
MA47418-134	5	10000	6	0.15	3	1000	200	ODS-134 Die
MA47416-132	0	10000	5	0.15	6	2000	200	ODS-132 Die
MA4P504-132	1	10000	7.5	0.2	0.6	1000	500	ODS-132 Die
MA4P404-132	5	10000	7.5	0.2	0.7	600	250	ODS-132 Die
MADP-011028-14150T	50	12000	4.3	0.24	3.4	2000	200	1.5 x 1.2 mm DFN-6
MADP-011027-14150T	50	12000	3.3	0.24	1.9	1000	100	1.5 x 1.2 mm DFN-6
MADP-011029-14150T	50	12000	7.5	0.31	1.5	1000	400	1.5 x 1.2 mm DFN-6
MADP-042908-130600	50	16000	0.8	0.06	3.1	230	100	ODS-1306 Die
MADP-042905-130600	50	16000	0.8	0.06	3.1	140	80	ODS-1306 Die
MADP-000402-12530G	50	18000	1	0.04	5	200	1000	ODS-1253 Die
MADP-000402-12530P	50	18000	1	0.04	4.5	200	70	ODS-1253 Die
MADP-064908-131000	50	18000	1	0.05	5	200	100	ODS-1310 die
MA4PBL027	100	18000	0.2	0.03	4	5	90	Beam Lead Die
MA4P7493-134	50	18000	2.5	0.05	1.8	80	150	ODS-134 Die
MA4SPS402	50	18000	1	0.04	5	200	100	ODS-1253 DIE
MA4P161-134	100	18000	2.3	0.1	1.5	150	100	ODS-134 Die
MA4P203-134	30	18000	5	0.15	1.5	100	100	ODS-134 Die
MA4P303-134	20	18000	5	0.15	1.5	200	200	ODS-134 Die
MA4FCP305	100	24000	0.2	0.06	2.1	25	40	ODS-1269 Die
MA4SPS552	50	26000	1	0.06	1.7	2500	200	ODS-1270
MA4SPS502	1	26000	35	0.14	2.4	2800	275	ODS-1270
MA4SPS302	1	26000	0.8	0.4	1.3	460	100	Surmount Die
MADP-001907-13050P	100	30000	0.5	0.03	4.2	4	50	Flip Chip
MADP-000907-14020P	100	30000	0.1	0.03	5.2	4	45	Flip Chip
MADP-000907-14020W	100	30000	0.1	0.03	5.2	4	45	Flip Chip
MA4AGP907	100	30000	0.1	0.03	5.2	4	50	Flip Chip
MA4FCP300	100	30000	0.2	0.03	2.6	140	70	ODS-1269 Die
MA4GP907	100	30000	0.3	0.03	4.2	2	45	Flip Chip
MA4AGFCP910	100	40000	0.1	0.02	5.2	4	75	Flip Chip
MA4AGBLP912	100	40000	0.1	0.02	4	5	50	Beam Lead Die
MA4FCP200	100	40000	0.1	0.02	2.8	100	70	ODS-1264 Die
MA4GP905	100	40000	0.1	0.03	3	2	50	Beam Lead
MA4GP022	100	40000	0.3	0.15	1	20	50	ODS-277
MA4GP030	100	40000	0.3	0.06	2	25	100	ODS-277

PIN Limiter Diodes

Part Number	Incident Power, Max (W)	Thermal Resistance	Junction Capacitance (pF)	Resistance	Lifetime (µs)	Package
MADL-011008	33	150	0.3	1.5	15	1.2 x 1.5 mm PDFN-6
MADL-011021-14150T	35	100	0.4	1.5	10	1.5 x 1.2 mm TDFN-6
MADL-000011-13880G	80	175	0.18	2.1	10	ODS-134 / flying lead
MA4L011-31	80	175	0.36	2.1	10	ODS-31
MA4L011-137	80	175	0.32	2.1	10	ODS-137
MA4L011-1088	80	175	0.3	2.1	10	ODS-1088
MA4L011-186	80	175	0.33	2.1	10	ODS-186
MA4L011-134	80	175	0.18	2.1	10	ODS-134
MA4L011-1056	80	175	0.38	2.1	10	ODS-1056

PIN Limiter Diodes (continued)

Part Number	Incident Power, Max (W)	Thermal Resistance	Junction Capacitance (pF)	Resistance	Lifetime (ns)	Package
MA4L011-30	80	175	0.36	2.1	10	ODS-30
MA4L011-32	80	175	0.48	2.1	10	ODS-32
MA4L011-54	80	175	0.24	2.1	10	ODS-54
MADL-011021-14210G	90	175	0.2	2.1	10	ODS-1421
MADL-011009-01340W	90	175	0.23	1.5	10	ODS-134
MADL-000021-003000	90	175	0.38	21	10	ODS-30
MA4L022-120	90	175	0.32	2	10	ODS-120
MA4L022-137	90	175	0.33	2	10	ODS-137
MA4L022-1056	90	175	0.39	2	10	ODS-1056
MA4L022-30	90	175	0.37	2	10	ODS-30
MA4L022-186	90	175	0.34	2	10	ODS-186
MA4L021-134	90	175	0.2	2.1	10	ODS-134
MA4L022-134	90	175	0.19	2	10	ODS-134
MA4L021-120	90	175	0.33	2.1	10	ODS-120
MA4L021-1056	90	175	0.4	2.1	10	ODS-1056
MA4L021-31	90	175	0.38	2.1	10	ODS-31
MA4L022-32	90	175	0.49	2	10	ODS-32
MADL-011010-01340W	125	150	0.24	1.5	15	ODS-134
MADL-000031-13880G	125	150	0.21	2.1	20	ODS-134 / flying lead
MA4L032-186	125	150	0.35	2.5	15	ODS-186
MA4L031-31	125	150	0.39	2	20	ODS-31
MA4L031-186	125	150	0.36	2	20	ODS-186
MA4L031-134	125	150	0.21	2	20	ODS-134
MA4L032-1056	125	150	0.4	2.5	15	ODS-1056
MA4L032-134	125	150	0.2	2.5	15	ODS-134
MA4L031-1056	125	150	0.41	2	20	ODS-1056
MA4L032-31	125	150	0.38	2.5	15	ODS-31
MA4L031-36	125	150	0.39	2	20	ODS-36
MADL-000032-13870G	125	150	0.2	2.5	10	ODS-134 / flying lead
MADL-011011-01340W	200	150	0.17	2.3	10	ODS-134
MADL-000062-13880G	200	150	0.15	2.5	10	ODS-134 / flying lead
MA4L062-134	200	150	0.15	2.5	10	ODS-134
MADL-000101-13880G	250	30	0.15	2	90	ODS-134 / flying lead
MA4L101-134	250	30	0.15	2	90	ODS-134
MA4L101-186	250	30	0.3	2	90	ODS-186
MA4L101-30	250	30	0.33	2	90	ODS-30
MADL-000301-01340W	500	30	0.2	1.5	200	ODS-134
MA4L301-1056	500	30	0.4	1.5	200	ODS-1056
MA4L301-1249	500	30	0.32	1.5	200	ODS-1249
MA4L301-31	500	30	0.38	1.5	200	ODS-31
MADL-000301-13870G	500	30	0.2	1.5	200	ODS-134 / flying lead
MA4L401-1056	1000	25	0.5	1.2	800	ODS-1056
MA4L401-31	1000	25	0.48	1.2	800	ODS-31
MA4L401-134	1000	25	0.3	1.2	800	ODS-134
MA4L401-30	1000	25	0.48	1.2	800	ODS-30
MA4L401-120	1000	25	0.43	1.2	800	ODS-32
MADL-000401-13870G	1000	25	0.3	1.2	800	ODS-134 / flying lead
MADL-000062-105600	2000	150	0.35	2.5	10	ODS-1056

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Schottky Mixer and Detector Diodes

Part Number	Min Frequency (MHz)	Max Frequency (MHz)	Total Capacitance (pF)	Resistance	Vf	Vb	Package
MA4E932A-186	0	18	0.25	—	—	—	ODS-186
MA4E932B-186	0	18	0.25	—	—	—	ODS-186
MA4E929B-119	0	18	0.25	—	—	—	ODS-119
MA4E929A-119	0	18	0.25	—	—	—	ODS-119
MADS-002811-00540T	0	3000	1.2	—	0.41	15	ODS-54
1N5711	0	3000	2	—	0.4	70	ODS-54
MA4E2812-54	0	3000	1.2	—	0.55	20	ODS-54
1N5712	0	3000	1.2	—	0.6	20	ODS-54
MA4E2811	0	3000	1.2	—	0.41	15	ODS-54
MA40261-186	0	3000	0.32	—	—	—	ODS-186
MADS-005711-0054MT	0	3000	2	—	0.41	70	ODS-54
MADS-005712-0054MT	0	3000	1.2	—	0.55	20	ODS-54
MA4E2054C1-287T	0	4000	0.3	17	0.25	3	SOT-23
MA4E1338B1-1146T	0	4000	1	—	0.36	8	SC-70 (3L)
MA4E1339A1-1141T	0	4000	1.2	—	0.41	20	SOD-323
MADS-001340-12790T	0	4000	2	—	0.41	70	SC-79
MA4E2200D1-287T	0	4000	0.25	—	0.22	1.5	SOT-23
MADS-003000-1292LT	0	4000	0.5	7	0.245	—	ODS-1292
MA4E1338A1-1141T	0	4000	1	—	0.36	8	SOD-323
MA4E1340A1-287T	0	4000	2	—	0.41	70	SOT-23
MADS-003000-1292HT	0	4000	0.5	6	0.6	—	ODS-1292
MA4E2200A1-1141T	0	4000	0.25	—	0.22	1.5	SOD-323
MA4E1340B1-1146T	0	4000	2	—	0.41	70	SC-70 (3L)
MADS-001339-12790T	0	4000	1.2	—	0.41	20	SC-79
MADS-001338-12790T	0	4000	1	—	0.36	8	SC-79
MA4E20541-1279T	0	4000	0.3	17	0.25	3	SC-79
MADS-002200-12790T	0	4000	0.25	—	0.22	1.5	SC-79
MA4E2200B1-287T	0	4000	0.25	—	0.22	1.5	SOT-23
MA4E2054B1-1146T	0	4000	0.3	17	0.25	3	SC-70 (3L)
MA4E1339B1-287T	0	4000	1.2	—	0.41	20	SOT-23
MA4E2054A1-287T	0	4000	0.3	17	0.25	3	SOT-23
MA4E20541-1141T	0	4000	0.3	17	0.25	3	SOD-323
MA4E1338A1-287T	0	4000	1	—	0.36	8	SOT-23
MA4E1340A1-1141T	0	4000	2	—	0.41	70	SOD-323
MA4E2054D1-287T	0	4000	0.3	17	0.25	3	SOT-23
MA4E2054B1-287T	0	4000	0.3	17	0.25	3	SOT-23
MA4E1338B1-287T	0	4000	1	—	0.36	8	SOT-23
MA4E1339A1-1146T	0	4000	1.2	—	0.41	20	SC-70 (3L)
MA4E1339A1-287T	0	4000	1.2	—	0.41	20	SOT-23
MA4E1339B1-1146T	0	4000	1.2	—	0.41	20	SC-70 (3L)
MA4E1340A1-1146T	0	4000	2	—	0.41	70	SC-70 (3L)
MA4E1340B1-287T	0	4000	2	—	0.41	70	SOT
23MA4E2054A1-1146T	0	4000	0.3	17	0.25	3	SC-70 (3L)
MADS-011010-1415	0	6000	0.34	7	0.1	3	1.5 x 1.2 mm TDFN-6
MA40205-119	0	10000	0.32	—	—	—	ODS-119
MA4E931Z2-1261A	0	10000	—	—	0.15	3	ODS-1261-DIE
MA4E2054L-1261	0	10000	0.15	17	0.25	3	ODS-1261

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Schottky Mixer and Detector Diodes (continued)

Part Number	Min Frequency (MHz)	Max Frequency (MHz)	Total Capacitance (pF)	Resistance	Vf	Vb	Package
MA40201-119	0	10000	0.32	—	—	—	ODS-119
MA40143-213	0	10000	0.32	—	—	—	ODS-213
MA40215-276	0	10000	0.32	—	—	—	ODS-276
MA40208-276	0	10000	0.32	—	—	—	ODS-276
MA40147-213	0	10000	0.32	—	—	—	ODS-213
MA40264-186	0	10000	0.32	—	—	—	ODS-186
MADS-011010-1419	0	10000	0.15	7	0.15	3	ODS-1419-DIE
MA40215-120	0	16000	0.32	—	—	—	ODS-1200
MADS-002545-1307MG	0	18000	0.11	10	0.39	5	ODS-1307
MADS-002545-1307LG	0	18000	0.11	11	0.305	5	ODS-1307
MADS-002545-1307HG	0	18000	0.11	10	0.65	5	ODS-1307
MADS-002545-1307HT	0	18000	0.11	10	0.65	5	ODS-1307
MADS-002545-1307LT	0	18000	0.11	11	0.305	5	ODS-1307
MADS-002545-1307MT	0	18000	0.11	10	0.39	5	ODS-1307
MADS-002502-1246HP	0	26000	0.12	11	0.65	3	ODS-1246
MADS-002502-1246LP	0	26000	0.12	16	0.3	3	ODS-1246
MADS-002502-1246MP	0	26000	0.12	12	0.42	3	ODS-1246
MA4E2513L-1289	0	26000	0.12	10	0.3	3	ODS-1289
MA4E2508H-1112	0	26000	0.24	6	0.65	5	ODS-1112
MA4E2501L-1290	0	26000	0.12	10	0.3	3	ODS-1290
MA4E2532M-1113	0	26000	0.16	10	0.44	5	ODS-1113
MA4E2508M-1112	0	26000	0.24	12	0.42	5	ODS-1112
MA4E2514L-1116	0	26000	0.12	16	0.3	3	ODS-1116
MA4E2508L-1112	0	26000	0.24	16	0.3	5	ODS-1112
MA4E2514M-1116	0	26000	0.12	12	0.4	3	ODS-1116
MA4E2502H-1246	0	26000	0.12	11	0.65	3	ODS-1246
MA4E2502M-1246	0	26000	0.12	12	0.42	3	ODS-1246
MA4E2502L-1246	0	26000	0.12	16	0.3	3	ODS-1246
MA4E2039	0	60000	0.05	4	0.7	4.5	Beam Lead
MA4E2040	0	60000	0.05	4	0.7	4.5	Beam Lead
MA4E2037	0	60000	0.05	4	0.7	4.5	Beam Lead
MADS-001317-1500AG	0	80000	0.05	4	0.7	4.5	ODS-1500
MADS-001317-1500AP	0	80000	0.05	4	0.7	4.5	ODS-1500
MA4E2160	0	80000	0.05	4	0.7	7	ODS-1262
MA4E1318	0	80000	0.09	4	0.7	4.5	ODS-1197
MA4E1317	0	80000	0.05	4	0.7	4.5	ODS-1278
MA4E1319-1	0	80000	0.05	4	0.7	4.5	ODS-1199
MA4E2038	0	80000	0.04	6.5	0.7	4.5	Beam Lead
MA4E1319-2	0	80000	0.05	4	0.7	4.5	ODS-1200
MADS-001318-1197HP	0	80000	0.09	4	0.7	4.5	Tape and Reel
MADS-001317-1197HP	0	80000	0.05	4	0.7	4.5	Tape and Reel
MA4E1310	0	110000	0.04	7	0.7	7	ODS-1278

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MACOM Control Products

For a wide range of A&D and commercial applications

MACOM offers control products for a wide range of A&D and commercial applications. Our product portfolio covers a broad frequency spectrum from DC to 70 GHz using Silicon, AlGaAs and GaAs based technologies.





Limiters
> Thin-film hybrid manufacturing for the highest levels of performance, repeatability, reliability, and cost-effectiveness
> Ideal for multi-market and A&D

Power Detectors
> Broadband devices with integrated low loss directional couplers and built-in temperature compensation circuits
> Lead-free plastic surface mount packages
> Applications include power monitoring and leveling in point-to-point radios, IMS, radar, VSAT, EW, A&D systems

IQ Modulators/Demodulators
> For aerospace and defense, wireless, and broadband communications
> Connectorized, flat pack, drop-in and surface mount packages with a broad range of operating frequency ranges

Digital Phase Shifters
> 4-Bit and 6-Bit with either serial or parallel control inputs
> For military or weather radar, transmit/receive modules, and EW
> Convenient surface mount PQFN with 360° coverage, fast switching speed and low phase error

Voltage Variable Attenuators
> Automotive and wireless markets
> 10 MHz to 45 GHz
> Ideal for cellular infrastructure, handset gain control, radar systems, satellite radios and test equipment

Digital Attenuators
> Used in a variety of applications for automotive and wireless markets, including 75 Ohm versions for CATV
> Typical applications include; CATV infrastructure, cellular infrastructure, handset gain control, radar systems, satellite radios and test equipment

CMOS Switch Drivers
> For wireless infrastructure base stations and A&D applications including: cordless and mobile phones, satellite radio, GPS and DAB, 2.4 GHz and 5.0 GHz WLAN, VSAT, CATV and broadband, commercial and military radar, and multi-market applications

Switches
> Frequency spectrum from DC to 70 GHz
> (HMIC) PIN diodes: high power and broadband from 50 MHz to 26 GHz
> AlGaAs PIN diode: upper frequency ranges for instrumentation and radar applications
> GaAs pHEMT and MESFET for fast switching and low control voltage for narrow band and broadband
> 75 Ohm absorptive switches for CATV, FTTx and DBS infrastructure and CPE applications

Limiters

Part Number	Min Freq RF/LO (MHz)	Max Freq RF/LO (MHz)	Insertion Loss (dB)	Ave. Power (W)	Peak Power (W)	Leakage (mW)	Recovery Time (µs)	Package
2690-1001 ◆	1000	2000	0.7	1	100	75	100	Coax
2690-1003 ◆	1000	2000	0.9	3	1000	100	1000	Coax
MADL-011014	1000	2000	0.35	200	320	100	3.5	SMT Hermetic
2690-1005 ◆	2000	8000	1.1	1	100	50	100	Coax
2690-1007 ◆	2000	8000	1.3	3	1000	100	1000	Coax
2690-1013 ◆	2000	18000	2	1	100	50	100	Coax
2690-1014 ◆	2000	18000	2.3	2	500	75	250	Coax
2690-1015 ◆	2000	18000	2.3	3	1000	100	1000	Coax
2690-1009 ◆	8000	18000	1.8	1	100	50	100	Coax
2690-1011 ◆	8000	18000	2.3	3	1000	100	1000	Coax

Power Detectors

Part Number	Min Freq (MHz)	Max Freq (MHz)	Insertion Loss (dB)	Sensitivity (dBm)	Directivity (dB)	Max Power (dBm)	Package
MACP-010561	2000	6000	0.2	-17	19	30	1.5 x 1.2 mm TDFN-6
MACP-010562	6000	18000	0.3	-17	19	30	1.5 x 1.2 mm TDFN-6
MACP-010563	10000	30000	0.5	-17	19	30	1.5 x 1.2 mm TDFN-6

IQ Modulators / Demodulators

Part Number	Min Freq RF/LO (MHz)	Max Freq RF/LO (MHz)	Min Freq IF (MHz)	Max Freq IF (MHz)	LO Carrier Sup (dB)	Harmonic Sup 3X IQ (dBc)	LO-RF Isol (dB)	Package
MAMO-008665-ES0018	105	115	0	5	—	—	—	—
MAMO-008774-ES0019	0.2	200	0	200	—	—	—	—
MAMO-007252-IN2960	0.05	200	0	200	—	—	—	—

Digital Phase Shifters

Part Number	Min Freq (MHz)	Max Freq (MHz)	Bit Count	LSB (°)	IIP3 (dBm)	RMS Phase (dBm)	Package
MAPS-011007	1200	1400	6-Bit	5.6	48	2	4 mm PQFN-24
MAPS-010143	1400	2400	4-Bit	22.5	40	2	4 mm PQFN-24
MAPS-010163	1400	2400	6-Bit	5.6	40	3	4 mm PQFN-24
MAPS-010144	2300	3800	4-Bit	22.5	47	2.2	4 mm PQFN-24
MAPS-010164	2300	3800	6-Bit	5.6	45	3	4 mm PQFN-24
MAPS-010145	3500	6000	4-Bit	22.5	45	3	4 mm PQFN-24
MAPS-010165	3500	6000	6-Bit	5.6	40	4	4 mm PQFN-24
MAPS-011008	5000	6000	6-Bit	5.6	48	2	4 mm PQFN-24
MAPS-010146	8000	12000	4-Bit	22.5	40	5	4 mm PQFN-24
MAPS-010166	8000	12000	6-Bit	5.6	40	5	4 mm PQFN-24

Note: Part numbers are RoHS compliant ◆ indicates non-RoHS compliant
Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box.
All specifications are subject to change.

Digital Attenuators

Part Number	Min Freq (MHz)	Max Freq (MHz)	Bit Count	Attenuator Range (dB)	LSB (dB)	Insertion Loss (dB)	IIP3 (dBm)	Package
MAAD-008866	50	1000	6	31.5	0.5	1.4	40	4 mm PQFN-24
MAAD-010305	50	1100	1	15	15	0.3	50	SOT-25
MAADSS0009	0	2000	4	30	3	1.6	50	SOIC-16
MAATSS0015	0	2000	4	15	1	2	50	SOIC-16
AT-264-PIN	500	2000	4	30	2	2.2	47	TSSOP-16
AT-357-SMA	0	2000	5	31	1	6.5	47	C-46
MAATSS0021	50	2000	5	15.5	0.5	1.5	45	SOIC-16
AT-232-PIN	0	2000	4	30	2	2.5	50	CR-6
AT-283-PIN	5	2000	5	15.5	0.5	2.2	47	CR-12
AT-233-PIN	5	2000	4	30	2	1.9	50	CR-12
AT-273-PIN	5	2000	2	32	16	1.3	48	CR-11
AT-263-PIN	5	2000	5	31	1	2.1	48	CR-12
MAATSS0020	50	2000	5	31	1	1.6	50	TSSOP-20
MAATSS0016	500	2000	4	30	2	2.2	47	TSSOP-16
MAATSS0018	100	2000	1	10	10	0.4	50	SOT-25
MAATSS0022	500	2500	5	15.5	0.5	1.8	46	MSOP-10
MAATSS0017	400	2500	5	15.5	0.5	2	47	QSOP-16
MAAD-009195-000100	50	3000	5	15.5	0.5	5.3	40	CR-12
MAAD-009194-000100	50	3000	5	31	1	5.3	41	CR-12
AT-213-PIN	5	3000	4	15	1	1.6	50	CR-11
MAAD-009260-000100	50	3000	2	32	16	2.7	42	CR-12
MAAD-008790-000100	0	4000	5	31	1	5.5	37	CSP-1
MAAD-009170-000100	50	4000	5	15.5	0.5	5.2	40	CSP-1
MAATSS0019	500	4000	4	15	1	1.3	47	TSSOP-16
MAADCC0006	50	4000	4	15	1	2.5	48	CSP-1
MAADSS0018	2000	6000	5	15.5	0.5	2	42	3 mm PQFN-16
MAAD-000523	700	6000	6	31.5	0.5	1.9	52	4 mm PQFN-24
MAADSS0012	800	8000	1	21	—	0.6	41	2 mm PQFN-8
MAAD-011021	0	30000	6	31.5	0.5	6	38	3 mm PQFN-16
MAAD-011021-DIE	0	40000	6	31.5	0.5	6	38	Die

CMOS Switch Drivers

Part Number	Type	Rise Time/Fall Time (ns)	Vcc (V)	Vee (-V)	Icc (mA)	Package
MADR-009151-000DIE	Single	300	5	-5	1	Die
MADR-011007	FET	6	—	-5	—	6 mm PQFN-48
MADR-009269-000100	Single, PIN	300	5	5	1	SOIC-8
MADR-009190-000100	Quad	300	5	-5	1	SOIC-16
MADR-009443-000100	Quad	500	5	-5	20	4 mm PQFN-20
MADR-008888-000100	PIN	250	5	28	51	LGA-23
MADR-008851-000100	PIN	320	5	28	1	LGA-23
MADRCC0005	Single	25	5	-5	1	SO-8
MADRCC0004	Quad	25	5	-5	—	SO-16
MADR-007097-000100	Single	2	5	-5	1	SOIC-8
MADRCC0006	Single	500	5	-5	—	SO-8
MADRCC0007	Quad	500	5	-5	—	SOIC16
SMLG1	PIN	30000	15	15	—	SMT
MADRCC0002 ◆	Dual	5000	20	—	—	CSP-9
MADR-010574	PIN	2	3	—	170	7 mm PQFN-16
MADR-007098-000100	PIN	—	5	—	1	SOW-16
MADR-007131-000100	Dual Linearizer	—	5	—	1	CSP-9
MADR-010410	TR Module	6	3	3	—	5 mm PQFN-40

Digital Attenuators

Part Number	Min Freq (MHz)	Max Freq (MHz)	Insertion Loss (dB)	Attenuator Range (dB)	Input IP3 (dBm)	Voltage (Volts)	Current (mA)	Package
MAATCC0013	824	960	—	25	—	—	—	SOT-25
MAAV-007088-000100	50	1000	2.8	42	34	—	—	SOW-16
MA4VAT900-1277T	800	1000	1	24	40	—	—	3 mm PQFN-16
MA4VAT904-1061T	800	1000	1	24	49	—	—	SOIC-8
MA4VAT907-1061T	800	1000	1	24	49	—	—	SOIC-8
AT10-0009	800	1000	—	38	—	—	—	SOW-16
MAAV-007092-000100	800	1000	3.6	34	40	—	30	6 mm PQFN-28
MAAVSS0004	0	2000	7.2	35	36	-3	0.02	SOIC-14
MAAV-008022	500	2000	2.7	40	32	+5	0.05	SOIC-8
MAAV-007941	0	2000	3.2	12	36	-4	0.02	SOIC-8
SMG2	5	2000	—	23	—	—	—	SMT
MAAM-007987-000CG2	5	2000	—	23	—	—	—	SMA
MA4VAT2004-1061T	1700	2000	1.4	24	49	—	—	SOIC-8
MAAVSS0005	0	2000	3.2	12	36	-4	0.02	SOT-143
MAAVSS0008	500	2000	2.8	30	28	+5	0.3	SOIC-8
MA4VAT2007-1061T	1700	2000	1.4	23	52	—	—	SOIC-8
CG30	100	2000	—	44	—	—	—	SMA
G2	5	2000	2.6	28	—	+5	15	TO-8
SMG1	5	2000	—	30	—	—	—	SMTO-8
SMG30	100	2000	—	44	—	—	—	SMTO-8
G1*	5	2000	2.5	25	—	+15	15	TO-8, SMT, SMA
G30	100	2000	—	44	—	—	—	TO-8
MAAV-007090-000100	1700	2000	3.5	35	31	—	—	SOW-16
AT10-0017	1700	2000	—	35	—	—	—	SOW-16
MAAV-007091-000100	1700	2200	2.9	33	31	—	30	6mm PQFN-28
MA4VAT2000-1277T	1700	2200	1.2	24	21	—	—	3mm PQFN-16
MAAVCC0002	1700	2200	—	35	—	—	—	6mm PQFN-28
MAAVSS0001	1800	2500	2.4	42	32	+2.25	0.05	SOT-25
MAAVSS0006	0	2500	3.6	25	36	-3	0.025	SOT-25
MAAVSS0007	500	3000	2.5	40	32	+5	0.05	SOIC-8
MADP-007167-12250T	5	3000	2.8	36	50	—	—	SOT-25
MA4P7455-1225T	10	4000	1	29	43	—	—	SOT-25
CG40	500	4000	—	32	—	—	—	SMA
SMG40	500	4000	—	25	—	—	—	SMT
G40	500	4000	2.5	32	—	+15	12	TO-8
MAAA2000G	0	12000	—	40	—	—	—	Die
MAAT-010521	5000	45000	2	40	30	-2	—	3mm PQFN-16
LG1**	—	—	—	—	—	—	—	TO-8
LG30**	—	—	—	—	—	—	—	TO-8
CLG1	—	—	—	—	—	—	—	SMA

**LG1 Linearizer is compatible with the G1 Attenuator. Yields linear attenuation (dB) for linear control voltage. Available in TO-8, SMT, SMA
**LG30 Linearizer is compatible with the G30 Attenuator. Yields linear attenuation (dB) for linear control voltage. Available in TO-8, SMT, SMA

Multi-Function MMICs

Part Number	Min Freq (MHz)	Max Freq (MHz)	Type	Rx Gain (dB)	Tx Gain (dB)	Attenuator Res (dB)	Package
MAMF-011015	8	11	Transmit/Receive	26	9	5.625	7 mm PQFN
MAIA-009579	2700	3500	Receive Module	23	—	1	7 mm PQFN
MAIA-010365	2700	3500	Transmit Module	—	10	1	7 mm PQFN

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Switches

Part Number	Min Freq (MHz)	Max Freq (MHz)	Insertion Loss (dB)	Isolation (dB)	Input IP3 (dBm)	Package
SPST						
MASW-001150-1316	45	2500	0.3	65	40	Die
MASW6020G	100	6000	0.9	45	46	Die
MA4SW110	50	26500	0.6	48	40	HMIC Die
MA4AGSW1A	50	50000	1.2	48	—	Die
MA4AGSW1	50	50000	0.2	43	—	Die
MASW-008177	5	1000	0.6	53	52	3 mm PQFN-12
MASWSS0162	50	2500	1	48	46	SOIC-8
SW-209-PIN	0	3000	1.5	27	40	CR-2,CR10
SW05-0311	0	3000		40	46	CR-9
MASWSS0148	300	4000	1.6	51	49	3 mm PQFN-12
SW-231-PIN	5	4000	2	22	46	FP-16
SPDT						
MASW2000	0	3000	0.4	45	53	Die
MASW4030G	50	4000	0.6	53	46	Die
MASW-008206-000DIE	2400	5800	0.7	30	54	Die
MASW6010G	200	6000	0.6	45	46	Die
MASW6010	0	6000	0.5	52	46	Die
MASW-009590	1000	8000	0.5	24	52	Die
MASW-010647	8000	10500	0.8	37	60	Die
MASW-011021	6000	14000	0.7	34	60	Surmount Die
MASW-002102-13580	2	18000	1.8	55	40	Die
MASW20000	50	20000	1.4	58	43	Die
MASW-002103-1363	50	20000	0.8	38	40	Surmount Die
MA4SW210B-1	2000	26000	1.2	48	40	Die
MASW-011052	2000	26000	0.8	50	43	Die
MA4SW210	50	26500	0.6	52	40	HMIC Die
MASW-002100-1191	50	26500	0.3	65	40	Die
MASW-001100-1190	50	26500	0.3	65	40	Die
MASW-010646	26000	40000	0.6	39	60	Die
MASW-011036	26000	40000	0.7	40	60	Die
MASW-011068	20000	40000	0.7	28	55	Die
MA4AGSW2	50	50000	0.6	46	—	Die
MASWSS0103	5	1000	0.8	71	47	4 mm PQFN-20
MA8334-004	20	1000	0.4	25	—	844-004
MA8334-001	20	1000	0.4	25	80	844-001
MASWSS0161	500	2000	0.6	30	55	SOIC-8
MASWSS0179	50	2000	0.5	28	52	SOT-26
MASWSS0201	0	2500	1	45	44	3 mm PQFN-12
MASWSS0180	50	2500	0.7	38	46	SOIC-8
MASWSS0157	50	2500	0.7	35	45	SOIC-8
MASW-007221	500	3000	0.4	22	52	SC-70 (SOT-363)
MASW-008899	500	3000	0.3	24	48	SC-70 (SOT-363)
MASW-007075-000100	0	3000	1.8	36	46	SOW-24
MASWSS0166	900	3000	0.4	21	55	SC-70 (SOT-363)
MASWSS0151	0	3000	0.6	32	55	SC-70 (SOT-363)
MASW-007072-000100	0	3000	0.6	30	46	SOIC-16
MASW-007935	0	3000	0.7	34	50	SOT-26
MASWSS0192	50	3000	0.2	24	53	SC-70 (SOT-363)
MASWSS0143	100	3000	0.4	18	58	SOT-26

Switches (continued)

Part Number	Min Freq (MHz)	Max Freq (MHz)	Insertion Loss (dB)	Isolation (dB)	Input IP3 (dBm)	Package
SPDT (continued)						
MASWSS0204	300	3000	0.3	22	56	SC-70 (SOT-363)
SW-313-PIN	50	3000	0.8	52	46	CR-9
MASWSS0181	300	3000	0.5	23	57	SOT-26
MASWSS0136	0	3000	0.4	27	48	SC-70 (SOT-363)
MASWSS0176	50	3000	0.3	23	45	SOT-26
MASWSS0178	10	3000	0.6	57	43	MSOP-8
MASWSS0169	100	3000	0.7	48	50	MSOP-10
MASWSS0167	500	3000	0.4	28	48	1.2 x 1.5 mm PQFN-6
MASWSS0115	50	3000	0.3	24	46	SC-70 (SOT-363)
MASWSS0121	500	3000	0.7	54	46	4 mm PQFN-16
MASW-009101	5	3000	1	65	39	3 mm PQFN-16
MASW-008801	5	3000	0.8	85	47	3 mm PQFN-16
MASW-008075	50	3000	0.4	25	48	SC-70 (SOT-363)
SW-228-PIN	0	4000	0.7	42	46	CR-2
MASW-007071-000100	0	4000	1.8	30	46	4 x 6 mm PQFN
SW-226-PIN	0	4000	1	48	46	CR-2
SW-227-PIN	0	4000	1	50	46	CR-2
MASW-009588	500	4000	0.4	26	55	1 mm PDFN-6
MASW-000932	10	4000	53	43	72	4 mm PQFN-16
MASW-008543	10	4000	0.7	58	53	MSOP-8
MASW-008853	0	5000	0.2	25	56	SC-70 (SOT-363)
MASW-011043	0	6000	0.6	30		2 mm STQFN-12
MASW-000834-13560T	50	6000	0.2	53	65	4 mm PQFN-16
MASW-000825-12770T	50	6000	0.3	35	64	3 mm PQFN-16
MASW-007588	1000	6000	0.9	28	55	3 mm PQFN-12
MASW-000822-12770T	50	6000	0.2	32	60	3 mm PQFN-16
MASWSS0202	1000	6000	0.6	29	52	3 mm PQFN-12
MASWSS0093	50	6000	0.8	28	55	3 mm PQFN-12
MASW-009444	200	6000	0	28	54	1 mm PDFN-6
MASW-000936	50	6000	0.2	45	72	4 mm PQFN
MAMF-010614	5000	6000	0.9	19	10	2 mm STQFN-12
MASW-007921	50	7000	0.7	30	58	2 mm PDFN-8
MASW-007107	0	8000	0.5	30	54	2 mm PQFN-8
MASW-011071• Absorbtive	8000	10500	1	38	60	7 mm PQFN-44
MASW-008322	500	20000	1	45	48	4 mm PQFN-24
MASW-011057• Reflective	13000	20000	0.8	42	55	4 mm QFN-20
MASW-011067• Absorbtive	13000	20000	0.9	36	53	4 mm QFN-20
SP3T						
MASW-008902-000DIE	2400	2500	0.6	25	55	De
MASW-009276-001DIE	1000	4000	0.7	27	55	Die
MASW-011053	2000	18000	0.8	50	48	Die
MASW-003102-13590	2000	18000	0.8	50	40	Die
MASW-003103-1364	50	20000	0.8	40	40	Surmount Die
MA4SW310B-1	2000	26000	1.2	47	40	Die
MA4SW310	50	26500	0.8	48	40	Die
MASW-003100-1192	50	26500	0.3	65	40	Die
MA4AGSW3	50	50000	0.6	48	—	Die
MASW-011074• Asymmetrical	100	1000	0.45	57	60	12 mm WHQFN-28
MASW-011041	50	1500	0.3	51	73	9 mm HQFN-20
MASWSS0200	500	2500	0.6	24	61	3 mm PQFN-12

• Not yet realeased

Switches (continued)

Part Number	Min Freq (MHz)	Max Freq (MHz)	Insertion Loss (dB)	Isolation (dB)	Input IP3 (dBm)	Package
SP3T (continued)						
MASWSS0199	0	2500	0.5	30	58	3 mm PQFN-12
MASW-011030	50	2500	0.4	27	77	7 mm HQFN-16
MASW-007074-000100	0	3000	2	32	45	SOW-24
MASWSS0144	500	3000	0.6	24	55	3 mm PQFN-12
MASW-008955	0	3000	0.5	22	54	2 mm PDFN-8
MASW-008330	500	3000	0.3	24	50	2 mm PQFN-8
MASWSS0191	500	3000	0.6	30	58	2 mm VTDFN-8
MASW-010612	0	3500	0.6	21	54	1.5 mm PDFN-8
MASW-009359	0	4000	0.6	27	65	2 mm STQFN-12
MASW-009482	50	4000	0.7	23	65	2 mm STQFN-12
SP4T						
MA4AGSW4	50	50000	0.8	42	40	Die
MA4SW410B-1	2000	18000	0.8	48	40	Die
MA4SW410	50	26500	0.7	48	40	Die
MASW4060G	0	4000	1.3	50	46	Die
MA4SW424B-1	10	24000	2.5	50	—	Die
MASW-004102-12760	2	18000	1.5	50	40	Die
MASW-004103-1365	50	20000	0.8	50	63	Surmount Die
MASW-004100-1193	50	26500	0.3	65	40	Die
MASW-004240-13170	10	24000	2.5	50	—	Die
MASW-011087	27000	30000	0.85	50	55	Die
MASW-011075• Asymmetrical	100	1000	0.45	57	60	12 mm WHQFN-28
MASW-011040	50	1500	0.3	51	73	9 mm HQFN-20
MASWCC0010	0	4000	2.3	38	40	CSP-2
MASWCC0009	3	3000	1.4	42	46	QSOP24
MASW-007813-000000	500	3000	0.8	27	58	3 mm PQFN-16
MASW-008566	50	3000	0.7	26	57	4 mm PQFN-16
MASW-010350	10	4000	1.3	57	50	4 mm PQFN-24
SP5T						
MA4SW510B-1	2000	18000	0.9	40	40	Die
MASW-005102-13600	2000	18000	0.9	40	40	Die
MA4SW510	50	26500	0.9	38	40	Die
MASW-005100-1194	50	26500	0.9	38	40	Die
MASW-006102-13610	50	26500	0.3	65	40	Die
MA4AGSW5	50	50000	1.1	47	40	Die
MASW-010351	10	4000	1.4	57	50	4 mm PQFN-24
SP6T						
MASWSS0091	500	2500	0.5	45	—	Die
MA4SW610B-1	2000	18000	1.3	45	40	Die
MASW-006102-13610	50	26500	1.3	45	40	Die
MASW-000105	500	2500	0.5	47	55	4 mm PQFN-20
MASWCC0006	0	4000	2.1	25	40	CSP-2
SP8T						
MA4AGSW8-1	50	50000	1.5	37	40	Die

• Not yet realeased

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MACOM Frequency Conversion Products

Offering a broad range of frequency and performance specifications

MACOM's frequency conversion products include hybrid mixers, mixers, receivers, transceivers, up converters and frequency multipliers. Our frequency conversion devices are ideal for point-to-point radio, aerospace and defense, and other broadband communications applications. Available as surface mount devices, our reliable products enable easy assembly and integration for real estate constrained customers.



Frequency Multipliers

> Combining an active doubler with an output buffer amplifier to deliver constant power over a range of input powers
> Available as bare die or in surface mount lead-free QFN packages

Hybrid Mixers: Limiting

> For aerospace and defense, wireless, test and measurement, and broadband communications applications
> Available in subsets of the frequency range:
  – RF and LO: 50 kHz to 24 GHz
  – IF: DC to 8 GHz
> Double and triple balanced designs
> Variety of technologies
  – GaAs pHEMT
  – Si HMIC
> Connectorized, flat pack, drop-in, and surface mount packages

Receivers

> Widely used in point-to-point radio, aerospace and defense, and broadband communications applications
> Features an integrated LNA, mixer and LO buffer amplifier on a single chip
> 4500 - 45000 MHz frequency range
> Excellent noise figure and conversion gain performance
> Lead-free QFN or SMD packages

Transceivers

> Monolithic and stereo doppler transceivers for directional motion detection
> Used in automatic door openers, ground speed recorders and police radar detectors

Up Converters

> Applications include point-to-point radio and broadband communications
> Featuring an integrated image reject (balanced) mixer, LO buffer, RF buffer, and LO doubler or variable attenuator on a single chip
> 5600 - 40000 MHz frequency range
> Lead-free QFN or SMD packages
> Excellent variable gain control with adjustable bias, high linearity and image rejection with low LO leakage

Mixers

> Constructed using broadband ferrite balun transformers and matched silicon Schottky diodes
> Ideal for use in CATV head end systems and up converter applications

Frequency Multipliers

Part Number	Min Freq RF (MHz)	Max Freq RF (MHz)	Min Output (MHz)	Max Output (MHz)	Input power (dB)	Multiply Factor	Conversion Loss (dB)	Package
FM-105-PIN ◆	10	750	20	1500	24	2	12	RH-3
FM-104-PIN ◆	75	1500	150	3000	24	2	10	FP-3
FM-107-PIN ◆	5	2400	10	4800	10	2	11	FP-2
FMS-109-PIN ◆	5	2400	10	4800	10	2	11	SF-1
CSFD25H ◆	10	2400	20	4800	23	2	12	SMT
CSFD25 ◆	10	2400	20	4800	10	2	11.5	SMT
FD25 ◆	5	2400	10	4800	10	2	11.5	TO-8
FD25C ◆	5	2400	10	4800	10	2	11.5	Conn
FD25H ◆	5	2400	10	4800	23	2	12	TO-8
FD25HC ◆	5	2400	10	4800	23	2	12	Conn
FD25E ◆	5	2400	10	4800	10	2	11.5	Flatpack
FD26C ◆	50	3300	100	6600	110	2	13	Conn
CSFD26 ◆	50	3300	100	6600	10	2	13.5	SMT
FD26	50	3300	100	6600	10	2	13	TO-8
FDC2310 ◆	1500	8000	3000	16000	10	2	11	Open Carrier
FDC2710 ◆	3500	8000	7000	16000	10	2	11.2	Open Carrier
FD93C ◆	2000	9000	4000	18000	12	2	12	Conn
FD93 ◆	2000	9000	4000	18000	12	2	12	Versapac
FD93H	2000	9000	4000	18000	19	2	12	Versapac
FD93HC ◆	2000	9000	4000	18000	19	2	12	Conn
FDZ5013 ◆	3000	12000	6000	24000	13	2	12	Versapac
FDZ5013C ◆	3000	12000	6000	24000	13	2	12	Conn
SFD26	50	3300	100	6600	10	2	13	SMT
SFD25H	5	2400	10	4800	23	2	12	SMT
SFD25	5	2400	10	4800	10	2	11.5	SMT

Active Frequency Multipliers

Part Number	Min Freq RF (MHz)	Max Freq RF (MHz)	Min Output (MHz)	Max Output (MHz)	Input power (dB)	Multiply Factor	Conversion Loss (dB)	Package
XX1001-BD	18000	21000	36000	42000	0	2	26	Die
XX1000-BD	7500	25000	15000	50000	0	2	13	Die
XX1007-BD	13500	17000	27000	34000	8	2	12	Die
MAFC-004403	8000	12000	16000	24000	0	2	17	4 mm QFN
MAFC-010511	8000	12000	16000	24000	0	—	17	3 mm PQFN-16
XX1002-QH	2500	6000	5000	12000	3	2	13	4 mm PQFN-24
XX1010-QT	14625	15000	29250	30000	4.5	2	14	3 mm QFN-16
XX1007-QT	13500	17000	27000	34000	8	2	10	3 mm PQFN-16
XX1001-QK	18000	21000	36000	42000	0	2	26	7 mm QFN-28
XX1000-QT	7500	22500	15000	45000	6	2	12	3 mm QFN-16

Note: Part numbers are RoHS compliant ◆ indicates non-RoHS compliant
Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box.
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Hybrid Mixers

Part Number	Min Freq RF/LO (MHz)	Max Freq RF/LO (MHz)	Min Freq IF (MHz)	Max Freq IF (MHz)	LO Drive (dB)	Conversion Loss/Gain (dB)	Package
MDS-222-PIN ◆	0.2	200	0.2	200	7	7.5	SF-1
MAC-50-PIN ◆	0.2	200	0	200	7	6	TO-5-2
M6D-50 ◆	0.05	200	0	200	7	7	Relay Can
SM6D	0.05	200	0	200	7	7	SMT
MAC-51-PIN ◆	5	500	0	500	7	7	TO-5-2
MD-108-PIN ◆	5	500	0	500	7	9	RH-3
MDS-223-PIN ◆	10	500	10	500	7	7	SF-1
MD-161-PIN ◆	1	500	0	500	13	8	FP-2
SM6V	0.4	500	0	500	7	6.5	SMT
M9BC ◆	0.5	500	0	500	17	7	Relay Can
M1H ◆	180	620	0	200	7	7	SMA Relay can
M6EH ◆	5	750	0	500	20	7.5	Relay Can
SM6EH	5	750	0	500	20	7.5	SMT
SM2E	10	1000	0	600	20	8	SMT
M2EC ◆	10	1000	0	600	20	8	SMA
M2E	10	1000	0	600	20	8	TO-8
MD-148-PIN ◆	10	1500	10	1500	10	6	FP-2
MDS-158-PIN ◆	5	1500	—	—	7	9	SF-1
MD-160-PIN ◆	1	1500	1	1000	13	9	RH-3
MDS-148-PIN	10	1500	10	1500	10	6	SF-1
MD-158-PIN ◆	5	1500	—	1000	7	7	FP-2
MD-149-PIN ◆	10	1500	10	1500	7	7.5	FP-2
MDS-149-PIN ◆	10	1500	10	1500	7	6	SF-1
CSM1-17	10	1500	1	500	17	7.5	SMT
M9HC ◆	10	1500	0	600	20	8	SMA
M4A ◆	10	1500	0	1000	7	7.5	Flatpack
SM4A	10	1500	0	1000	7	7.5	SMT
M2AC ◆	10	1500	0	800	7	7.5	SMA
CSM1-13	10	1500	1	500	13	7.5	SMT
SM4B ◆	10	1500	0	1000	13	7.5	SMT
M2BC ◆	10	1600	0	800	13	7.5	SMA
M2B ◆	10	1600	0	800	13	7.5	TO-8
CSM1-10	10	2000	1	500	10	7.5	SMT
M2TC ◆	10	2400	1	1000	13	8	SMA
SM4G ◆	800	2400	0	1500	7	7.5	SMT
CSM2-10	10	2800	10	2000	10	8.5	SMT
CSM2-17	10	2800	10	2000	17	8.5	SMT
CSM2-13	10	2800	10	2000	13	8.5	SMT
MD-123-PIN ◆	10	3000	10	3000	7	8	FP-2
SM4T17	1	3400	1	2000	17	8	SMT
SM4TH	1	3400	1	2000	23	8	SMT
M8T ◆	1	3400	1	2000	10	7	TO-8
M8TC ◆	1	3400	1	2000	10	7	SMA
M8TH ◆	1	3400	1	2000	23	7.5	TO-8
CSM4T17	1	3400	1	2000	17	8	SMT
CSM4TH	1	3400	1	2000	23	8	SMT
SM4T	1	3400	1	2000	10	8	SMT

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Hybrid Mixers (continued)

Part Number	Min Freq RF/LO (MHz)	Max Freq RF/LO (MHz)	Min Freq IF (MHz)	Max Freq IF (MHz)	LO Drive (dB)	Conversion Loss/Gain (dB)	Package
M8THC ◆	1	3400	1	2000	23	7.5	SMA
CSM4T	1	3400	1	2000	10	8	SMT
M4TH ◆	1	3400	1	2000	23	8	Flatpack
MDC-169-SMA ◆	1	3500	1	3500	10	10	C-7
MDS-169-PIN ◆	1	3500	5	1500	10	8	SF-1
MD-189-PIN ◆	1	3500	1	3500	23	8	FP-2
MDS-189-PIN ◆	1	3500	1	3500	23	8	SF-1
MD-169-PIN ◆	1	3500	1	3500	10	10	FP-2
M2GC ◆	800	3500	0	1500	7	8	SMA
M2G	800	3500	0	1500	7	8	TO-8
MDC-179-SMA ◆	1	4000	5	1500	7	10.5	C-7
MD-179-PIN ◆	1	4000	5	1500	7	10.5	FP-2
M8H-3 ◆	3700	4200	0	2000	7	5	TO-8
MC2110 ◆	3400	4700	0	1000	10	6.2	Open Carrier
CSM5TH	50	4800	50	3000	23	7	SMT
CSM5T17	50	4800	50	3000	17	7.8	SMT
CSM5T	50	4800	50	3000	10	7.2	SMT
SM5T17	50	5000	50	3000	17	7.5	SMT
SM5TH	50	5000	50	3000	23	7.7	SMT
SM5T	50	5000	50	3000	10	7.5	SMT
MZ6310C ◆	250	5500	0	1500	10	7	SMA
M63C ◆	2500	5500	0	1500	9	5.5	SMA
M8HC-7 ◆	2400	6000	0	2000	7	6	SMA
M8H-7 ◆	2400	6000	0	2000	7	6	TO-8
MDC-162-SMA ◆	1000	7000	10	2000	13	6	C-2
MY63 ◆	2500	7000	0	15000	9	5.8	Versapac
MY63C ◆	2500	7000	0	15000	9	5.8	SMA
MC2410 ◆	4500	7000	0	2000	10	5.5	Open Carrier
MC2413 ◆	4500	7000	0	2000	13	5.5	Open Carrier
M63H ◆	2500	7500	0	1500	20	6	Minpac
MY63H ◆	2500	7500	0	1500	20	6	Versapac
MY63HC ◆	2500	7500	0	1500	20	6	SMA
M63HC ◆	2500	7500	0	1500	20	6	SMA
MC2310 ◆	2200	8000	0	2000	10	7	Open Carrier
MC2320 ◆	2200	8000	0	2000	13	7	Open Carrier
MC2307 ◆	2200	8000	0	2000	7	7	Open Carrier
MY76H ◆	4500	8500	0	2000	20	7	Versapac
MY76HC ◆	4500	8500	0	2000	20	7	SMA
M76H ◆	4500	8500	0	2000	20	7	Minpac
MY76C ◆	4500	9500	0	2000	10	6	SMA
M76 ◆	4500	9500	0	2000	10	6	Minpac
M76C ◆	4500	9500	0	2000	10	6	SMA
MY76 ◆	4500	9500	0	2000	10	6	Versapac
MC4113 ◆	2000	10000	0	2000	13	7.5	Open Carrier
MC4120 ◆	2000	10000	0	2000	20	7.5	Open Carrier
MC4107 ◆	2000	10000	0	2000	7	7.5	Open Carrier
MY84 ◆	1800	10000	0	1000	9	6.5	Versapac

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Hybrid Mixers (continued)

Part Number	Min Freq RF/LO (MHz)	Max Freq RF/LO (MHz)	Min Freq IF (MHz)	Max Freq IF (MHz)	LO Drive (dB)	Conversion Loss/Gain (dB)	Package
MY84C ◆	1800	10000	0	1000	9	6.5	SMA
MY77 ◆	8000	12500	0	2500	10	5.5	Versapac
M77C ◆	8000	12500	0	2500	10	5.5	SMA
MY77C ◆	8000	12500	0	2500	10	5.5	SMA
M14A ◆	6000	14000	0	2000	7	6.5	SMA
MC2710 ◆	10000	15000	0	2000	10	6	Open Carrier
MC2707 ◆	10000	15000	0	2000	7	7	Open Carrier
M67C ◆	9000	15000	0	2500	10	6.5	SMA
MC2720 ◆	10000	15000	0	2000	20	6	Open Carrier
MC3013 ◆	20000	16000	1000	8000	13	8	Open Carrier
MY85C ◆	2000	18000	0	1000	7	8	SMA
MZ7407C ◆	6000	18000	0	3000	7	6.5	SMA
M88H ◆	2000	18000	2000	8000	21	8	Minpac
MZ8810C ◆	2000	18000	1000	8000	10	7.5	SMA
M85 ◆	2000	18000	0	1000	7	8	Minpac
MZ8813 ◆	2000	18000	1000	8000	13	7	Versapac
MY83H ◆	2	18000	30	5000	20	8.5	Versapac
MZ7407 ◆	6000	18000	0	3000	7	6.5	Versapac
M83	1000	18000	30	5000	13	7.5	Minpac
M74 ◆	7000	18000	0	3000	10	6.5	Minpac
MY88HC ◆	1000	18000	1000	8000	21	8	SMA
M93C ◆	2000	18000	30	4000	10	8	SMA
MZ7410 ◆	6000	18000	0	3000	10	6.5	Versapac
MY88C ◆	2000	18000	1000	8000	13	8	SMA
M83C ◆	1000	18000	30	5000	13	7.5	SMA
M89C ◆	1000	18000	1000	8000	10	8	SMA
M79HC ◆	5000	18000	0	3000	20	7.5	SMA
M79H ◆	5000	18000	0	3000	20	7.5	Minpac
MY93C ◆	2000	18000	30	4000	10	8	SMA
MY93 ◆	2000	18000	30	4000	10	8	Versapac
MY89 ◆	2000	18000	2000	8000	10	8	Versapac
M85C ◆	2000	18000	0	1000	7	8	SMA
M88HC ◆	2000	18000	2000	8000	21	8	SMA
MY88	2000	18000	1000	8000	13	8	Versapac
MY89C ◆	2000	18000	2000	8000	10	8	SMA
MZ9310 ◆	2000	18000	30	5000	10	7.5	Versapac
MZ7420C ◆	6000	18000	0	3000	20	7.5	SMA
M79C ◆	5000	18000	0	3000	10	7	SMA
MZ7410C ◆	6000	18000	0	3000	10	6.5	SMA
M88C ◆	2000	18000	1000	8000	13	8	SMA
MY83HC ◆	2	18000	30	5000	20	8.5	SMA
M86C ◆	3500	18000	0	3000	7	7	SMA
MY82 ◆	2000	18000	30	5000	13	7.5	Versapac
M80C ◆	4000	18000	0	3000	7	6.5	SMA
MZ9310 ◆	2000	18000	30	5000	10	7.5	SMA
MY82C ◆	2000	18000	30	5000	13	7.5	SMA

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Hybrid Mixers (continued)

Part Number	Min Freq RF/LO (MHz)	Max Freq RF/LO (MHz)	Min Freq IF (MHz)	Max Freq IF (MHz)	LO Drive (dB)	Conversion Loss/Gain (dB)	Package
M74C ◆	7000	18000	0	3000	10	6.5	SMA
MY85 ◆	2000	18000	0	1000	7	8	Versapac
M50A ◆	2000	18000	2000	18000	10	8	Minpac
MZ7420 ◆	6000	18000	0	3000	20	7.5	Versapac
MZ9313 ◆	2000	18000	30	5000	13	7	Versapac
MZ9313C ◆	2000	18000	30	5000	13	7	SMA
M87C ◆	500	19000	30	5000	13	9	SMA
MY87 ◆	500	19000	30	5000	13	10.5	Versapac
MY87C ◆	500	19000	30	5000	13	10.5	SMA
MC4507 ◆	4000	20000	0	4000	7	7.5	Open Carrier
MC4513 ◆	4000	20000	0	4000	13	7.5	Open Carrier
MC4510 ◆	4000	20000	0	4000	10	7.5	Open Carrier
MY52 ◆	2000	24000	100	5000	10	8	Versapac
MY51 ◆	2000	24000	1000	15000	10	8	Versapac
MY51C ◆	2000	24000	1000	15000	10	8	SMA
MY52C ◆	2000	24000	100	5000	10	8	SMA
M52C ◆	2000	24000	100	5000	10	8	SMA
M51C ◆	2000	24000	1000	15000	10	8	SMA
MY50AC ◆	2000	26000	1000	12000	10	8	SMA
MY50 ◆	2000	26000	1000	15000	10	8	Versapac
MZ5010C ◆	2000	26000	1	15000	10	8.5	SMA
MY50A ◆	2000	26000	1000	12000	10	8	Versapac
M53C ◆	2000	26000	100	6000	10	8	SMA
M50C ◆	2000	26000	1000	15000	10	8	SMA
MZ5010 ◆	2000	26000	1	15000	10	8.5	Versapac
MY50C ◆	2000	26000	1000	15000	10	8	SMA

Receivers/Down Converters

Part Number	Min Freq (MHz)	Max Freq (MHz)	Conversion Gain (dB)	Noise Figure (dBm)	Image Rejection (dBm)	LO Input Power (dBm)	Package
XR1011-BD	4500	10500	14	1.6	20	5	Die
XR1004-BD	35000	45000	9	3.5	18	2	Die
XR1011-QH	45000	10500	13	1.8	20	5	4 mm QFN-24
XR1015-QH	10000	16000	12	2.5	20	5	4 mm QFN-24
XR1019-QH	27500	33400	13	2.5	20	4	4 mm QFN-24
XR1020	32000	36000	14	3	20	4	4 mm QFN-24
XR1008-QB	37000	40000	9	3.5	18	2	7 mm SMT
MADC-010736	40500	43500	12	3.5	20	2	6 mm SMD-13

Transceivers

Part Number	Description	Op Freq (GHz)	Output Power (mW)	Op Current (mA)	IF Bandwidth	Package
MACS-007801-0M1R10	Mono Transceiver	24.125 +/-25 MHz	8	175	10 Hz to 1 kHz	Die Cast Waveguide
MACS-007802-0M1R10	Stereo Transceiver	24.125 +/-25 MHz	8	175	10 Hz to 1 kHz	Die Cast Waveguide
MACS-007801-0M1RM0	Mono Transceiver	24.125 +/-25 MHz	5	90	10 Hz to 1 kHz	Die Cast Waveguide
MACS-007802-0M1RS0	Stereo Transceiver	24.125 +/-25 MHz	5	90	10 Hz to 1 kHz	Die

Up Converters

Part Number	Description	Max Freq (MHz)	Max Freq (MHz)	Gain (dBm)	OIP3 (dBm)	Package
XU1009-BD	GaAs MMIC Transmitter	18000	36000	35	25	Die
XU1006-BD	Transmitter	37000	40000	2	17	Die
XU1004-BD	Transmitter	32000	45000	5	14	Die
MAUC-010506	Up Converter	17680	23620	14	35	4 mm PQFN-24
MAUC-011003	Up Converter	27500	33400	12	32	4 mm PQFN-24
XU1010-QH	Up Converter	17000	34000	—	15	4 mm PQFN-24
XU1019-QH	Up Converter	37000	40000	7	27	4 mm PQFN-24
XU1006-QB	GaAs Transmitter	37000	40000	2	17	7 mm LGA-28
MAUC-101515	Up Converter	40500	43000	11	30	6 mm LGA-13

Mixers

Part Number	Min Freq RF/LO (MHz)	Max Freq RF/LO (MHz)	Min Freq IF (MHz)	Max Freq IF (MHz)	Conversion Loss/Gain (dBm)	LO Drive (dBm)	Package
XM1001-BD	12000	40000	0	4000	8	—	Die
XM1003-BD	32000	42000	0	4000	12	—	Die
XM1002-BD	34000	46000	0	4000	9	—	Die
MAMX-007607-ELCM1H	0.5	500	0.5	500	7.2	17	SM-87
MAMX-009722-25MHLP	30	512	—	—	7.5	23	SM-89
MAMX-008786-ES0120	880	915	150	170	5.5	17	SM-87
MAMX-008782-ES0118	925	960	820	915	7	7	SM-87
MAMX-008611	800	1000	170	—	9.3	-5	SOT-26
MAMX-008174-CXD860	1	1000	1	1000	7.5	7	SM-134
MAMXSS0012	800	1000	0	200	8	5	SOT-25
MAMXSS0011	800	1000	0	100	7.5	13	SOIC-8
MAMXES0115	5	1000	0	1000	7	7	SM-89
MA4EXP950H1-1277T	850	1050	0	200	8.3	15	3 mm MLP
MAMX-090950-1277LT	850	1050	0	400	8.2	7	3 mm MLP
MAMX-000950-1225MT	700	1200	0	400	8.2	10	3 mm MLP
MA4EX950L1-1225T	700	1200	0	400	8	5	SOT-25
MA4EX950H1-1225T	700	1200	0	400	6.6	15	SOT-25
MAMX-000900-1061LT	700	1400	0	400	6.7	7	SOIC-8
MAMX-007247-MRS5MH	5	1500	5	1500	7.5	13	SM-1
MAMXSS0010	1700	2000	0	200	8.5	13	SOIC-8
MAMX-007253-ES0067	10	2000	10	800	8	10	SM-2
MAMXSS0013	1400	2100	0	500	8	5	SOT-25
MA4EXP190H1-1277T	1725	2125	0	400	8.4	15	3 mm MLP
MAMX-009646-23DBML	2	2200	2	2200	9	23	SM-194
MA4EX190H1-1225T	1700	2300	0	500	6.6	15	SOT-25
MAMX-009239-001500	10	2500	10	2500	9	17	SM-87
MAMX-007238-CM25MH	2	2500	2	2500	7.3	13	SM-87
MAMX-000240-1225MT	1700	2500	0	500	5.5	10	SOT-25
MA4EX240L1-1225T	1700	2500	0	400	7	5	SOT-25
MAMXES0117	80	2500	0	1000	7.34	17	SM-2
MA4EXP240L-1277T	2300	2800	0	200	8.3	5	3 mm MLP
MA4EX600L1-1225T	4200	6000	0	2000	5.8	15	SOT-25
MA4EX580L1-1225T	4700	6000	0	1050	7.6	5	SOT-25
MAMX-000600-1225MT	4200	6000	0	2000	6.5	10	SOT-25
MAMX-011009	14000	32000	0	7000	15	-10	1.5 x 1.2 mm TDFN-6

MACOM Passive Products

A variety of solutions for A&D and communications

MACOM offers a variety of passive solutions for a wide range of A&D, wireless, and wireline communication applications. Passive components include transformers, capacitors, dividers/combiners, couplers and filters/diplexers.



Bias Networks

MACOM offers 1800 - 40000 MHz bias networks suitable for DC biasing of PIN diode control circuits.

- Functions as RF to DC decoupling networks, as well as a DC return
- Can also be used as bi-directional reactive couplers for Schottky detector circuits in multimarket applications

Couplers

- Used extensively in a range of A&D, wireless, and wireline communications applications. MACOM offers connectorized and surface mount devices with a broad range of coupling values

Hybrid Couplers

- Products available in subsets of the 2-3000 MHz frequency range
- Available as TO-cans, flatpacks, surface mount, and connectorized

Directional Couplers

- Coupling values of 6 dB to 30 dB
- Products available in subsets of the 2 MHz to 18 GHz frequency range
- 75 Ω products available for CATV, DTV, and DBS applications

Power Dividers/Combiners

Used in a range of A&D, wireless, and wireline communications applications.

- 50 ohm and 75 ohm devices
- Products available in subsets of 400 kHz to 26 GHz frequency range
- 2, 3, 4, 5, 6, and 8 channel versions available

Transformers/ Baluns

MACOM offers many standard transformers used for a variety of wireless, wireline, and A&D communications applications.

- Standard impedance ratios up to 4:1
- Balanced/unbalanced versions
- 50 Ω and 75 Ω nominal impedance devices available
- Surface mount, flat pack and connectorized packages

Filters/Diplexers

MACOM offers a variety of highpass, lowpass, and diplex filter components and assemblies used in common wireless communications standards and CATV, DBS, and DTV applications.

- 50 Ω and 75 Ω diplexers
- Multi-chip and MMIC products
- Low cost surface mount packaging

Capacitors

- Suitable for DC blocking and RF bias networks in a variety of control and filter circuits
- Capacitance-temperature coefficient provides <200 ppm/C
- Insertion loss <0.1 dB at 15 GHz
- Ideal for chip and wire/ribbon microwave high performance circuits



Bias Networks

Part Number	Min Freq (MHz)	Max Freq (MHz)	Insertion Loss (dB)	Isolation Loss (dB)	Package
MABT-011000-14230G	200	1800	0.2	35	Die
MABT-011000-14230W	200	1800	0.2	35	Die
MABT-011000-14230P	200	1800	0.2	35	Die
MABT-011000-14235P	200	1800	0.2	35	Die
MA4BN1840-1	18000	40000	0.2	35	Die
MA4BN1840-2	18000	40000	0.2	35	Die

Couplers

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Coupling, Nom (dB)	Isolation (dB)	Input Power (dBm)	Package
JHS-113-PIN ◆	Quad Hybrid	7	14	3	28	36	SF-1
JHS-114-PIN ◆	Quad Hybrid	20	40	3	28	37	SF-1
JH-114-PIN ◆	Quad Hybrid	20	40	3	30	37	FP-2
JH-133-PIN ◆	Quad Hybrid	20	40	3	28	37	TO-8-2
JHS-115-PIN ◆	Quad Hybrid	40	80	3	30	30	SF-1
JH-115-PIN ◆	Quad Hybrid	40	80	3	30	30	FP-2
MACP-010507-CH0160	Coupler, 17 Db	5	120	17	38	24	SMT
MACP-008249-CH09B0	17 dB Directional Coupler	5	120	17	45	24	SM-155
JH-119-PIN ◆	Quad Hybrid	80	160	3	33	36	FP-2
JHS-119-PIN ◆	Quad Hybrid	80	160	3	33	36	SF-1
MACP-010121-B8180X	Coupler 19 dB, E-Series	136	174	19	35	38	SM-55B
HH-106-PIN ◆	Hybrid Junction	2	200	3	30	30	FP-2
JH-121-PIN ◆	Quad Hybrid	100	200	3	25	36	FP-2
HHS-109-PIN	Hybrid Junction	5	200	3	40	27	SF-1
HH-109-PIN ◆	Hybrid Junction	5	200	3	40	27	FP-2
JHS-121-PIN	Quad Hybrid	100	200	3	25	36	SF-1
JH-136-PIN ◆	Quad Hybrid	175	350	3	28	36	FP-2
CHS-137-PIN ◆	Bi-Directional	1	400	20	40	35	SF-1
JHS-142-PIN ◆	Quad Hybrid	200	400	3	30	37	SF-1
MACP-007984-MDC201	Coupler 20 dB	350	450	20	38	24	SM-22
CHS-134-PIN ◆	Bi-Directional	10	500	11	31	30	SF-1
CH-134-PIN ◆	Bi-Directional	10	500	11	31	30	FP-2
JHS-139-PIN ◆	Quad Hybrid	250	500	3	30	36	SF-1
HH-110-PIN ◆	Hybrid Junction	10	500	3	37	30	FP-2
JH-139-PIN ◆	Quad Hybrid	250	500	3	30	36	FP-2
HHS-110-PIN	Hybrid Junction	10	500	3	40	30	SF-1
MACPCC0002	Bi-Directional 17 dB Coupler	960	824	17	32	33	SOIC-8
MACP-010389-CE0880	Coupler, 14 dB	4	862	14	38	24	N/A
MACP-010383-CH0A40	Coupler, 17 dB	4	862	17	35	24	N/A
MACP-009821-CG0650	Coupler 16 dB, 75 Ohm	5	862	16	33	24	SM-101
MACP-010382-CF0A40	Coupler, 15 dB	4	862	15	33	24	N/A
EMDC-16-8-75	Coupler 16 dB, 75 Ohm	5	862	16	33	24	SM-101
MACPCT0038	Coupler 17 dB, 75 Ohm	5	870	17	42	24	SM-103
MACPES0004	Coupler 10 dB, 75 Ohm	5	870	10	30	24	SM-132
MACP-008248-CH0670	Coupler 17 dB, 75 Ohm	5	870	17	32	30	SM-103-A
ELDC-10	Coupler 10 dB, 75 Ohm	5	870	10	28	24	FR4
MACP-009598-C80160	Coupler 8 dB, 75 Ohm	5	900	9	26	24	SM-22
MACP-009596-CA0160	Coupler 10 dB, 75 Ohm	5	1000	10	30	24	SM-22
MACP-009944-CK07F0	CATV 20 dB Coupler	5	1000	20	30	24	SM-127
MACP-009943-CH07F0	CATV 17 db Directional Coupler	5	1000	17	37	24	SM-55A
MACP-009404-C80370	Coupler 8 dB, 75 Ohm	5	1000	8	25	24	SM-55

Couplers (continued)

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Coupling, Nom (dB)	Isolation (dB)	Input Power (dBm)	Package
MACPCT0039	10 dB, 75 Ohm	5	1000	10	25	24	SM-138
CH-132-BNC ◆	Bi-Directional	1	1000	20	40	—	C-8-132
MACP-007486-CH0010	17 dB, 75 Ohm	5	1000	17	38	24	SM-1
2020-6602-20 ◆	Directional Mini Octave	500	1000	20	45	47	Conn
MACP-008764-CH0370	Coupler 17 dB, 75 Ohm	5	1000	17	39	24	SM-55
MACP-007490-CA0010	Coupler 10.5 dB, 75 Ohm	5	1000	11	30	24	SM-1
MACP-008311-CE0370	Coupler 14 dB, 75 Ohm	5	1000	14	39	24	SM-55
MACP-008125-CK07F0	Coupler 20 dB, 75 Ohm	5	1000	20	34	24	SM-127
2020-6600-06 ◆	Directional Mini Octave	500	1000	6	31	47	Conn
2020-6603-30 ◆	Directional Mini Octave	500	1000	30	55	47	Conn
2031-6330-00 ◆	Stripline 180 Deg. Hybrid	500	1000	3	25	45	Conn
2020-6601-10 ◆	Directional Mini Octave	500	1000	10	35	47	Conn
JH-140-PIN ◆	High-Freq Quad Hybrid	500	1000	3	25	44	FP-2
CH-140-PIN ◆	Directional	5	1000	20	40	35	FP-2
MACPCT0040	Coupler 10 dB, 75 Ohm	5	1000	10	30	24	SM-91
MACPES0028	Coupler 7 dB, 75 Ohm	40	1000	7	22	24	SM-137
MACPES0034	Coupler 10 dB, 75 Ohm	5	1000	10	23	24	SM-138
MACP-009736-CD0160	Coupler 13 dB, 75 Ohm	5	1000	13	28	24	SM-22
EMDC-13-1-75	Coupler 13 dB, 75 Ohm	5	1000	13	38	24	SM-22
MACP-010718-CG09E0	Coupler, 17 Db	40	1002	17	35	24	SM-22
MACP-010249-CI08A0	Coupler 18 dB, 75 Ohm	5	1200	18	32	24	FR4
MACP-010446-C80370	Coupler, 8 dB	5	1200	8	21	24	N/A
MACP-010414-CA0370	Coupler, 10 dB	5	1200	10	21	24	N/A
MACP-009730-C60370	Coupler 6 dB, 75 Ohm	5	1200	6	16	24	SM-55
MACP-009945-CH0670	CATV 17.5 dB Directional Coupler	5	1200	18	33	24	SM-103
MACP-007741-CG09E0	Coupler 17dB, 75 Ohm	5	1200	17	32	24	SM-22
MACP-007727-CI07B0	18 dB, 75 Ohm	5	1200	18	26	24	SM-123
MACP-009011-C80370	8 dB, 75 Ohm	5	1200	8	25	24	SM-55A
MACP-010250-C808A0	Coupler 8 dB, 75 Ohm	5	1200	9	24	28	FR4
MACP-011008	Coupler 16dB 75 Ohm	5	1200	16	12	24	FR4
MACP-011009	Coupler 8dB 75 Ohm	5	1200	8	-	24	FR4
2031-6331-00 ◆	Stripline 180 Deg. Hybrid	1000	2000	3	25	45	Conn
2025-6002-10 ◆	Stripline Directional	500	2000	10	28	47	Conn
2020-6604-06 ◆	Directional Mini Octave	1000	2000	6	31	47	Conn
2035-6364-00 ◆	Air Dielectric 90 Deg. Hybrid	1000	2000	3	20	47	Conn
2032-6344-00 ◆	Stripline 90 Deg. Hybrid	1000	2000	3	22	45	Conn
H-9-N	Hybrid Junction	2	2000	4	40	44	Conn
2025-6004-20 ◆	Stripline Directional	500	2000	20	42	47	Conn
2020-6607-30 ◆	Directional Mini Octave	1000	2000	30	55	47	Conn
JH-141-PIN ◆	High-Freq Quad Hybrid	1000	2000	3	27	44	FP-2
HH-128-PIN ◆	Hybrid Junction	20	2000	3	35	27	FP-3
2020-6605-10 ◆	Directional Mini Octave	1000	2000	10	35	47	Conn
MACPCC0001	Bi-Directional 17 dB Coupler	1700	2000	17	34	33	SOIC-8
2020-6606-20 ◆	Directional Mini Octave	1000	2000	20	45	47	Conn
2025-6001-06 ◆	Stripline Directional	500	2000	6	24	47	Conn
2032-6350-00 ◆	Stripline 90 Deg. Hybrid	500	2000	3	24	45	Conn
MACP-010385-CE0880	Coupler, 14 dB	5	2400	14	27	24	SMT
H-183-4-N ◆	Hybrid Junction	30	3000	5	20	37	Conn
2032-6345-00 ◆	Stripline 90 Deg. Hybrid	2000	4000	3	22	45	Conn
2020-6609-10 ◆	(Directional Mini Octave	2000	4000	10	32	47	Conn
2031-6332-00 ◆	Stripline 180 Deg. Hybrid	2000	4000	3	22	45	Conn
2020-6611-30 ◆	Directional Mini Octave	2000	4000	30	52	47	Conn
2020-6610-20 ◆	Directional Mini Octave	2000	4000	20	42	47	Conn

Couplers (continued)

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Coupling, Nom (dB)	Isolation (dB)	Input Power (dBm)	Package
2025-6006-10 ◆	Stripline Directional	1000	4000	10	28	47	Conn
2025-6008-20 ◆	Stripline Directional	1000	4000	20	42	47	Conn
2025-6005-06 ◆	Stripline Directional	1000	4000	6	24	47	Conn
2020-6612-06 ◆	Directional Mini Octave	2600	5200	6	26	47	Conn
2020-6613-10 ◆	Directional Mini Octave	2600	5200	10	30	47	Conn
2031-6333-00 ◆	Stripline 180 Deg. Hybrid	2600	5200	3	20	45	Conn
2020-6614-20 ◆	Directional Mini Octave	2600	5200	20	40	47	Conn
2035-6366-00 ◆	Air Dielectric 90 Deg. Hybrid	2600	5200	3	18	47	Conn
2020-6615-30 ◆	Directional Mini Octave	2600	5200	30	50	47	Conn
2032-6347-00 ◆	Stripline 90 Deg. Hybrid	4000	8000	3	20	45	Conn
2020-6616-06 ◆	Directional Mini Octave	4000	8000	6	28	47	Conn
2032-6352-00 ◆	Stripline 90 Deg. Hybrid	2000	8000	3	20	45	Conn
2031-6334-00 ◆	Stripline 180 Deg. Hybrid	4000	8000	3	20	45	Conn
2020-6618-20 ◆	Directional Mini Octave	4000	8000	20	40	47	Conn
2020-6617-10 ◆	Directional Mini Octave	4000	8000	10	30	47	Conn
2020-6619-30 ◆	Directional Mini Octave	4000	8000	30	50	47	Conn
2025-6012-20 ◆	Stripline Directional	2000	8400	20	40	47	Conn
2025-6010-10 ◆	Stripline Directional	2000	8400	10	28	47	Conn
2025-6009-06 ◆	Stripline Directional	2000	8400	6	24	47	Conn
2032-6348-00 ◆	Stripline 90 Deg. Hybrid	8000	12400	3	18	45	Conn
2026-6001-10 ◆	Stripline Directional	1000	12400	10	28	47	Conn
2020-4018-20 ◆	Directional Mini Octave	7000	12400	20	38		Conn
2025-6016-20 ◆	Stripline Directional	4000	12400	20	35	47	Conn
2031-6335-00 ◆	Stripline 180 Deg. Hybrid	8000	12400	3	17	45	Conn
2020-6623-30 ◆	Directional Mini Octave	7000	12400	30	47	47	Conn
2020-6622-20 ◆	Directional Mini Octave	7000	12400	20	38	47	Conn
2026-6003-20 ◆	Stripline Directional	1000	12400	20	37	47	Conn
2020-4018-10 ◆	Directional Mini Octave	7000	12400	10	30		Conn
2020-6621-10 ◆	Directional Mini Octave	7000	12400	10	27	47	Conn
2025-6014-10 ◆	Stripline Directional	4000	12400	10	25	47	Conn
2032-6354-00 ◆	Stripline 90 Deg. Hybrid	4000	12400	3	20	47	Conn
2031-6338-00 ◆	Stripline 180 Deg. Hybrid	4000	12400	3	17	45	Conn
2020-6630-20 ◆	Directional Mini Octave	12400	18000	20	35	47	Conn
2032-6371-00 ◆	Stripline 90 Deg. Hybrid	2000	18000	3	20	47	Conn
2025-6018-10 ◆	Stripline Directional	6000	18000	10	26	47	Conn
2025-6017-06 ◆	Stripline Directional	6000	18000	6	21	47	Conn
2026-6007-10 ◆	Stripline Directional	1000	18000	10	25	47	Conn
2026-6010-10 ◆	Stripline Directional	500	18000	10	25	47	Conn
2020-6629-10 ◆	Directional Mini Octave	12400	18000	10	30	47	Conn
2020-6628-06 ◆	Directional Mini Octave	12400	18000	6	21	47	Conn
2031-6339-00 ◆	Stripline 180 Deg. Hybrid	7000	18000	3	14	43	Conn
2032-6375-00 ◆	Stripline 90 Deg. Hybrid	4000	18000	3	18	50	Conn
2032-6374-00 ◆	Stripline 90 Deg. Hybrid	6500	18000	3	18	45	Conn
2025-6020-20 ◆	Stripline Directional	6000	18000	20	35	47	Conn
2020-6626-20 ◆	Directional Mini Octave	7000	18000	20	35	47	Conn
2026-6012-20 ◆	Stripline Directional	500	18000	20	35	47	Conn
2026-6009-20 ◆	Stripline Directional	1000	18000	20	37	47	Conn
2026-6004-10 ◆	Stripline Directional	2000	18000	10	25	47	Conn
2020-6627-30 ◆	Directional Mini Octave	7000	18000	30	45	47	Conn
2020-6624-06 ◆	Directional Mini Octave	7000	18000	6	21	47	Conn
2020-6625-10 ◆	Directional Mini Octave	7000	18000	10	30	47	Conn
2020-6631-30 ◆	Directional Mini Octave	12400	18000	30	42	47	Conn
2025-6019-16 ◆	Stripline Directional	6000	18000	16	32	47	Conn

Power Dividers / Combiners

Part Number	Min Freq (MHz)	Max Freq (MHz)	Channels (#)	Amplitude Balance (dB)	Phase Bal (°)	Isolation (dB)	Max Input Power (dBm)	Package
MAPD-010424-C20C80	2400	5	2	0.2	5	6	24	SMT
MAPD-010320-5070HR	50	70	2	1	0.3	30	30	SM-89
M3H-50-PIN ◆	1	100	3	0.2	1	30	30	TO-5
MTH-50-PIN ◆	1	100	2	0.1	1	30	30	TO-5-1
MAPD-008185-C20720	50	150	2	0.5	2	22	30	SM-114
MAPD-008762-ES0001	120	160	2	1	1	20	30	SM-87
MAPD-009850-HW1268	112	168	2	1	1	18	30	SM-89
MAPD-008109-C30040	5	200	3	0.1	1	30	30	SM-4
THV-50-N ◆	2	200	2	0.2	1	30	33	Conn
THV-50-TNC ◆	2	200	2	0.2	1	30	33	Conn
THV-50-BNC ◆	2	200	2	0.2	1	30	33	Conn
THV-50-SMA ◆	2	200	33	0.2	1	30	33	Conn
MAPD-011018	5	250	2	0.3	4.3	19	30	SMT
M3V-50-PIN ◆	50	300	3	0.2	2	25	30	TO-5
DS-310-PIN ◆	0	300	4	0.2	4	25	30	FP-5
DS-117-PIN ◆	1	300	3	0.3	4	20	30	FP-3
DS-308-BNC ◆	1	300	3	0.3	4	20	30	C-8
TU-50-N ◆	20	400	2	0.2	1	35	33	Conn
TU-50-SMA ◆	20	400	2	0.2	1	35	33	Conn
DSS-113-PIN ◆	0	400	2	0.2	1	25	30	SF-1
DS-113-PIN ◆	0	400	2	0.2	1	25	30	FP-2
MTV-50-PIN ◆	40	400	2	0.2	2	30	30	TO-5-1
TU-50-BNC ◆	20	400	33	0.2	1	35	33	Conn
TU-50-TNC ◆	20	400	2	0.2	1	35	33	Conn
DS-112-PIN ◆	10	500	4	0.2	5	25	30	FP-5
MAPD-007249-ESML21	5	500	2	0.2	1	25	30	SM-24
DSS-333-PIN ◆	10	500	2	0.2	2	25	30	SF-1
DS-318-PIN ◆	5	500	2	0.2	2	18	30	RH-1
DS-309-BNC ◆	2	500	8	0.2	2	30	33	C-18
DS-319-PIN ◆	10	500	2	0.2	1	25	30	TO-8-2
DS-109-PIN ◆	10	500	2	0.2	1	25	30	FP-2
DS-312-BNC ◆	10	500	4	0.2	2	25	30	C-14
DS-328-PIN ◆	3	700	3	0.3	3	20	30	TO-8-2
MAPD-008072-ESSM26	5	900	2	0.5	5	20	30	SM-1
MAPDCC0017	824	960	6	0.2	6	20	30	SOW-16
MAPDCC0005	824	960	3	0.6	2	15	30	SOIC-8
MAPDCC0009	824	960	4	0.3	3	20	30	SOIC-8
MAPDCC0007	824	960	4	0.3	2	23	30	SOW-16
MAPDCC0001	824	960	2	0.1	0.5	15	30	SOIC-8
MAPDCC0011	824	960	2	0.1	3	13	30	SOT-26
MAPDCC0021	824	960	8	0.4	5	20	30	SSOP-20
MAPDCC0019	824	960	6	0.5	4	20	30	SOIC-16
ELPD-290	820	980	2	1.2	7	20	30	SM-88
MAPD-010274-C209C0	5	1000	2	0.2	0.3	19	30	Datasheet*
MAPD-010362-C20FA0	5	1000	2	0.4	3	19	24	Datasheet*
MAPD-009673-C2DA40	5	1000	2	0.4	1.5	20	30	SM-150
MAPD-008812-0003HW	5	1000	3	0.2	2	20	24	SM-4
MAPD-009918-C209C0	5	1000	2	0.3	0.9	26	30	SM-156

* Reference Datasheet for packaging information

Note: Part numbers are RoHS compliant ◆ indicates non-RoHS compliant
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Power Dividers / Combiners (continued)

Part Number	Min Freq (MHz)	Max Freq (MHz)	Channels (#)	Amplitude Balance (dB)	Phase Bal (°)	Isolation (dB)	Max Input Power (dBm)	Package
MAPD-010038-C209C0	5	1000	2	0.3	0.3	30	30	SM-156
MAPD-009278-5T1000	5	1000	2	0.4	6	16	24	SM-156
H-81-4-SMA ◆	5	1000	2	0.5	2.5	25	33	Conn
MAPD-008108-C202C0	5	1000	2	0.5	4	17	30	SM-44
T-1000-TNC ◆	10	1000	2	0.1	1	25	33	Conn
MAPDCT0033	5	1000	2	0.4	0	22	30	SM-139
H-81-4-N ◆	5	1000	2	0.5	2.5	25	33	Conn
T-1000-BNC ◆	10	1000	2	0.1	1	25	33	Conn
MAPD-007246-ES4700	2	1000	4	0.2	5	20	30	SM-46
MAPDCT0030	5	1000	2	0.2	1	20	30	SM-138
DSS-327-PIN ◆	5	1000	2	0.3	3	16	30	SF-1
MAPDCT0029	5	1000	2	0.3	1	14	30	SM-55
MAPDCT0028	5	1000	4	0.3	0.5	20	30	SM-46
T-1000-SMA ◆	10	1000	2	0.1	1	25	33	Conn
T-1000-N ◆	10	1000	2	0.1	1	25	33	Conn
DS-323-PIN ◆	25	1000	3	0.4	4	24	30	FP-3
DS-324-PIN ◆	25	1000	4	0.3	6	20	30	FP-5
DS-327-PIN ◆	5	1000	2	0.2	3	20	30	FP-2
MAPDCT0027	5	1000	2	0.3	1	15	30	SM-55
MACPES0026	5	1000	2	0.6	5	17	30	SM-135
ELPD-20-1	5	1000	2	0.5	4	22	30	SM-139
MACPES0045	40	1000	2	0.2	0.5	18	30	SM-150
ESSMJ-2-12-75	5	1000	2	0.5	4	30	30	SM-44
MAPD-010281-C2W024	5	1200	2	0.2	1.3	—	30	Datasheet*
MAPD-011003	30	1200	3	0.4	2.7	20	24	SM-4
MAPD-010047-C2W24M	5	1200	2	0.2	1.3	—	30	Datasheet*
MAPD-009492-C2W180	5	1200	2	1.3	1.3	—	17	SM-164
MAPDCT0032	5	1200	3	0.3	3	20	24	SM-4
MAPDCT0024	5	1200	2	0.3	2.1	—	30	SM-169
MAPDCT0017	46	1200	3	0.3	3	20	24	SM-4
DS-331-PIN ◆	750	1500	2	0.2	6	10	30	TO-8
MAPD-011002	5	1600	2	0.3	0.7	23	30	SM-22
MAPD-010638-C2WSOT	5	1600	2	0.3	1	26	24	SM-156
MAPDCC0003	1510	1660	2	0.1	1	15	30	SOIC-8
MAPDCC0004	1700	1900	2	0.1	2	15	30	SOIC-8
MAPDCC0002	1850	1990	2	0.1	1	15	30	SOIC-8
MAPDCC0006	1850	1990	3	0.3	7	12	30	SOIC-8
MAPDCC0015	1850	1990	5	0.2	6	21	30	SOIC-16
2089-6406-00 ◆	500	2000	4	0.4	6	20	36	Conn
DS-4-4-BNC ◆	2	2000	4	1	5	30	30	Conn
MAPDCC0008	1700	2000	4	0.1	4	18	30	SOW-16
H-8-4-SMA ◆	2	2000	2	0.1	2.5	25	33	Conn
2089-6206-00 ◆	500	2000	2	0.3	4	20	36	Conn
MAPD-007530-000100	1700	2000	2	0.2	1.5	16	30	SOT-26
2089-6201-00 ◆	1000	2000	2	0.2	4	20	33	Conn
DS-4-4-SMA ◆	2	2000	4	1	5	30	30	Conn
2089-6801-00 ◆	1000	2000	8	0.8	8	20	38	Conn
2089-6401-00 ◆	1000	2000	4	0.4	6	20	36	Conn

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Power Dividers / Combiners (continued)

Part Number	Min Freq (MHz)	Max Freq (MHz)	Channels (#)	Amplitude Balance (dB)	Phase Bal (°)	Isolation (dB)	Max Input Power (dBm)	Package
DSS-313-PIN ◆	10	2000	2	0.3	4	23	24	SF-1
DS-4-4-N ◆	2	2000	4	1	5	30	30	Conn
DS-313-PIN ◆	10	2000	2	0.3	4	23	24	FP-2
MAPDCC0018	1700	2000	6	0.5	8	18	30	SOW-16
DS-409-4BNC ◆	10	2000	4	0.5	5	25	37	Conn
DS-808-4BNC ◆	20	2000	8	0.6	5	20	37	Conn
DS-409-4SMA ◆	10	2000	4	0.5	5	25	37	Conn
DS-808-4SMA ◆	20	2000	8	0.6	5	20	37	Conn
DS-808-4N ◆	20	2000	8	5	0.6	20	37	Conn
MAPDCC0020	1700	2000	6	1	4	21	30	SOIC-16
DS-409-4TNC ◆	10	2000	4	0.5	5	25	37	Conn
DS-332-PIN ◆	1000	2000	2	0.2	6	10	30	TO-8
DS-808-4TNC ◆	20	2000	8	0.6	5	20	37	Conn
2089-6806-00 ◆	500	2000	8	0.8	8	20	41	Conn
MAPDCC0014	1700	2000	4	0.8	5	18	30	SOIC-16
MAPD-011007	5	2150	2	0.3	1	26	24	SM-156
MAPD-010201-8022CG	1	2200	2	0.5	1	13	24	SM-89
MAPDCT0026	5	2400	2	0.8	2	10	30	SM-156
MAPDCC0010	2200	2500	2	0.1	2	22	30	SOT-25
MAPD-008957-CT0012	1	2700	2	0.5	2	9	24	SM-22
2089-6802-00 ◆	2000	4000	8	0.8	10	18	38	Conn
2089-6402-00 ◆	2000	4000	36	0.4	6	20	36	Conn
2089-6202-00 ◆	2000	4000	2	0.2	4	20	33	Conn
2089-6203-00 ◆	4000	8000	2	0.2	6	20	33	Conn
2089-6403-00 ◆	4000	8000	4	0.4	8	20	36	Conn
2089-6807-00 ◆	2000	8000	8	1.2	16	15	41	Conn
2089-6207-00 ◆	2000	8000	2	0.3	8	18	36	Conn
2089-6407-00 ◆	2000	8000	4	0.5	12	18	39	Conn
2089-6404-00 ◆	8000	12400	4	0.5	8	18	36	Conn
2089-6204-00 ◆	8000	12400	2	0.2	6	20	33	Conn
2089-6808-00 ◆	2000	18000	8	1.8	24	15	45	Conn
2089-6805-00 ◆	12400	18000	8	0.8	24	15	40	Conn
2090-6814-00 ◆	1000	18000	8	1.4	16	17	47	Conn
2089-6405-00 ◆	12400	18000	4	0.5	8	15	38	Conn
2090-6205-00 ◆	2000	18000	2	0.3	5	23	46	Conn
2090-6414-00 ◆	1000	18000	4	1	12	18	47	Conn
2089-6205-00 ◆	12400	18000	2	0.3	6	17	35	Conn
2090-6210-00 ◆	8000	18000	2	0.3	5	18	43	Conn
2089-6210-00 ◆	7000	18000	2	0.3	8	17	35	Conn
2089-6209-00 ◆	4000	18000	2	0.3	8	17	36	Conn
2089-6410-00 ◆	7000	18000	4	0.5	12	15	38	Conn
2090-6204-00 ◆	500	18000	2	0.3	5	23	49	Conn
2089-6409-00 ◆	4000	18000	4	0.5	12	15	39	Conn
2090-6309-00 ◆	4000	18000	3	0.5	—	18	46	Conn
2090-6304-00 ◆	500	18000	3	0.5	—	18	49	Conn
2089-6208-00 ◆	2000	18000	2	0.3	8	17	40	Conn
2090-6214-00 ◆	1000	18000	2	0.4	5	22	47	Conn
2089-6408-00 ◆	2000	18000	4	0.5	12	17	20	Conn
2089-6810-00 ◆	7000	18000	8	1.5	24	15	40	Conn

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Transformers / Baluns

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Impedance Ratio	Insertion Loss (dB)	Package
MABA-009807-CF4010	Transformer	0.05	3.072	4:1	1	SM-1
MABA-011006	Transformer	8	8	1:20	0.9	SM1
ETC16-1T-2	Flux Coupled Balun	5	40	16:1	1	SM-22
MABA-010411-CT1160	Transformer	30	60	1:1	0.8	Surface Mount
MABA-007902-CF38A0	Flux Coupled Balun Transformer	5	65	2.56:1	0.8	SM-138
MABAES0017	Flux Coupled Balun	5	65	2.56:1	0.8	SM-138
MABA-011017	Flux Coupled Transformer	5	85	2:1	0.5	SM-138
MABA-011017	Transformer	5	85	2:1	0.5	SM-22
MABA-010181-CF9A40	Flux Coupled Transformer	5	90	1:9	1.3	SMT
MABA-008282-CFGA40	Flux Coupled Transformer	5	90	16:1	1.5	SM-164
MABA-010655-CF1A40	Ethernet Transformer	1	100	1:1	0.3	Surface Mount
MABA-009776-CF28A0	Flux Coupled Balun Transformer	5	100	2:1	0.4	SM-164
MABA-010061-CF4FA0	Flux Coupled Transformer	5	100	1:4	1.2	SMT
MABA-009573-CF1A40	Flux Coupled Transformer	5	100	1.77:1	0.3	SM-164
MABA-008124-CF1FA0	Flux Coupled Balun Transformer	5	100	1:1	0.7	SM-250-5
MABA-008570-ETC414	E-Series Transformer	3	110	1:4	0.3	SM-22
MABA-009650-CF1160	Flux Coupled Transformer	5	120	1:1	0.4	SM-22
MABA-009852-CF1A40	Flux Coupled Balun Transformer	5	120	1:1	0.2	SM-164
MABA-008965-CF1160	Flux Coupled Balun Transformer	5	120	1:1	0.2	SM-22A
MABA-009109-CF1A40	Flux Coupled Balun Transformer	5	120	1:1	0.2	SM-164A
MABA-009412-CF1BC0	Flux Coupled Transformer	5	120	1:1	0.4	SM-193
MABA-009005-CF1A40	Flux Coupled Balun	5	120	1:1	0.2	SM-164A
MABA-009572-CF18A0	Flux Coupled	5	200	1:1	0.5	SM-138
MABA-011009	Transformer	3	200	1:1	0.6	SM-22
MABA-011002	Step Down Transformer	5	200	4:1	1.5	SM-55
MABA-009836-CF48A0	Flux Coupled Transformer	5	200	4:1	0.5	Surface Mount
MABA-010112-CT1A40	Flux Coupled Transformer	0	200	1:1	0.8	SMT
MABA-009600-CF48A0	Flux Coupled Transformer	5	200	4:1	0.7	SM-138
MABA-009594-CF18A0	Flux Coupled Transformer	5	200	1:1	0.4	FR4
MABACT0068	Flux Coupled Balun	5	200	2:1	0.4	SM-164
MABA-008482-CF1A40	Flux Coupled Transformer	5	200	1:1.8	0.4	SM-156
MABACT0048	Flux Coupled Balun	5	200	2:1	0.4	SM-164
MABA-008260-CF4A40	Flux Coupled Balun	5	200	4:1	0.8	SM-164
MABA-007532-CF18A0	Transmission Line Balun	5	200	1:1	0.4	SM-138
MABACT0071	Flux Coupled Balun	0	200	1:1	0.5	SM-164
MABACT0062	Flux Coupled Balun	3	200	1:1	0.5	SM-22
MABAES0060	Flux Coupled Balun	0	200	1:1	1	SM-22
MABACT0018	Transformer	5	200	1:4	0.7	SM-138-A
MABACT0012	Flux Coupled Balun	3	200	1:1	0.8	SM-22B
MABA-010544-CT0071	Flux Coupled Transformer	0.3	200	1:1	0.8	Surface Mount
MABA-010400-CT18A0	Transformer	40	200	1:1	0.4	Surface Mount
MABA-008354-CF4A40	Flux Coupled Transformer	5	200	4:1	1.5	SM-164
MABA-008354	Flux Coupled Transformer	5	200	4:1	2.2	SM-164
ETC1-1T-2	E-Series Transformer	0	200	1:1	0.3	SM-22
MABA-011043	Flux Coupled Transformer	5	200	4:1	1	SM-136
MABA-011048	Flux Coupled Transformer	5	200	4:1	0.8	SM-136
007488-CT9550	Transmission Line Balun	5	220	9:1	0.8	SM-55
MABAES0022	Transmission Line Balun	5	220	9:1	0.6	SM-55
MABA-009250-CT0068	E-Series Transformer	3	300	2:1	0.7	SM-22
MABA-011033	Flux Coupled High Temp	1	300	1:2	0.5	SM-22

Transformers / Baluns (continued)

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Impedance Ratio	Insertion Loss (dB)	Package
MABA-011039	Flux Coupled High Temp	1.0	300	1:4	0.5	SM22
MABA-011020	E-Series RF 1:4 Flux Coupled Step-Up Transformer	1.0	350	1:4	0.8	SM-22
MABA-009387-ES0040	Flux Coupled Transformer	1.0	350	2:1	1.6	SM-138
MABA-007493-CF4160	Flux Coupled Balun	1.0	350	4:1	1.6	SM-22
MABA-007766-CF28A0	Flux Coupled Balun	5.0	350	1.5:1	1.4	SM-138
MABACT0067	Flux Coupled Balun	1.0	350	4:1	1.3	SM-164
MABA-007237-ETC410	Flux Coupled Balun	1.0	350	1:4	1.2	SM-22
MABAES0025	Flux Coupled Balun	5.0	350	1.5:1	1.0	SM-138
ETC4-1	Flux Coupled Transformer	1.0	350	1:4	1.0	SM-22
MABA-009126-ET11SM	Flux Coupled Balun	0.0	400	1:1	1.0	SM-1
TP-104-PIN ◆	Pulse	1.0	400	4:1	0.4	FP-1
ETC36-1T-2TR	E-Series RF Transformer	5.0	400	36:1	12.0	SM-22
ETC3-1	Flux Coupled Balun	10.0	440	3:1	3.0	SM-22
MABA-010143-FLUX18	Flux Coupled Transformer	2.0	500	1:8	1.0	SM-22
MABA-009947-CF3160	Flux Coupled Transformer	0.3	500	1:3	0.7	SM-22
MABA-009487-60HWCA	E-Series Transformer	0.4	500	1:1	1.2	SM-195
MABA-009484-ETC31T	E-Series Transformer	2.0	500	1:3	0.7	SM-22
MABA-009180-500MHZ	E-Series Transformer	0.4	500	1:1	3.0	SM-22
TP-102-PIN	Pulse Transformer	1.0	500	4:1	0.4	FP-1
ETC1-1T-5	E-Series Transformer	2.0	500	1:1	2.0	SM-22
MABA-009298-CT48A0	Flux Coupled Balun	1.0	650	4:1	1.5	SM-138
MABACT0064	Flux Coupled Balun	1.0	650	4:1	1.5	SM-138
MABAES0031	Flux Coupled Balun	1.0	650	1:4	1.0	SM-138
MABA-009488-61HWCA	E-Series Transformer	3.0	800	1:4	1.0	SM-195
MABAES0061	Flux Coupled Balun	2.0	800	1:4	1.2	SM-22
ETC4-1-2	E-Series Transformer	2.0	800	4:1	1.2	SM-22B
MABA-008184-CT1760	Transmission Line Balun with Tertary Winding	50.0	870	1:1	0.3	SM-118A
MABACT0074	Transmission Line Balun	50.0	870	2.66:1	1.7	SM-152
ETC1-1-6	E-Series Transformer	760.0	960	1:1	0.2	SM-22
MABA-010463-CA2A40	Transformer	20.0	1000	1:1.77	1.2	Surface Mount
MABA-009711-ETK2MM	Transmission Line Step-up Transformer	2.0	1000	1:4	0.7	SM-164B
MABA-009092-CT1A40	Transmission Line Balun Transformer	5.0	1000	1.33:1	0.7	SM-164
MABA-008980-CF0440	Transmission Line Balun Transformer	50.0	1000	1:4	7.0	SM-168A
MABA-008752-TC1P57	Auto-Transformer	2.0	1000	1.5:1	0.4	SM-22
MABA-008639-TC41T7	Flux Coupled Balun	6.0	1000	1:4	3.0	SM-22
MABACT0040	Transmission Line Balun, with Center Tap	5.0	1000	1:1	1.1	SM-164
MABACT0066	Transmission Line Balun	5.0	1000	4:1	1.3	SM-138
MABA-007569-ETK42T	Transmission Line Balun	2.0	1000	1:4	0.3	SM-22
TP-105-PIN ◆	Pulse Transformer	0.5	1000	1.4:1	0.4	FP-1
TP-103-PIN ◆	Pulse Transformer	0.5	1000	4:1	0.4	FP-1
MABACT0063	Auto-Transformer	5.0	1000	1.5:1	0.5	SM-22
MABAES0032	Transmission Line Balun	5.0	1000	1:1	1.0	SM-138
MABAES0034	Auto-Transformer	20.0	1000	4:1	2.0	SM-22
MABA-010449-CA2A40	Transformer	5.0	1000	1:2	0.8	Surface Mount
ETK4-2T	E-Series Transformer	2.0	1000	4:1	3.0	SM-22
ETC4-1T-7	E-Series Transformer	6.0	1000	4:1	1.0	SM-22
ETC1.5-4	Auto-Transformer	5.0	1000	1.5:1	1.0	SM-22
ETC1-1T-75	Transmission Line with Tertary Winding	40.0	1000	1:1	3.0	SM-22
MABA-010245-CT1160	Transmission Line Transformer	46.0	1002	1:1	0.4	SM-55

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Transformers / Baluns (continued)

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Impedance Ratio	Insertion Loss (dB)	Package
TP-108-PIN ◆	Flux Coupled Balun	350.0	1125	2.5:1	0.8	FP-1
MABA-011029	Transformer, 1:2 Transmission Line Balun	5.0	1200	1:2	1.5	SM-55
MABA-010725-CT1006	Transmission Line with Tertiary Winding	45.0	1200	1:1	0.5	Surface Mount
MABA-010726-CT1007	Tranformer	45.0	1200	1:1	0.6	Surface Mount
MABA-010321-CT1A42	Transmission Line with Tertiary Winding	50.0	1200	1:1	0.7	Surface Mount
MABA-010238-CT4A80	Transformer	5.0	1200	1:2	1.3	SM-55
MABA-010441-CT38A0	Transformer	5.0	1200	1:3	1.1	SM-138
MABA-010268-CT4160	Transmission Line Transformer	5.0	1200	1:4	0.7	FR4
MABA-010129-CT4A40	Transmission Line Transformer	5.0	1200	1:4	0.7	SMT
MABA-009602-ES2922	E-Series Transformer With Tap	50.0	1200	1:1	0.8	SM-22
MABA-009231-CT1A4B	T-line balun	5.0	1200	1:1	0.7	SM-187
MABA-009691-CT1881	Transmission Line Transformer	5.0	1200	1:1	0.2	SM-136
MABA-007681-CT2010	Transmission Line Balun	5.0	1200	1:2	0.6	SM-118
MABA-009210-CT1760	Transmission Line Balun with Tertary Winding	50.0	1200	1:1	0.6	SM-118A
MABA-009232-CT4A4B	Transmission Line Balun Transformer	5.0	1200	4:1	1.0	SM-187
MABACT0061	Auto-Transformer	5.0	1200	4:1	1.6	SM-22
MABACT0043	Transmission Line Balun Transformer	5.0	1200	1:1	0.5	SM-138
MABA-008979-CF0290	Transmission Line Balun with Tertary Winding	50.0	1200	1:1	0.6	SM-158
MABA-007748-CT1160	Transmission Line Balun with Tertary Winding	5.0	1200	1:1	0.6	SM-22
MABACT0069	Transmission Line Balun with Tertary Winding	50.0	1200	1:1	0.8	SM-158
MABACT0060	Transmission Line Balun with Tertary Winding	5.0	1200	1:1	0.7	SM-164
MABAES0029	Transmission Line Balun with Tertary Winding	50.0	1200	1:1	1.0	SM-158
MABA-010392-CT18A0	Transmission Line Transformer	5.0	1200	1:1	0.7	SM-138
MABA-10314-CT1370	Transformer	4.0	1200	1:1	0.9	SM-55
MABA-011013	1:1 TxLine + tertiary winding	45.0	1200	1:1	0.8	FR4
MABA-011014	1:1 TxLine	45.0	1200	1:1	0.9	FR4
MABA-011015	Transformer	45.0	1200	1:1.278	1.5	FR4
MABA-011029	Transformer	5.0	1200	1:2	0.9	SM-55
TP-101-PIN ◆	Pulse Transformer	0.0	1500	1.6:1	0.4	FP-1
TPX-75-4N ◆	50/75 Ohm	10.0	1500	1.5:1	0.3	Conn
MABA-010247-2R1250	Transmission Line Transformer	1.0	1600	1:2	1.5	SM-197
MABA-011028	Txline Balun	600.0	1700	1:1	0.5	SM-22
MABA-010374-CT4A40	Transmission Line	10.0	1900	1:4	1.8	Surface Mount
ETN1-1-13	Transmission line Balun	4.0	2000	1:1	0.3	SM-52
MABA-007731-CT1980	Transmission Line Balun Transformer	50.0	2150	1:1	1.2	SM-152
MABA-010386-CA3A40	Auto-Transformer	5.0	2400	1:3	3.0	Surface Mount
MABA-010012-ES4302	Transmission Line Transformer	30.0	2500	1:4	1.8	SM-22
MABA-009822-715254	Transmission Line Transformer	4.0	3000	1:1	0.3	SMT
MABA-010125-TC1113	Transmission Line Transformer	4.0	3000	1:1	1.5	SM-22
MABA-007871-CT1A40	Transmission line Balun, MoCA	5.0	3000	1:1	0.6	SM-164
MABA-008757-CT1160	Transmission Line Balun Transformer	4.0	3000	1:1	2.0	SM-22B
MABA-007327-CT1A40	Transmission Line Transformer	4.0	3000	1:1	1.6	SM-164
MABACT0065	Transmission line Balun	500.0	3000	4:1	0.2	SM-22
MABA-007236-C16423	Transmission line Balun	500.0	3000	1:4	3.0	SM-22
MABA-007159-000000	Transmission line Balun	4.0	3000	1:1	0.3	SM-22
MABACT0059	Transmission line Balun	4.0	3000	1:1	2.0	SM-22B
MABACT0039	Transmission line Balun	5.0	3000	1:1	1.3	SM-138
MABACT0034	Transmission line Balun	4.0	3000	1:1	1.6	SM-164
ETC1.6-4-2-3	E-Series Transformer	500.0	3000	4:1	0.2	SM-22
ETC1-1-13	E-Series Transformer	4.0	3000	1:1	0.3	SM-22
MABA-000001-75KIT1	75 Ohm CATV Transformer Designer's™ Kit					SMT
MABA-000001-50KIT1	Transformer Designer's Kit					SMT

Filters / Diplexers

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Crossover Frequency (dB)	LP/HP Insertion Loss (dB)	LP/HP Return Loss Loss (dB)	LP/HP Isolation (dB)	Package
MAFLCT0066	Diplexer	5	870	30/46	0.7/0.75	18/20	47/46	SMT
MAFL-011013	Broadband CATV Diplexer	5	1000	42/54	0.5/0.5	16/16	55/50	SMT
MAFL-009810-CD0550	Diplex Filter	5	1000	42/54	0.5/0.5	19/20	55/50	SMT
MAFL-009511-CD0A10	Diplex Filter	5	1000	42/52	0.5/0.5	17/20	55/55	SMT
MAFL-009055-CD4254	Diplexer	5	1000	42/54	0.5	16	48/50	SMT
MAFL-007654-CD0A10	Diplex Filter	5	1000	42/54	0.5	17/20	55/55	SMT
MAFL-007988-CD0550	Diplex Filter	5	1000	65/88	0.5/0.5	20/20	50/50	SMT
MAFLCT0027	Diplexer	5	1000	65/88	0.5/0.5	20/20		SMT
MAFL-010465-CD0B20	Filter, MoCA Diplexer	5	1002	42/88	1.2/1.2	15/12	60/70	SMT
MAFL-011025	Broadband CATV Diplexer	5	1002	65/108	0.5/0.5	16/16	50/50	SMT
MAFL-011024	Broadband CATV Diplexer	5	1002	85/108	0.5/0.5	16/16	50/50	SMT
MAFL-011015	CATV Diplex Filter	5	1002	42/54	0.5/0.5	20/18	55/55	SMT
MAFL-011014	CATV Diplex Filter	5	1002	65/88	0.5/0.5		55/50	SMT
MAFL-011037	Diplex Filter	5	1002	42/54	0.5/0.5	18/18	52/52	SMT
MAFL-011038	Diplex Filter	5	1002	65/88	0.5/0.5	18/18	52/52	SMT
MAFL-008098-CD0550	Diplex Filter	5	1100	42/54	0.5/0.5		20/20	SMT
MAFLCT0068	Diplexer	5	1100	42/54	0.8/0.8	12/10	53/50	SMT
MAFLCT0081	Diplexer	50	1425	870/1125	1.1/1.1	18/18	65/66	SMT
MAFL-009217-CD0AC0	Diplex Filter	5	1525	864/1128	0.5/1	14/18	35/44	SMT
MAFL-008070-CL0AD0	MoCA Low Pass Filter	50	1525	870/975	0.75/1.8	12	30/25	SMT
MAFL-010101-CB0AD0	MoCA Band Pass Filter	1125	1550	1125/1550	1.7	11	40/37	SMT
MAFL-009906-CL0AD0	MoCA Low Pass Filter	5	1550	1002	1.0	15/14	32	SMT
MAFL-010256-CB0AD0	MoCA Band Pass Filter	1125	1550	1125/1550	1.7	11	40	SMT
MAFL-008290-CD0AC0	Diplex Filter	5	1550	1002/1125	0.6/1.7	15/14	40/40	SMT
MAFL-011012	CATV Diplex Filter	5	1675	1002/1125	1.5/1.5	14/14	39/40	SMT
MAFL-009272-CD0AC0	Diplexer	5	1675	1002/1125	0.6/1.5	16	40/40	SMT
MAFL-011026	MoCA Triplex Filter	5	1675	85/105;1002/1125	1.2/1.5/2.8	18/16/16	65/55	SMT
MAFL-011018	MoCA Triplex Filter	5	1675	42/54;1002/1125	1.2/1.5/2.8	18/16/16	65/55	SMT
MAFL-011023	MoCA Triplex Filter	5	1675	65/88;1002/1125	1.2/1.5/2.5	18/18/16	65/55	SMT
MAFL-010140-CT0C60	MoCA Triplex Filter	5	2000	42/54;1002/1125	1.2/1.5	12/10	37/47	SMT
MAFL-010670-CB0AD0	MoCA Band Pass Filter	350	3000	650/875	2/2	11/11		SMT
MAFL-010639-CB0AD0	MoCA Band Pass Filter	500	3000	650/875	2/2	10/10		SMT
MAFL-008195-CD0AC0	Diplex Filter	50	3000	870/950	1.5	25/14	40/44	SMT
MAFL-007898-CD0AC0	Diplex Filter	50	3000	870/1525	1.8/1.2	15/15	45/45	SMT
MAFL-009010-CT0B90	MoCA Triplex Filter	5	6000	1002/1125	1/2	14/11	51/55	SMT

Capacitors

Part Number	Capacitance (pf)	Standoff Voltage (V)	Chip Style	Package
MA4M3010	10	200	350	Die
MA4M2020	20	200	132	Die
MA4M3030	30	200	352	Die
MA4M1050	50	100	132	Die
MA4M3050	50	200	354	Die
MA4M1100	100	100	199	Die
MA4M3100	100	50	358	Die
MA4M3150	150	50	359	Die

Note: Part numbers are RoHS compliant ◆ indicates non-RoHS compliant
Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box.
All specifications are subject to change.



MACOM Frequency Generation Products

Leading-edge solutions for challenging communications needs



MACOM voltage controlled oscillators (VCOs) generate frequency in aerospace and defense, point-to-point microwave backhaul, and other commercial communications applications. IC VCOs support a variety of applications operating between the 500 to 14400 MHz frequency range.

Featuring low phase noise, stable performance over temperature, low power consumption, and highly linear tuning, MACOM's VCOs provide leading edge solutions for challenging communications needs.

VCOs

> Low phase noise
> Wide tuning range
> Low power consumption
> Bandwidths greater than 10%
> RoHs compliant package

Voltage Controlled Oscillators (VCOs)

Part Number	Min Freq (MHz)	Max Freq (MHz)	Phase Noise at 10 kHz Offset (Vt=5V)(dBc/Hz)	Phase Noise at 100 kHz Offset (Vt=5V)(dBc/Hz)	Pout at Fo (dBm)	DC Current (mA)	Package
MAOC-009259	5700	6400	-93	-117	12	190	5 mm PQFN-32
MAOC-009260	6100	7000	-92	-117	8.5	205	5 mm PQFN-32
MAOC-009261	7100	7900	-93	-116	10	180	5 mm PQFN-32
MAOC-009262	7400	8210	-92	-117	14	170	5 mm PQFN-32
MAOC-009263	7800	8700	-90	-115	10.5	180	5 mm PQFN-32
MAOC-010334	8400	9250	-88	-115	10	168	5 mm PQFN-32
MAOC-109082	8714	9450	-90	-117	9	90	5 mm PQFN-32
MAOC-009264	8800	9800	-88	-115	9	185	5 mm PQFN-32
MAOC-009871	9200	10200	-86	-113	7	185	5 mm PQFN-32
MAOC-009265	9400	10800	-86	-113	8.5	175	5 mm PQFN-32
MAOC-109173	8805	9542	-88	-117	9	90	5 mm PQFN-32
MAOC-009266	10200	11300	-87	-114	8.5	200	5 mm PQFN-32
MAOC-009872	11000	11800	-83	-112	7	165	5 mm PQFN-32
MAOC-009267	11200	12600	-82	-112	6	175	5 mm PQFN-32
MAOC-009269	11400	12800	-83	-110	5	180	5 mm PQFN-32
MAOC-009270	12200	13800	-78	-107	6.5	165	5 mm PQFN-32
MAOC-009268	12700	14200	-79	-108	9	165	5 mm PQFN-32
MAOC-011027	13400	14400	-79	-108	8	205	5 mm PQFN-32
MAOC-114850	14500	15200	-84	-108	3.5	90	5 mm PQFN-32



MACOM Crosspoints, Signal Conditioners/Redrivers

Switching solutions in high data rate systems

With over a decade of experience in crosspoint switch design and delivery, MACOM has positioned itself as the preferred and trusted supplier for switching solutions in high data rate systems. Our devices are equipped with signal conditioning technology that enables system designers to use lower cost board materials and components while increasing their system margin. MACOM's continued innovation and investment in pushing the boundaries of performance, size, and speed, ensures that we remain the supplier of choice.



Crosspoints, Signal Conditioners. Redrivers

- Channel counts range from 2x2 to 288x288
- Data rates from 19 Mbps to 28 Gbps
- Lower cost board materials and components increases system margin.
- Applications include: video broadcast routers and switchers, HDMI switchers, and DWDM physical layer routers

Crosspoint Switches, Signal Conditioners/Redrivers

Part Number	Switch Matrix Size	Max Data Rate (Gbps)	Supply Voltage (V)	Channels (#)	Embedded CDR	Embedded SerDes	Package
M21004	2 x 2	3.2	1.2	2	No	No	4 mm 24-pin QFN
M21105	4 x 4	3.2	1.2	4	Yes	Yes	10 mm 72-pin QFN
M21163	32 ports (reconfigurable)	3.2	1.2	32	No	No	17 mm 252-pin BGA
M21111	17 x 17	3.2	—	17	No	No	23 mm 404-pin PBGA
M21123	24 ports (reconfigurable)	3.2	1.2	24	No	No	12 mm 88-pin QFN
M21121	34 x 34	3.2	—	34	No	No	34 mm 404-pin PBGA
M21131	72 x 72	3.2	1.2	72	Yes	No	35 mm 1156-pin BGA
M21151	144 x 144	3.2	1.2	144	Yes	No	35 mm 1156-pin BGA
M21156	144 x 144	3.2	1.2	144	No	No	35 mm 1156-pin BGA
M21172	200 x 288	3.2	1.2	288	No	No	50 mm 2389-pin BGA
M21171	288 x 200	3.2	1.2	200	No	No	50 mm 2389-pin BGA
M21170	288 x 288	3.2	1.2	288	No	No	50 mm 2389-pin BGA
M21043	8 ports (reconfigurable)	3.2	1.2	8	No	No	7 mm 48-pin QFN
M21115	20 x 20	3.8	2.5/3.3	20	No	No	35 mm 676-pin TEPBGA
M21125	40 x 40	3.8	2.5/3.3	40	No	No	35 mm 676-pin TEPBGA
M21330	4 x 4	4.25	1.2	4	No	No	6 mm 40-pin QFN
M21351	4 x 4	4.25	1.2	4	No	No	6 mm 40-pin QFN
M21352	8 x 8	4.25	1.2	8	No	No	10 mm 72 pin QFN
M21443	12 x 12	4.25	1.2	12	No	No	14 mm 100-pin TQFP
M21444	12 x 12	4.25	2.4	12	—	Yes	14 mm 100-pin TQFP
M21353	12 x 12	4.25	1.2	12	No	No	12 mm 88-pin QFN
M21141	72 x 72	4.25	1.2	72	Yes	Yes	35 mm 1156-pin BGA
M21161	144 x 144	4.25	1.2	144	Yes	Yes	35 mm 1156-pin BGA
M21362	8 x 8	5.5	1.7	—	Yes	Yes	10 mm 72-pin QFN
M21363	12 x 12	5.5	2.4	12	Yes	Yes	12 mm 88-pin QFN
M21462	8 x 8	6.25	1.2	8	Yes	No	10 mm 72-pin QFN
M21463	12 x 12	6.25	1.2	12	Yes	No	12 mm 88-pin QFN
M21450	2 x 2	6.5	1.2	2	No	No	6 mm 40-pin QFN
M21030	4 x 4	6.5	1.2	4	No	No	6 mm 40-pin QFN
M21451	4 x 4	6.5	1.2	4	No	No	6 mm 40-pin QFN
M21452	8 x 8	6.5	1.2	8	No	No	10 mm 72-pin QFN
M21453	12 x 12	6.5	1.2	12	No	No	12 mm 88-pin QFN
M23636	36 x 36	6.5	1.2	36	No	—	23 mm 484-pin BGA
M21148	48 x 48	6.5	1.2	48	No	No	27 mm 676 pin BGA
M21147	80 x 80	6.5	1.2	80	No	No	35 mm 1156-pin FCBGA
M21167	160 x 160	6.5	1.2	160	No	No	35 mm 1936-pin FCBGA
M21440	8 x 8	10.312	1.2	8	Yes	Yes	12 mm 88-pin QFN
M21441	12 x 12	10.312	1.2	12	Yes	Yes	19 mm 324-pin BGA
M20001	2 x 2	12.5	3.3	2	No	No	3 mm 16-pin QFN
M21024	24 x 24	12.5	1.2	24	No	No	21 mm 396-pin BGA
M21036	36 x 36	12.5	1.2	36	No	No	23 mm 480-pin BGA
M21048	48 x 48	12.5	1.2	48	No	No	27 mm672-pin BGA
M21080	80 x 80	12.5	1.8	80	No	No	45 mm 1924-pin FCBGA
M21601	120 x 120	12.5	1.8	120	No	No	45 mm 1924-pin FCBGA
M21605	160 x 160	12.5	1.8	160	No	No	45 mm 1924-pin FCBGA

MACOM Serial Digital Interface (SDI) Video Products

Optimizing the performance of equipment that supports SMPTE standards

MACOM SDI video products span a complete signal chain for an SDI link, including multi-rate equalizer and cable driver solutions for emerging ultra high-definition (UHD) TV standards and legacy 3G, HD and SD.

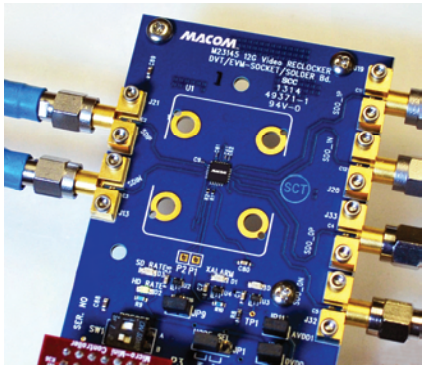
MACOM's new 12G-SDI video solutions for 4K UHD broadcast video transport applications enhance next-generation system designs by providing higher density, lower power, and lower material cost for transporting high quality UHD images compared to lower speed solutions.

Typical applications include next-generation 4K/8K video production solutions, broadcast video routing and production switchers, video distribution amplifiers, video cameras and monitors.

All MACOM SDI products are fully compliant with the Society of Motion Picture and Television Engineers (SMPTE) standards.

SDI Cable Equalizers

- Specifically designed to compensate for the losses that SDI video signals accumulate when transmitted across long 75Ω copper cables
- Ideal for the receive path of HD and UHD video broadcast equipment



SDI Reclockers

- Enable robust video broadcast systems by removing jitter from SDI video signals
- Products include innovative multi-channel and multi-rate reclockers
- Ideal for HD and UHD video broadcast equipment

SDI Cable Drivers

- Multi-channel and dual output designed to drive 75Ω copper cables
- Ideal for the transmit path of HD and UHD video broadcast equipment

Crosspoints, Signal Conditioners, Redrivers

- Channel counts range from 2x2 to 288x288
- Data rates from 19 Mbps to 28 Gbps
- Supports a variety of board materials and switching architectures by providing robust signal integrity margin
- Applications include: video broadcast routers and switchers, HDMI switchers, and DWDM physical layer routers

MACOM's 12G-SDI Chipset was honored with a 2015 Studio Daily *Prime Award* and a 2014 Hollywood Post Alliance *Engineering Excellence Award*.

SUSTAINING MEMBER SMPTE www.smpte.org

iabm Silver Member

HPA 2014 AWARDS Hollywood Post Alliance Engineering Excellence Award Winner

SDI Cable Equalizers

Part Number	Description	Max Data Rate (Gbps)	Supply Voltage (V)	Power Consumption (mW)	Belden 1694A Reach (m)					Outputs (#)	Package
					12G	6G	3G	HD	SD		
M23544	12G Multi-rate Long Reach Equalizer with Reclocker	11.88	2.5	400	75	100	220	265	530	2	4 mm 24-pin QFN
M23554	12G Multi-rate Long Reach Equalizer with Reclocker	11.88	2.5	400	75	100	220	265	530	2	5 mm 32-pin QFN
M23564	12G Multi-rate Long Reach Equalizer with Reclocker	11.88	2.5	400	75	100	220	265	530	1	4 mm 16-pin QFN
M22544	6G/3G/HD/SD-SDI Adaptive Cable Equalizer	5.94	2.5	130	—	120	140	140	400	2	4 mm 24-pin QFN
M22554	6G/3G/HD/SD-SDI Adaptive Cable Equalizer	5.94	2.5	130	—	120	140	140	400	2	5 mm 32-pin QFN
M22564	6G/3G/HD/SD-SDI Adaptive Cable Equalizer	5.94	2.5	130	—	120	140	140	400	1	4 mm 16-pin QFN
M21324	3G/HD/SDI-SDI Cable Equalizer	2.97	3.3	230	—	—	100	200	400	1	4 mm 16-pin QFN
M21424	3G/HD/SDI-SDI Dual Output Cable Equalizer	2.97	2.5/3.3	175	—	—	100	200	400	2	5 mm 32-pin QFN
M21544	3G/HD/SD-SDI Long Reach Equalizer*	2.97	2.5	145	—	—	200	200	400	2	4 mm 24-pin QFN
M21554	3G/HD/SD-SDI Long Reach Equalizer*	2.97	2.5	145	—	—	200	200	400	2	5 mm 32-pin QFN
M21564	3G/HD/SD-SDI Long Reach Equalizer*	2.97	2.5	145	—	—	200	200	400	1	4 mm 16-pin QFN
M21644	3G/HD/SD-SDI Long Reach Equalizer	2.97	2.5	120	—	—	200	200	400	2	4 mm 24-pin QFN
M21654	3G/HD/SD-SDI Long Reach Equalizer	2.97	2.5	120	—	—	200	200	400	2	5 mm 32-pin QFN
M21664	3G/HD/SD-SDI Long Reach Equalizer	2.97	2.5	105	—	—	200	200	400	1	4 mm 16-pin QFN
M31544	3G/HD/SD-SDI Long Reach Equalizer*	2.97	2.5	145	—	—	200	200	400	2	4 mm 24-pin QFN
M31564	3G/HD/SD-SDI Long Reach Equalizer*	2.97	2.5	145	—	—	200	200	400	1	4 mm 16-pin QFN
M21214	HD/SD Broadcast Video Adaptive Cable Equalizer	1.485	2.5/3.3	175	—	—	—	200	400	1	6 x 10 mm 16-pin QFN
M21234	HD/SD-SDI Cable Equalizer	1.485	1.8/2.5/3.3	125	—	—	—	175	350	1	5 mm 32-pin QFN
M21204	SD-SDI Cable Equalizer	0.27	2.5/3.3	175	—	—	—	200	400	1	6 x 10 mm 16-pin QFN

* with Jitter Cleaner

SDI Cable Reclockers

Part Number	Description	Max Data Rate (Gbps)	Supply Voltage (V)	Power Consumption (mW)	Channels (#)	Integrated Mux	Outputs (#)	Package
M23145	12G Multi-rate Reclocker	11.88	2.5	275	1 x 2	—	2	4 mm 24-pin QFN
M21260	3G/HD/SD-SDI Quad Reclocker External Rate Detection	3.2	1.2	0.56	4 x 4	4 x 4	4	10 mm 72-pin QFN
M21262	3G/HD/SD-SDI Reclocker with 4:1 Input Mux	3.2	1.2	0.56	4 x 1	4 x 1	1	10 mm 72-pinQFN
M21245	3G/HD/SD-SDI Low Power Reclocker	2.97	1.2/1.8/2.5/3.3	0.23	2	4:1	2	6 mm 40-pin QFN
M21350	3G/HD/SD-SDI Low Power Quad Reclocker with 4x 4:1 mux	2.97	1.2/1.8/2.5/3.3	0.135	4	4:1 x 4	4	10 mm 72-pin QFN
M21355	3G/HD/SD-SDI Low Power Quad Reclocker	2.97	1.2/1.8/2.5/3.3	0.135	4	16 x 4 xPT	4	10 mm 72-pin QFN
M31245	3G/HD/SD-SDI Ultra Low Power Reclocker	2.97	2.5	70	1	4:1	2	4 mm 32-pin QFN
M31285	3G/HD/SD-SDI Ultra Low Power Reclocker with Cable Driver	2.97	2.5	160	1	4:1	2	4 mm 32-pin QFN
M21215	HD/SD-SDI Reclocker Integrated Rate Detection	1.485	2.5/3.3	0.325	1	4:1	1	10 mm 64-pin LQFP
M21235	HD/SD-SDI Reclocker Integrated Rate Detection	1.485	3.3	0.4	1	4:1	1	7 mm 48-pin QFN
M21315	HD/SD-SDI Reclocker Integrated Rate Detection	1.485	3.3	0.43	1	4:1	1	9 mm 64-pin QFN

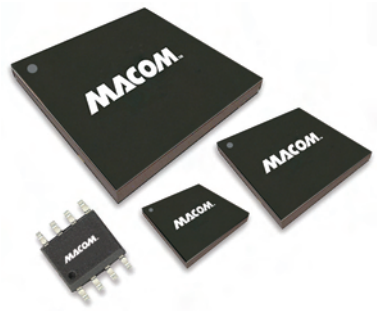
SDI Cable Drivers

Part Number	Description	Max Data Rate (Gbps)	Supply Voltage (V)	Power Consumption (mW)	Channels (#)	Outputs (#)	Package
M23428	12G Multi-rate Dual Cable Driver	11.88	2.5	135	1	2	3 mm 16-pin QFN
M22428	6G/3G/HD/SD-SDI Dual Cable Driver	5.94	2.5	125	1	2	3 mm 16-pin QFN
M21328	3G/HD/SD-SDI Cable Driver	2.97	3.3	144	1	1	4 mm 16-pin QFN
M21428	3G/HD/SD-SDI Dual Cable Driver	2.97	2.5/3.3	122	1	2	3 mm 16-pin QFN
M21518	3G/HD/SD-SDI Low Power Cable Driver	2.97	1.8/2.5/3.3	52	1	1	4 mm 24-pin QFN
M21528	3G/HD/SD-SDI Low Power Dual Cable Driver	2.97	1.8/2.5/3.3	40	2	2	4 mm 24-pin QFN
M31285	3G/HD/SD-SDI Reclocker with Dual Cable Driver	2.97	2.5	160	1	2	4 mm 32-pin QFN
M21212	HD/SD-SDI Cable Driver	1.485	2.5/3.3	100	1	1	6 x 5 mm 8-pin SOIC
M21218	HD/SD-SDI Cable Driver	1.485	1.8/3.3	82	1	1	6 x 5 mm 8-pin SOIC
M21232	HD/SD-SDI Cable Driver	1.485	2.5/3.3	90	1	1	3 mm 16-pin QFN
M21418	HD/SD-SDI Cable Driver	1.485	2.5/3.3	122	1	1	3 mm 16-pin QFN
M21202	SD-SDI Cable Driver	0.27	2.5/3.3	100	1	1	6 x 5 mm 8-pin SOIC



MACOM High Definition CCTV (HDcctv) Video Products

Robust solutions for the security and surveillance industry



MACOM has leveraged its proven technology for switching and transport of High-Definition (HD) uncompressed video signals in the broadcast industry, to provide economical and robust solutions for the security and surveillance industry. MACOM's devices allow for an efficient and effective migration from analog and standard definition (SD) monitoring and recording systems to HD video surveillance systems with dependability.

We offer a comprehensive portfolio of serial digital video cable equalizers, cable drivers, and reclockers for CCTV cameras, digital video recorders (DVR), displays, repeaters, and other system peripherals incorporating our advanced 3G/HD-SDI transmission technology for seamless data communication over long distances.

MACOM provides the world's most extensive high bandwidth non-blocking crosspoint switch portfolio as a preferred and trusted supplier for solutions in routers, switchers, multiplexers, and distribution amplifiers with channel counts ranging from 2 x 2 up to 288 x 288.

HDcctv Cable Equalizers

> Specifically designed to compensate for the losses that HD video signals accumulate when transmitted across 75Ω copper cables

HDcctv Reclockers

> Removes jitter from video signals
> Multi-rate products

HDcctv Cable Drivers

> Designed for driving HDcctv video signals across 75Ω copper cables
> Multi-channel and dual output
> Ideal solution for security and surveillance applications

HDcctv Cable Equalizers

Part Number	Description	Max Data Rate (Gbps)	Supply Voltage (V)	Power Consumption (mW)	Channels (#)	Belden 1694A Reach (m)			Outputs (#)	Package
						3G	HD	SD		
M08036	3G/HD/SD Digital Video Cable Equalizer	2.97	3.3	0.23	1	100	200	400	1	4 mm 16-pin QFN
M08046	3G/HD/SD Digital Video Cable Equalizer: Dual Output	2.97	2.5/3.3	0.175	2	100	200	400	2	5 mm 32-pin QFN
M08016	HD/SD Digital Video Cable Equalizer	1.485	2.5/3.3	0.177	1	—	200	400	1	6 x 10 mm 16-pin SOIC
M08026	HD/SD Digital Video Cable Equalizer	1.485	3.3	0.23	1	—	200	400	1	4 mm 16-pin QFN

HDcctv Reclockers

Part Number	Description	Max Data Rate (Gbps)	Supply Voltage	Power Consumption (mW)	Channels (#)	Integrated Mux	Outputs (#)	Package
M08045	3G/HD/SD Digital Video Reclocker	2.97	1.2/1.8/2.5/3.3	0.23	2	4:01	2	6 mm 40-pin QFN
M08035	HD/SD Digital Video Reclocker	1.485	1.2/1.8/2.5/3.3	0.23	2	4:01	2	6 mm 40-pin QFN

HDcctv Cable Drivers

Part Number	Description	Max Data Rate (Gbps)	Supply Voltage (V)	Power Consumption (W)	Channels (#)	Outputs (#)	Output Return Loss (dB)	Package
M08038	3G/HD/SD Digital Video Cable Driver	2.97	3.3	0.144	1	1	15	4 mm 16-pin QFN
M08048	3G/HD/SD Digital Video Cable Driver: Dual Output	2.97	2.5/3.3	0.122	2	2	10	3 mm 16-pin QFN
M08018	HD/SD Digital Video Cable Driver	1.485	2.5/3.3	0.122	1	1	15	6 x 5 mm 8-pin SOIC
M08028	HD/SD Digital Video Cable Driver	1.485	3.3	0.144	1	1	15	4 mm 16-pin QFN

Note: Part numbers are RoHS compliant
Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box.
All specifications are subject to change.



MACOM Communications Processors

Bridges between circuit-switched and packet-based networks





MACOM's software-configurable DSP products serve as bridges for transporting video, voice, fax and modem transmissions between circuit-switched networks and packet-based networks, and across network boundaries. Our multiservice access device architecture combines the performance of a digital-signal processor core with the flexibility of a microcontroller core. These products:

- Process and translate voice and data and perform various management and reporting functions
- Compress signals to minimize bandwidth consumption
- Modify or add communications protocols to accommodate transport of signals across a variety of different networks

Supported services include:

- Video and Voice over IP (VoIP)
- Voice-over-ATM (VoATM)
- Voice-over-DSL services
- Wireline-to-wireless connectivity

VoIP Processors

- Complete, integrated VoIP media, signaling and control processing
- For next-generation network (NGN) POTS/ISDN line cards focused on class 5 replacement and IP-PBX applications

Carrier Convergence Processors

- Powerful digital signal processors optimized for voice processing, a flexible packet-processing engine, and industry-standard streaming interfaces on a single die
- Support packet-to-TDM, packet-to-packet, or TDM-to-TDM operation

Enterprise Voice and Data Processors

- Provide single-chip telecom processing for small to medium-sized businesses
- Voice-over-packet subsystem with a high-performance routing and VPN engine

VoIP Processors

Part Number	Series	Channels (#)	Pin Count (#)	Work Mode	Memory Support	Typ Power Consumption (W)	Vcore Voltage (V)	Package
M82311	Comcerto 300v2	0	484	Master	DDR2	1.3	1.1	19 mm LBGA
M82501	Comcerto 500	4	484	Master / Slave	SDRAM	1.5	1.2	19 mm FPBGA
M82506	Comcerto 500	8	484	Master / Slave	SDRAM	1.5	1.2	19 mm FPBGA
M82510	Comcerto 500	16	484	Master / Slave	SDRAM	1.8	1.2	19 mm xFPBGA
M82511	Comcerto 500	16	484	Master / Slave	SDRAM	1.5	1.2	19 mm FPBGA
M82321	Comcerto 300v2	18	484	Slave	DDR2	1.3	1.1	19 mm LBGA
M82331	Comcerto 300v2	18	484	Master	DDR2	1.3	1.1	19 mm LBGA
M82351	Comcerto 300	18	484	Master	DDR	1.3	1.05	23 mm FPBGA
M82514	Comcerto 500	24	484	Master / Slave	SDRAM	1.5	1.2	19 mm FPBGA
M82515	Comcerto 500	32	484	Master / Slave	SDRAM	1.5	1.2	19 mm FPBGA
M82520	Comcerto 500	32	484	Master / Slave	SDRAM	1.8	1.2	19 mm FPBGA
M82322	Comcerto 300v2	36	484	Slave	DDR2	1.3	1.1	19 mm LBGA
M82332	Comcerto 300v2	36	484	Master	DDR2	1.3	1.1	19 mm LBGA
M82352	Comcerto 300	36	484	Master	DDR	1.3	1.05	23 mm FPBGA
M82524	Comcerto 500	48	484	Master / Slave	SDRAM	1.8	1.2	19 mm FPBGA
M82323	Comcerto 300v2	53	484	Slave	DDR2	1.3	1.1	19 mm LBGA
M82333	Comcerto 300v2	53	484	Master	DDR2	1.3	1.1	19 mm LBGA
M82343	Comcerto 300	53	484	Slave	DDR	1.3	1.05	23 mm FPBGA
M82353	Comcerto 300	53	484	Master	DDR	1.3	1.05	23 mm FPBGA
M82530	Comcerto 500	64	484	Master / Slave	SDRAM	1.8	1.2	19 mm FPBGA
M82324	Comcerto 300v2	71	484	Slave	DDR2	1.3	1.1	19 mm LBGA
M82334	Comcerto 300v2	71	484	Master	DDR2	1.3	1.1	19 mm LBGA
M82344	Comcerto 300	71	484	Slave	DDR	1.3	1.05	23 mm FPBGA
M82354	Comcerto 300	71	484	Master	DDR	1.3	1.05	23 mm FPBGA
M82346	Comcerto 300	107	484	Slave	DDR	1.3	1.05	23 mm FPBGA
M82356	Comcerto 300	107	484	Master	DDR	1.3	1.05	23 mm FPBGA
M82308	Comcerto 300v2	128	484	Slave	DDR2	1.59	1.2	19 mm LBGA
M82318	Comcerto 300v2	128	484	Master	DDR2	1.59	1.2	19 mm LBGA
M85373	Comcerto 5300	128	625	Master / Slave	DDR3	2.65	1.1	21 mm FCBGA/HFCBGA
M82348	Comcerto 300	142	484	Slave	DDR	1.3	1.05	23 mm FPBGA
M82358	Comcerto 300	142	484	Master	DDR	1.3	1.05	23 mm FPBGA
M82349	Comcerto 300	160	484	Slave	DDR	1.3	1.05	23 mm FPBGA
M82359	Comcerto 300	160	484	Master	DDR	1.3	1.05	23 mm FPBGA
M85374	Comcerto 5300	256	625	Master / Slave	DDR3	2.65	1.1	21 mm FCBGA/HFCBGA
M85375	Comcerto 5300	384	625	Master / Slave	DDR3	2.65	1.1	21 mm FCBGA/HFCBGA
M85376	Comcerto 5300	512	625	Master / Slave	DDR3	2.65	1.1	21 mm FCBGA/HFCBGA

Enterprise Voice and Data Processors

Part Number	Series	Channels (#)	Pin Count (#)	Work Mode	Memory Support	Typ Power Consumption (W)	Vcore Voltage (V)	Package
M82803	Comcerto 800	0	484	Master	SDRAM	1.3	1.2	19 mm FPBGA
M82801	Comcerto 800	4	484	Master	SDRAM	1.3	1.2	19 mm FPBGA
M82805	Comcerto 800	8	484	Master	SDRAM	1.3	1.2	19 mm FPBGA
M82810	Comcerto 800	16	484	Master	SDRAM	1.3	1.2	19 mm FPBGA
M82815	Comcerto 800	24	484	Master	SDRAM	1.3	1.2	19 mm FPBGA
M82820	Comcerto 800	32	484	Master	SDRAM	1.3	1.2	19 mm FPBGA

Carrier Convergence Processors

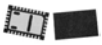
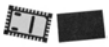
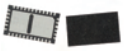
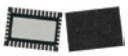
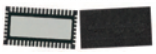
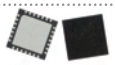
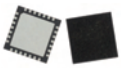
M82610	Comcerto 600	256	484	Slave	SDRAM	1.6	1.2	19 mm FPBGA
M82710	Comcerto 700	384/404	484	Slave	SDRAM	1.9 / 2.4	1.0 / 1.1	19 mm FPBGA
M82910	Comcerto 900	512/640	484	Slave	SDR / DDR	3.09	1.05	19 mm FPBGA

Appendix and Part Number Index

Package Selection Guide
GaN Product Part Number Nomenclature Reference
Decibels-Volts-Watts Conversion Table
Wavelength and Frequency
Part Number Index

Package Selection Guide

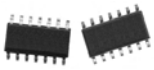
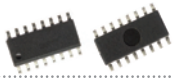
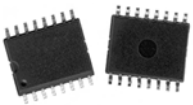
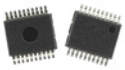
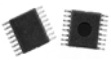
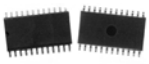
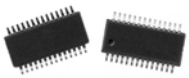
Plastic Leadless Packages

Package Type	Approx Outline Dimensions (mm)	
1 mm X1-DFN-6LD	1 x 1 x 0.45	
1.2 x 1.5 TDFN-6LD 1.5 x 1.2 TDFN-6LD	1.2 x 1.5 x 0.75 1.5 x 1.2 x 0.75	
2 mm STDFN-8LD 2 mm STQFN-12LD	2 x 2 x 0.55 2 x 2 x 0.55	
2 x 2.5 mm STQFN-14LD	2 x 2.5 x 0.55	
3 mm PQFN-12 LD/16LD 3 mm TQFN-12 LD/16LD 3 mm HQFN-16LD	3 x 3 x 0.9 3 x 3 x 0.75 3 x 3 x 1.5	
4 mm PQFN-16 LD/20 LD/24LD 4 mm TQFN-16 LD/20LD 4 mm HQFN-8LD/16LD/20LD	4 x 4 x 0.9 4 x 4 x 0.75 4 x 4 x 1.5	
4 x 5 mm PQFN-28LD	4 x 5 x 0.9	
4 x 6 mm PQFN-32LD	4 x 6 x 0.9	
4 x 7 mm PQFN-36LD	4 x 7 x 0.9	
5 mm PQFN-20LD/24LD/ 28LD/32LD/40LD 5 mm HQFN-32LD	5 x 5 x 0.9	
5 x 7 mm PQFN-40LD	5 x 7 x 0.9	
5 x 8 mm PQFN-52LD	5 x 8 x 0.9	
6 mm PQFN-28LD/40LD/48LD	6 x 6 x 0.9	
7 mm PQFN-13LD/16LD/32LD/44LD 7 mm HQFN-16LD/32LD	7 x 7 x 0.9 7 x 7 x 1.5	

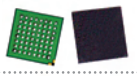
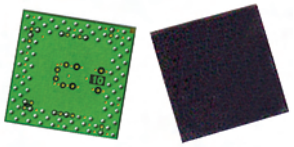
Plastic Leaded Packages

Package Type	Approx Outline Dimensions (mm)	
SC-79	0.8 x 1.6 x 0.6	
SOD-323	1.3 x 2.5 x 1.1	
SOT-23	2.9 x 2.4 x 1	
SOT-25	2.9 x 2.8 x 1.3	
SOT-26	2.9 x 2.8 x 1.3	

Plastic Leaded Packages

Package Type	Approx Outline Dimensions (mm)	
SOT-89	4.5 x 4 x 1.5	
SOT-143	2.9 x 2.4 x 1	
SC70 3LD (SOT-323)	2 x 2.1 x 1	
SC70 6LD (SOT-363)	2 x 2.1 x 1	
SOIC-8/SOIC-8EP	4.9 x 6 x 1.6	
SOIC-14	8.7 x 6 x 1.6	
SOIC-16	9.9 x 6 x 1.6	
SOW-16 SOW-24	10.3 x 10.3 x 2.5 15.4 x 10.3 x 2.5	
TSSOP-16	5 x 6.4 x 1.1	
SSOP-20	7.2 x 7.8 x 1.9	
MSOP-8	3 x 4.9 x 1	
MSOP-8EP	3 x 4.9 x 1	
MSOP-10/MSOP-10EP	3 x 4.9 x 1	
QSOP-16	4.9 x 6 x 1.6	
QSOP-24	8.7 x 6 x 1.6	
QSOP-28	9.9 x 6 x 1.6	

Plastic Ball Grid Array Packages (PBGA)

8 mm 64 I/O PBGA	8 x 8 x 1.7	
15 mm 90 I/O PBGA	15 x 15 x 3	

*other package outlines available

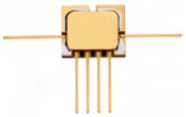
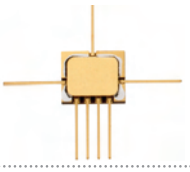
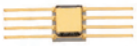
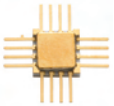
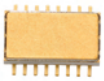
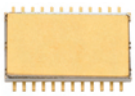
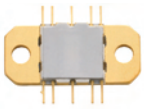
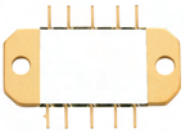
All dimensions exclude leads.

Package Selection Guide

Ceramic/Chip Diode Packages

Package Type	Approx Outline Dimensions (mm)	
30 Ceramic	3.2 dia. x 5.7	
134 Die	0.4 x 0.4 x 0.2	
186 Ceramic	11.2 x 2.5 x 1.1	
401 Axial Lead	2.3 dia. x 55	
1027 Ceramic	8 dia. x 6.9	
1056 Ceramic	1.9 x 1.9 x 1	
1072 Ceramic	2.4 x 2.4 x 3.4	
1073 Ceramic	12.3 dia. x 10	
1038 Ceramic	8 dia. x 17	
1080 Ceramic	8 dia. x 22.2	
1082 Ceramic	8 dia. x 19.8	
1088 Ceramic	2.4 x 1.3 x 1	
1246 Surmount	1.2 x 0.5 x 0.2	

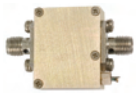
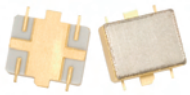
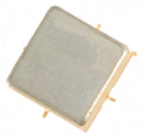
Metal/Ceramic Packages

Package Type	Approx Outline Dimensions (mm)	
CR2-6LD	18.3 x 11.3 x 1.3	
CR2	18.3 x 17.1 x 1.3	
CR3	16.2 x 4.6 x 1.6	
CR4	12.4 x 12.4 x 1.6	
CR5	8.9 x 8.0 x 1.6	
CR6	11.4 x 8.9 x 1.6	
CR12	11.4 x 11.4 x 2.0	
CR13	16.5 x 11.4 x 2.0	
CR15	17.8 x 11.4 x 2	
CR16	9.8 x 8.3 x 1.5	
1000017733	23.5 x13.8 x 2.8	

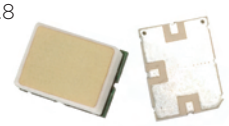
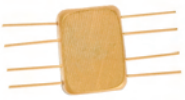
All dimensions exclude leads.

Package Selection Guide

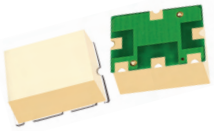
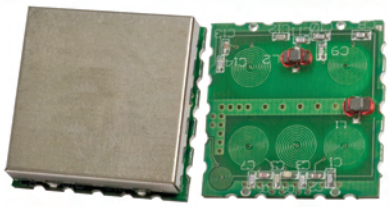
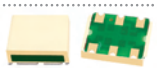
Metal/Ceramic Packages

Package Type	Approx Outline Dimensions (mm)	
MOD2 (3/4 size)	20.3 x 15 x 6.6	
MOD3 (3/4 size)	20.3 x 15 x 4.8	
SMA-AMP (3/4 size)	23.4 x 27.9 x 13.3	
SMA-MXR (3/4 size)	22.9 x 22.9 x 14	
SMT-01	11.4 x 11.4 x 4.3	
SMT-02	10 x 13 x 4	
SMT-88	13.4 x 13.4 x 4.3	
SMT-88F	11.4 x 11.4 x 4.3	
TO-8-01	12.7 dia. x 11	
TO-8-02	12.7 dia. x 9.7	
TO-8-03	15.2 dia. x 9.7	

Metal/Ceramic Packages

Package Type	Approx Outline Dimensions (mm)	
CSM	12.5 x 9.4 x 4.8	
FP	13 x 9.8 x 3.6	
MOD1	14.2 x 13.2 x 4.8	

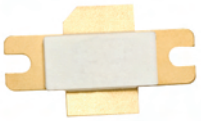
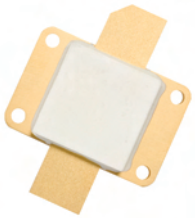
Passives Packagess

Package Type	Approx Outline Dimensions (mm)	
SM-2	12.5x 9.4 x 6.4	
SM-4	12.4 x 9.4 x 5.8	
SM-22	3.8 x 3.8 x 3.8	
SM-55	7.1 x 6.4 x 3.6	
SM-85 (3/4 size)	30 x 30 x 9	
SM-89	8 x 6.4 x 0.15	
SM-138	4.2 x 5.3 x 3.9	
SM-152	4.2 x 5.3 x 4.3	

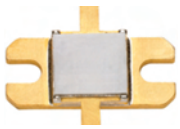
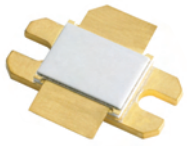
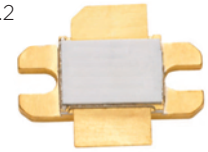
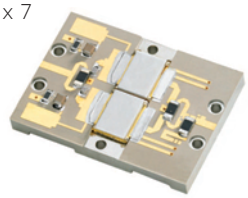
All dimensions exclude leads.

Package Selection Guide

Transistor Packages

Package Type	Approx Outline Dimensions (mm)	
P-237 Ceramic	20 x 15 x 4	
P-238 Ceramic	34 x 19.6 x 4	
P-239 Ceramic	21 x 1 x 4	
355E-01, Style 1 Ceramic	23 x 21 x 5	
368-03, Style 2 Ceramic	38 x 50 x 9	
PH1214-M Series Ceramic	23 x 10 x 4.5	
P-8TF	20.8 x 6.4 x 3.5	

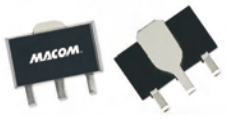
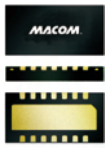
Transistor Packages

Package Type	Approx Outline Dimensions (mm)	
P-51H	22.9 x 10.2 x 5.5	
P-94C	22.9 x 10.2 x 5.5	
P-94D	22.9 x 10.2 x 4.2	
P-94I	22.9 x 10.2 x 4.2	
P-154C	25.4 x 15.2 x 5.1	
Pallet	50.8 x 35.8 x 7	

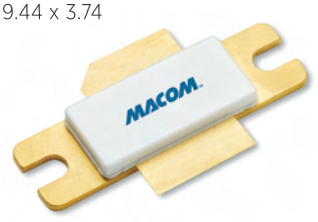
All dimensions exclude leads.

Package Selection Guide

GaN Transistor Packages

Package Type	Approx Outline Dimensions (mm)	
SOT-89	4.5 x 4.0 x 1.5	
6 x 3 mm DFN-14	6.0 x 3.0 x 10	
LGA2414	24.0 x 14.0 x 3.2	
P-254A	5.6 x 8.1 x 2.4	
P-260	13.97 x 8.12 x 3.25	
P-253	20.32 x 10.92 x 3.99	
P-256	28.96 x 17.78 x 4.78	
P-237	20.32 x 14.96 x 4.11	

GaN Transistor Packages

Package Type	Approx Outline Dimensions (mm)	
P-261	20.57 x 19.44 x 3.74	
P-238	34.04 x 19.44 x 3.74	
P-264	41.15 x 16.62 x 5.13	

Package Type	Approx Outline Dimensions (mm)	
4 mm QFN-24	4.0 x 4.0 x 0.9	
SOIC-8NE	4.9 x 6.1 x 1.47	
3 x 6 mm DFN-14	6.0 x 3.0 x 1.0	
TO272-2	23.62 x 11.18 x 2.59	
TO272-4	23.62 x 14.1 x 2.59	

All dimensions exclude leads.

Package Selection Guide

GaN Transistor Packages

Package Type	Approx Outline Dimensions (mm)	
AC200B-2	13.97 x 8.13 x 3.1	
AC360B-2	20.32 x 10.92 x 3.86	
AC360P-2	9.65 x 10.92 x 3.86	
AC780P-2	20.57 x 19.43 x 3.6	
C780B-2	34.04 x 19.43 x 3.6	
AC780B-4	34.04 x 19.43 x 3.6	

Other Packages

Package Type

SDI and HDcctv Product Packages

3 mm 16-pin QFN
4 mm 16-pin/24-pin/32-pin QFN
5 mm 32-pin QFN
6 mm 40-pin QFN
7 mm 48-pin QFN
10 mm 72-pin QFN
12 mm 88-pin QFN
14 mm 100-pin QFN



Communications Processor Packages

19 mm LBGA/FPBGA
21 mm FCBGA/HFCBGA
23 mm FPBGA



Crosspoint Switch Product Packages

17 mm 252-pin BGA
19 mm 324-pin BGA
21 mm 484-pin/1924-pin BGA
23 mm 484-pin/1924-pin BGA
23 mm 404-pin PBGA
27 mm 676-pin BGA
34 mm PBGA
35 mm 1156-pin BGA
35 mm 676-pin TEPBGA
35 mm 1936-pin FCBGA
50 mm 2389-pin BGA





All dimensions exclude leads.

GaN Product Part Number Nomenclature Reference

GaN Die Product Part Number Nomenclature

MATR-GCHJ04-066050

- gate length—**25**: 0.25 µm, **50**: 0.5 µm
- no vias
- active area periphery—**066**: 6.6 mm, **154**: 15.4 mm
- maximum operating frequency—**04**: 4 GHz, **18**: 18 GHz
- operating voltage—**C**: 28 V, **D**: 32 V, **H**: 48 V, **J**: 50 V
- device technology—HEMT
- semiconductor materials—**GC**: GaN on SiC, **GS**: GaN on Si
- transistor die
- MACOM salable product

GaN RF Power Product Part Number Nomenclature

MAGX-001214-650L00

- package—**0**: flanged ceramic, **P**: plastic, **S**: earless or flangeless
- shipping—**0**: bulk, **T**: tape & reel
- pulse width—**L**: long, **M**: medium, **S**: short, **0/C**: CW
- output power in watts—**650**: 650 W, **090**: 90 W, **005**: 5 W, **1K1**: 1100 W
- maximum operating frequency—**14**: 1.4 GHz, **35**: 3.5 GHz
- minimum operating frequency—**12**: 1.2 GHz, **27**: 2.7 GHz
- **00**: power product, **Non-00**: product sample board code
- **GX**: discrete transistor, **MG**: module, **PG**: pallet
- MACOM salable product

GaN Bias Controller/Sequencer Module Product Part Number Nomenclature

MABC-001000-000DPM

- **DPM**: drain pulsing, **GPM**: gate pulsing, **NGM**: negative gate configuration
- **0**: standard product, **S**: low power consumption version
- **00**: no special designation
- base part product number
- **00**: bias controller product, **Non-00**: product sample board code
- bias controller/sequencer
- MACOM salable product

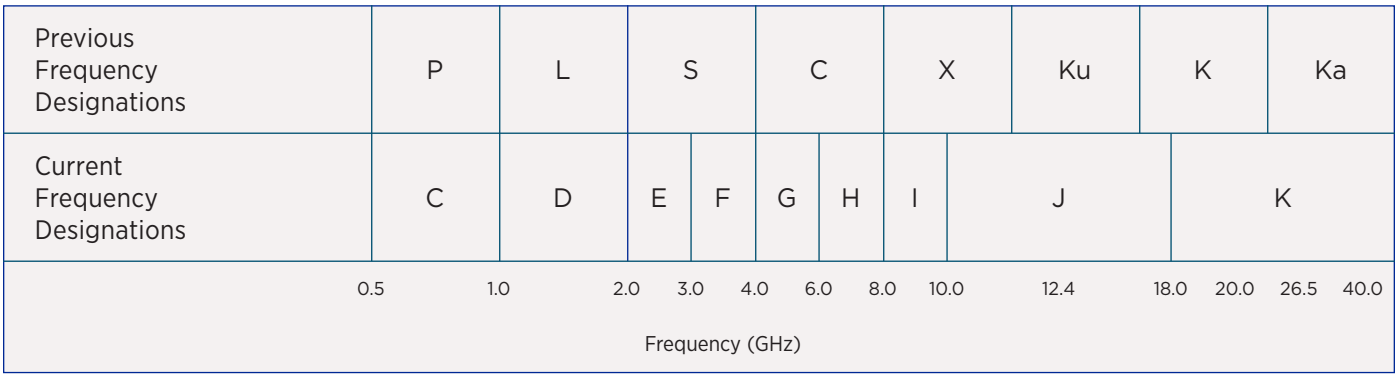
Decibels – Volts – Watts Conversion Table

MACOM

50-ohm System Terminated

dBm	V	P_O	dBm	V	P_O	dBm	mV	P_O	dBm	V	P_O
53	100	200W									
50	70.7	100W	0	0.225	1 mW	-49	0.8		-97	3.2	
49	64	80W	-1	0.2	0.8 mW	-50	0.71	.01 µW	-98	2.9	
48	58	64W	-2	0.18	0.64 mW	-51	0.64		-99	2.51	
47	50	50W	-3	0.16	0.5 mW	-52	0.57		-100	2.25	0.1 pW
46	44.5	40W	-4	0.141	0.4 mW	-53	0.5		-101	2	
45	40	32W	-5	0.125	0.32 mW	-54	0.45		-102	1.8	
44	32.5	25W	-6	0.115	0.25 mW	-55	0.4		-103	1.6	
43	32	20W	-7	0.1	0.2 mW	-56	0.351		-104	1.41	
42	28	16W	-8	0.09	0.16 mW	-57	0.32		-105	1.27	
41	26.2	12.5W	-9	0.08	0.125 mW	-58	0.286		-106	1.18	
40	22.5	10W	-10	0.071	0.1 mW	-59	0.251				
39	20	8W	-11	0.064		-60	0.225	0.001 µW	dBm	nV	
38	18	6.4W	-12	0.058		-61	0.2		-107	1000	
37	16	5W	-13	0.05		-62	0.18		-108	900	
36	14.1	4W	-14	0.045		-63	0.16		-109	800	
35	12.5	3.2W	-15	0.04		-64	0.141		-110	710	0.01 pW
34	11.5	2.5W	-16	0.0355					-111	640	
33	10	2W				dBm	µV		-112	580	
32	9	1.6W	dBm	mV		-65	128		-113	500	
31	8	1.25W	-17	31.5		-66	115		-114	450	
30	7.1	1W	-18	28.5		-67	100		-115	400	
29	6.4	800 mW	-19	25.1		-68	90		-116	355	
28	5.8	640 mW	-20	22.5	.01 mW	-69	80		-117	825	
27	5	500 mW	-21	20		-70	71	0.1 nW	-118	285	
26	4.45	400 mW	-22	17.9		-71	65		-119	251	
25	4	320 mW	-23	15.9		-72	58		-120	225	0.001 pW
24	3.55	250 mW	-24	14.1		-73	50		-121	200	
23	3.2	200 mW	-25	12.8		-74	45		-122	180	
22	2.8	160 mW	-26	11.5		-75	40		-123	160	
21	2.52	125 mW	-27	10		-76	35		-124	141	
20	2.25	100 mW	-28	8.9		-77	32		-125	128	
19	2	80 mW	-29	8		-78	29		-126	117	
18	1.8	64 mW	-30	7.1	.001 mW	-79	25		-127	100	
17	1.6	50 mW	-31	6.25		-80	22.5	0.01 nW	-128	90	
16	1.41	40 mW	-32	5.8		-81	20		-129	80	0.1 fW
15	1.25	32 mW	-33	5		-82	18		-130	71	
14	1.15	25 mW	-34	4.5		-83	16		-131	61	
13	1	20 mW	-35	4		-84	11.1		-132	58	
12	0.9	16 mW	-36	3.5		-85	12.9		-133	50	
11	0.8	12.5 mW	-37	3.2		-86	11.5		-134	45	
10	0.71	10 mW	-38	2.85		-87	10		-135	40	
9	0.64	8 mW	-39	2.5		-88	9		-136	35	
8	0.58	6.4 mW	-40	2.25	1 µW	-89	8		-137	33	
7	0.5	5 mW	-41	2		-90	7.1	0.001 nW	-138	29	
6	0.445	4 mW	-42	1.8		-91	6.1		-139	25	
5	0.4	3.2 mW	-43	1.6		-92	5.75		-140	23	0.01 fW
4	0.355	2.5 mW	-44	1.4		-93	5				
3	0.32	2 mW	-45	1.25		-94	4.5				
2	0.28	1.6 mW	-46	1.18		-95	4				
1	0.252	1.25 mW	-47	1		-96	3.51				
			-48	0.9							

Frequency Band Designations



Wavelength and Frequency

For all forms of wave, the velocity, wavelength, and frequency are related such that

$$\lambda F \sqrt{\varepsilon_r \mu_r} = c$$

λ = wavelength in meters (m)
F = frequency in hertz (Hz)
ε_r = relative dielectric constant of propagation medium
c = velocity of light (300,000,000 m/s)
μ_r = relative permeability of propagation medium

The dielectric (e) is a property of the medium in which the wave propagates. The value of e is defined as 1.000 for a perfect vacuum, and very nearly 1.0 for dry air (typically 1.006). In most practical applications, the value of e in dry air is taken to be 1.000. For mediums other than air or vacuum, however, the velocity of propagation is slower, and the value of e relative to a vacuum is higher. Teflon®, for example, can be made with dielectric constant values (e) from about 2 to 11.

Frequency vs Wavelength

Frequency	Wavelength
1 MHz	300 meters (m)
10 MHz	30 m
100 MHz	3 m
300 MHz	1 m — 100 centimeters (cm)
1 GHz	30 cm
10 GHz	3 cm
100 GHz	3 millimeters (mm)
300 GHz	1 mm — 10^{-3} m
3 x 1014	1 micron — 10^{-6} m

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127D-10G-LCT11-S	20
127D-10G-LT5AC-S	21
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127D-25B-LCT11	20
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127D-25C-LCG11	20
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A45	34
A45-1	34
A5	28
A5-5	28
A5-6	28

Note: Part numbers are RoHS compliant ◆ indicates non-RoHS compliant.

Part Number A511 to HH-128-PIN

Part Number	Page No.	Part Number	Page No.	Part Number	Page No.	Part Number	Page No.
A511	32	AMC-123-SMA ◆	32	_CAL7 ◆	34	DU2810S	13
A513	28	AMC-143-SMA ◆	32	CG30	50	DU28120T	13
A514	32	AMC-145-SMA ◆	29	CG40	50	DU28120V	13
A515	32	AMC-146-SMA ◆	28	CH-132-BNC ◆	63	DU28200M	13
A53	32	_AMC-147-SMA ◆	32	CH-134-PIN ◆	62	DU2820S	13
A531	32	AMC-151-SMA ◆	28	CH-140-PIN ◆	63	DU2840S	13
A54	28	AMC-155-SMA ◆	29	CHS-134-PIN ◆	62	DU2860T	13
A55	28	AMC-162-SMA ◆	31	CHS-137-PIN ◆	62	DU2860U	13
A56	28	AMC-176-SMA ◆	33	CL42 ◆	34	DU2880T	13
A57	28	AMC-180-SMA ◆	29	CLA17 ◆	34	DU2880U	13
A58	32	AMC-182-SMA ◆	33	CLA45-1 ◆	34	DU2880V	13
A59	32	AMC-184-SMA ◆	29	CLA7 ◆	34	EA1	31
A59-1	29	AMS-162-PIN ◆	31	CLG1	50	EA2	28
A6011	34	AT-213-PIN	49	CMM0511-QT	24	EA53-2	32
A61	34	AT-232-PIN	49	CPA38 ◆	33	EA54	28
A611	33	AT-233-PIN	49	CPA48 ◆	30	EA54-2	28
A63	33	AT-263-PIN	49	CRA36 ◆	30	ELDC-10	62
A64	29	AT-264-PIN	49	CRA66 ◆	29	ELPD-20-1	66
A66	29	AT-273-PIN	49	CRA69 ◆	29	ELPD-290	65
A66-1	29	AT-283-PIN	49	CRA89 ◆	28	EMDC-13-1-75	63
A66-3	33	AT-357-SMA	49	CRA89-1 ◆	28	EMDC-16-8-75	62
A67	33	AT10-0009	50	CSFD25 ◆	55	ESSMJ-2-12-75	66
A67-1	33	AT10-0017	50	CSFD25H ◆	55	ETC1-1-13	70
A70	31	CA1021 ◆	29	CSFD26 ◆	55	ETC1-1-6	69
A70-1	31	CA12 ◆	33	CSM1-10	56	ETC1-1T-2	68
A70-2	31	CA1212 ◆	33	CSM1-13	56	ETC1-1T-5	69
A70-3	31	CA17 ◆	29	CSM1-17	56	ETC1-1T-75	69
A71	31	CA18-1 ◆	33	CSM2-10	56	ETC1.5-4	69
A72	28	CA180 ◆	32	CSM2-13	56	ETC1.6-4-2-3	70
A73	32	CA181 ◆	28	CSM2-17	56	ETC16-1T-2	68
A74	32	CA19-1 ◆	29	CSM4T	57	ETC3-1	69
A74-1	31	CA231 ◆	31	CSM4T17	56	ETC36-1T-2TR	69
A74-2	28	CA24 ◆	29	CSM4TH	56	ETC4-1	69
A75	32	CA25-1 ◆	33	CSM5T	57	ETC4-1-2	69
A75-2	28	CA26 ◆	29	CSM5T17	57	ETC4-1T-7	69
A75-3	32	CA28 ◆	29	CSM5TH	57	ETK4-2T	69
A76	32	CA28-2 ◆	33	DS-109-PIN ◆	65	ETN1-1-13	70
A76-1	32	CA29-1 ◆	30	DS-112-PIN ◆	65	FD25 ◆	55
A77	28	CA3010 ◆	30	DS-113-PIN ◆	65	FD25C ◆	55
A77-1	28	CA32 ◆	33	DS-117-PIN ◆	65	FD25E ◆	55
A78	31	CA32-1 ◆	33	DS-308-BNC ◆	65	FD25H ◆	55
A79	28	CA33-1 ◆	30	DS-309-BNC ◆	65	FD25HC ◆	55
A80	32	CA35 ◆	30	DS-310-PIN ◆	65	FD26	55
A80-1	31	CA36-1 ◆	30	DS-312-BNC ◆	65	FD26C ◆	55
A81	31	CA38 ◆	30	DS-313-PIN ◆	67	FD93 ◆	55
A81-1	31	CA4011 ◆	34	DS-318-PIN ◆	65	FD93C ◆	55
A81-2	32	CA45 ◆	34	DS-319-PIN ◆	65	FD93H	55
A81-3	32	CA45-1 ◆	34	DS-323-PIN ◆	66	FD93HC ◆	55
A82	31	CA511 ◆	31	DS-324-PIN ◆	66	FDC2310 ◆	55
A82-1	31	CA531 ◆	32	DS-327-PIN ◆	66	FDC2710 ◆	55
A83-1	31	CA6011 ◆	34	DS-328-PIN ◆	65	FDZ5013 ◆	55
A87	28	CA64 ◆	29	DS-331-PIN ◆	66	FDZ5013C ◆	55
A87-1	31	CA66 ◆	29	DS-332-PIN ◆	67	FM-104-PIN ◆	55
A87-2	31	CA66-1	29	DS-4-4-BNC ◆	66	FM-105-PIN ◆	55
A88	28	CA66-3 ◆	33	DS-4-4-N ◆	67	FM-107-PIN ◆	55
A89	29	CA67-1 ◆	33	DS-4-4-SMA ◆	66	FMS-109-PIN ◆	55
AL7	34	CA70-2 ◆	31	DS-409-4BNC ◆	67	G1*	50
AM-131-PIN	32	CA74 ◆	31	DS-409-4SMA ◆	67	G2	50
AM-153-PIN ◆	33	CA75 ◆	32	DS-409-4TNC ◆	67	G30	50
AM-160-PIN ◆	32	CA76 ◆	32	DS-808-4BNC ◆	67	G40	50
AM-162-PIN ◆	31	CA77 ◆	28	DS-808-4N ◆	67	H-183-4-N ◆	63
AM-177-PIN ◆	29	CA77-1 ◆	29	DS-808-4SMA ◆	67	H-8-4-SMA ◆	66
AM-191-PIN ◆	32	CA78 ◆	31	DS-808-4TNC ◆	67	H-81-4-N ◆	66
AM42-0002	30	CA79	28	DSS-113-PIN ◆	65	H-81-4-SMA ◆	66
AM42-0007	30	CA81-2 ◆	32	DSS-313-PIN ◆	67	H-9-N	63
AM42-0007-DIE	25	CA82 ◆	31	DSS-327-PIN ◆	66	HH-106-PIN ◆	62
AM42-0039	30	CA83-1 ◆	31	DSS-333-PIN ◆	65	HH-109-PIN ◆	62
AM42-0040	30	CA87 ◆	28	DU1215S	13	HH-110-PIN ◆	62
AMC-119-SMA ◆	31	CA87-1 ◆	31	DU2805S	13	HH-128-PIN ◆	63

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Part Number HHS-109-PIN to M85C

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HHS-109-PIN	62	M02142	18	M21262	77	M50C ◆	59
HHS-110-PIN	62	M02170	17	M21315	77	M51C ◆	59
JH-114-PIN ◆	62	M02171	17	M21324	77	M52C ◆	59
JH-115-PIN ◆	62	M02172	17	M21328	77	M53C ◆	59
JH-119-PIN ◆	62	M02180	17	M21330	75	M63C ◆	57
JH-121-PIN ◆	62	M02190	17	M21350	77	M63H ◆	57
JH-133-PIN ◆	62	M02193	17	M21351	75	M63HC ◆	57
JH-136-PIN ◆	62	M03002	18	M21352	75	M67C ◆	58
JH-139-PIN ◆	62	M03100	18	M21353	75	M6D-50 ◆	56
JH-140-PIN ◆	63	M03101	18	M21355	77	M6EH ◆	56
JH-141-PIN ◆	63	M03102	18	M21362	75	M74 ◆	58
JHS-113-PIN ◆	62	M08016	79	M21363	75	M74C ◆	59
JHS-114-PIN ◆	62	M08018	79	M21418	77	M76 ◆	57
JHS-115-PIN ◆	62	M08026	79	M21424	77	M76C ◆	57
JHS-119-PIN ◆	62	M08028	79	M21428	77	M76H ◆	57
JHS-121-PIN	62	M08035	79	M21440	75	M77C ◆	58
JHS-139-PIN ◆	62	M08036	79	M21441	75	M79C ◆	58
JHS-142-PIN ◆	62	M08038	79	M21443	75	M79H ◆	58
L1	34	M08045	79	M21444	75	M79HC ◆	58
L42	34	M08046	79	M21450	75	M80C ◆	58
LA17	34	M08048	79	M21451	75	M82308	81
LA45	34	M08886	18	M21452	75	M82311	81
LA45-1	34	M08888	18	M21453	75	M82318	81
LA7	34	M08889	18	M21462	75	M82321	81
LF2802A	14	M08890	18	M21463	75	M82322	81
LF2805A	14	M08898	18	M21518	77	M82323	81
LG1**	50	M09000	18	M21528	77	M82324	81
LG30**	50	M09001	18	M21544	77	M82331	81
M02006	18	M14A ◆	58	M21554	77	M82332	81
M02007	18	M1H ◆	56	M21564	77	M82333	81
M02009	18	M20001	75	M21601	75	M82334	81
M02011	18	M21004	75	M21605	75	M82343	81
M02013	18	M21012	16	M21644	77	M82344	81
M02014	18	M21024	75	M21654	77	M82346	81
M02015	18	M21030	75	M21664	77	M82348	81
M02016	18	M21036	75	M22428	77	M82349	81
M02020	18	M21043	75	M22544	77	M82351	81
M02024	18	M21048	75	M22554	77	M82352	81
M02025	18	M21050	16	M22564	77	M82353	81
M02026	18	M21080	75	M23145	77	M82354	81
M02027	18	M21105	75	M23428	77	M82356	81
M02028	18	M21111	75	M23544	77	M82358	81
M02029	18	M21115	75	M23554	77	M82359	81
M02035	18	M21121	75	M23564	77	M82501	81
M02036	18	M21123	75	M23636	75	M82506	81
M02038	18	M21125	75	M2AC ◆	56	M82510	81
M02040	18	M21131	75	M2B ◆	56	M82511	81
M02044	18	M21141	75	M2BC ◆	56	M82514	81
M02046	18	M21147	75	M2E	56	M82515	81
M02050	18	M21148	75	M2EC ◆	56	M82520	81
M02061	17	M21151	75	M2G	57	M82524	81
M02066	17	M21156	75	M2GC ◆	57	M82530	81
M02067	17	M21161	75	M2TC ◆	56	M82610	81
M02068	17	M21163	75	M31245	77	M82710	81
M02069	17	M21167	75	M31285	77	M82801	81
M02076	17	M21170	75	M31285	77	M82803	81
M02077	17	M21171	75	M31544	77	M82805	81
M02090	17	M21172	75	M31564	77	M82810	81
M02094	17	M21202	77	M37040	16	M82815	81
M02095	17	M21204	77	M37041	16	M82820	81
M02096	17	M21212	77	M37046	16	M82910	81
M02097	17	M21214	77	M37047	16	M83	58
M02098	17	M21215	77	M37047	16	M83C ◆	58
M02099	17	M21218	77	M37049	16	M85 ◆	58
M02100	17	M21232	77	M3H-50-PIN ◆	65	M85373	81
M02129	18	M21234	77	M3V-50-PIN ◆	65	M85374	81
M02131	18	M21235	77	M4A ◆	56	M85375	81
M02139	18	M21245	77	M4TH ◆	57	M85376	81
M02140	18	M21260	77	M50A ◆	59	M85C ◆	58

Note: Part numbers are RoHS compliant ◆ indicates non-RoHS compliant.

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M86C ◆	58	MA46H203-1088	38	MA4E2514M-1116	46	MA4M3010	71
M87C ◆	59	MA46H204-1056	38	MA4E2532M-1113	46	MA4M3030	71
M88C ◆	58	MA46H204-1088	38	MA4E2811	45	MA4M3050	71
M88H ◆	58	MA46H500-1056	38	MA4E2812-54	45	MA4M3100	71
M88HC ◆	58	MA46H501-1056	38	MA4E929A-119	45	MA4M3150	71
M89C ◆	58	MA46H504-1056	38	MA4E929B-119	45	MA4P1200-401T	39
M8H-3 ◆	57	MA47047-54	39	MA4E931Z2-1261A	45	MA4P1200NM-401T	39
M8H-7 ◆	57	MA47208	40	MA4E932A-186	45	MA4P1250-1072T	40
M8HC-7 ◆	57	MA47222	42	MA4E932B-186	45	MA4P1250NM-1072T	39
M8T ◆	56	MA47223	43	MA4EX190H1-1225T	60	MA4P1450-1091T	39
M8TC ◆	56	MA47266-146	39	MA4EX240L1-1225T	60	MA4P1450NM-1091T	39
M8TH ◆	56	MA47416-132	43	MA4EX580L1-1225T	60	MA4P161-134	43
M8THC ◆	57	MA47418-134	43	MA4EX600L1-1225T	60	MA4P202-276	42
M93C ◆	58	MA4AGBLP912	43	MA4EX950H1-1225T	60	MA4P203-1056	42
M9BC ◆	56	MA4AGFCP910	43	MA4EX950L1-1225T	60	MA4P203-134	43
M9HC ◆	56	MA4AGP907	43	MA4EXP190H1-1277T	60	MA4P203-30	42
MA144769-287T	38	MA4AGSW1	51	MA4EXP240L-1277T	60	MA4P303-1088	42
MA40143-213	46	MA4AGSW1A	51	MA4EXP950H1-1277T	60	MA4P303-120	42
MA40147-213	46	MA4AGSW2	51	MA4FCP200	43	MA4P303-134	43
MA40201-119	46	MA4AGSW3	52	MA4FCP300	43	MA4P303-186	42
MA40205-119	45	MA4AGSW4	53	MA4FCP305	43	MA4P4001B-402	39
MA40208-276	46	MA4AGSW5	53	MA4GP022	43	MA4P4001F-1091T	39
MA40215-120	46	MA4AGSW8-1	53	MA4GP030	43	MA4P4002B-402	39
MA40215-276	46	MA4BN1840-1	62	MA4GP905	43	MA4P4002F-1091T	39
MA40261-186	45	MA4BN1840-2	62	MA4GP907	43	MA4P4006B-402	39
MA40264-186	46	MA4E1310	46	MA4L011-1056	43	MA4P4006F-1091T	39
MA44781	40	MA4E1317	46	MA4L011-1088	43	MA4P404-132	43
MA45471	40	MA4E1318	46	MA4L011-134	43	MA4P404-258	40
MA46413-120	38	MA4E1319-1	46	MA4L011-137	43	MA4P404-30	40
MA46416-134	38	MA4E1319-2	46	MA4L011-186	43	MA4P404-31	40
MA46418-120	38	MA4E1338A1-1141T	45	MA4L011-30	44	MA4P4301B-402	39
MA46418-30	38	MA4E1338A1-287T	45	MA4L011-31	43	MA4P4301F-1091T	39
MA46451-120	36	MA4E1338B1-1146T	45	MA4L011-32	44	MA4P4302B-402	39
MA46452-134	36	MA4E1338B1-287T	45	MA4L011-54	44	MA4P504-1072T	40
MA46461-186	36	MA4E1339A1-1141T	45	MA4L021-1056	44	MA4P504-132	43
MA46470-120	37	MA4E1339A1-1146T	45	MA4L021-120	44	MA4P504-144	42
MA46470-134	37	MA4E1339A1-287T	45	MA4L021-134	44	MA4P504-255	39
MA46470-276	37	MA4E1339B1-1146T	45	MA4L021-31	44	MA4P504-4	39
MA46471-134	37	MA4E1339B1-287T	45	MA4L022-1056	44	MA4P505-1072T	40
MA46473-134	37	MA4E1340A1-1141T	45	MA4L022-120	44	MA4P505-131	42
MA46473-186	37	MA4E1340A1-1146T	45	MA4L022-134	44	MA4P505-255	39
MA46474-120	37	MA4E1340A1-287T	45	MA4L022-137	44	MA4P505-36	42
MA46474-134	37	MA4E1340B1-1146T	45	MA4L022-186	44	MA4P505-4	40
MA46474-94	37	MA4E1340B1-287T	45	MA4L022-30	44	MA4P506-1072T	40
MA46474-95	37	MA4E2037	46	MA4L022-32	44	MA4P506-131	42
MA46476-120	37	MA4E2038	46	MA4L031-1056	44	MA4P506-255	39
MA46477-134	37	MA4E2039	46	MA4L031-134	44	MA4P506-4	40
MA46477-186	37	MA4E2040	46	MA4L031-186	44	MA4P604-131	42
MA46480-134	37	MA4E20541-1141T	45	MA4L031-31	44	MA4P604-255	39
MA46481-186	37	MA4E20541-1279T	45	MA4L031-36	44	MA4P604-258	41
MA46483-186	37	MA4E2054A1-287T	45	MA4L032-1056	44	MA4P604-30	41
MA46580-1209	37	MA4E2054B1-1146T	45	MA4L032-134	44	MA4P606-131	39
MA46585-1209	37	MA4E2054B1-287T	45	MA4L032-186	44	MA4P606-258	39
MA46600-134	36	MA4E2054C1-287T	45	MA4L032-31	44	MA4P606-30	39
MA46603-134	36	MA4E2054D1-287T	45	MA4L062-134	44	MA4P606-36	39
MA46603-276	36	MA4E2054L-1261	45	MA4L101-134	44	MA4P606-4	39
MA46H070-1056	36	MA4E2160	46	MA4L101-186	44	MA4P607-212	39
MA46H071-1056	36	MA4E2200A1-1141T	45	MA4L101-30	44	MA4P607-296	39
MA46H071-1088	36	MA4E2200B1-287T	45	MA4L301-1056	44	MA4P607-43	39
MA46H072-1056	36	MA4E2200D1-287T	45	MA4L301-1249	44	MA4P7001F-1072T	40
MA46H073-1056	36	MA4E2501L-1290	46	MA4L301-31	44	MA4P7002B-401T	39
MA46H120	36	MA4E2502H-1246	46	MA4L401-1056	44	MA4P7002F-1072T	40
MA46H146	36	MA4E2502L-1246	46	MA4L401-120	44	MA4P7006B-401T	40
MA46H200-1056	38	MA4E2502M-1246	46	MA4L401-134	44	MA4P7006F-1072T	40
MA46H201-1056	38	MA4E2508H-1112	46	MA4L401-30	44	MA4P709-150	39
MA46H201-1088	38	MA4E2508L-1112	46	MA4L401-31	44	MA4P7101B-401T	40
MA46H202-1056	38	MA4E2508M-1112	46	MA4M1050	71	MA4P7101F-1072T	40
MA46H202-1088	38	MA4E2513L-1289	46	MA4M1100	71	MA4P7102B-401T	39
MA46H203-1056	38	MA4E2514L-1116	46	MA4M2020	71	MA4P7102F-1072T	40

 Note: Part numbers are RoHS compliant ◆ indicates non-RoHS compliant

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MA4P7104F-1072T	40	MA4SPS421	42	MAAM-007724	27	MAAM28000-A1	24
MA4P7418-1072T	40	MA4SPS422	42	MAAM-007796	27	MAAM28000-A1G	24
MA4P7433-1141T	41	MA4SPS502	43	MAAM-007805	24	MAAM37000	26
MA4P7433-1146T	41	MA4SPS552	43	MAAM-007807	27	MAAM37000-A1	26
MA4P7433-287T	41	MA4ST1231-1141T	36	MAAM-007844-0CA801 ◆	31	MAAM37000-A1G	26
MA4P7433CA-1146T	41	MA4ST1241-1141T	36	MAAM-007947-CA3602 ◆	30	MAAM71100	25
MA4P7433CA-287T	41	MA4SW110	51	MAAM-007987-000CG2	50	MAAM71200	26
MA4P7433CK-1146T	41	MA4SW210	51	MAAM-008198-00A162	24	MAAM71200-H1	26
MA4P7433CK-287T	41	MA4SW210B-1	51	MAAM-008198-0CA162	33	MAAMSS0041	27
MA4P7433ST-1146T	40	MA4SW310	52	MAAM-008198-SMA162	33	MAAMSS0042	27
MA4P7433ST-287T	41	MA4SW310B-1	52	MAAM-008199-000A51	31	MAAMSS0044	27
MA4P7435NM-1091T	39	MA4SW410	53	MAAM-008200-000A83	28	MAAMSS0045	24
MA4P7436-1141T	41	MA4SW410B-1	53	MAAM-008317-CA7503 ◆	32	MAAMSS0060	27
MA4P7436-1146T	41	MA4SW424B-1	53	MAAM-008818	24	MAAMSS0067	27
MA4P7436-287T	41	MA4SW510	53	MAAM-008819	24	MAAP-008924	25
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Note: Part numbers are RoHS compliant ◆ indicates non-RoHS compliant

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MASW-004103-1365	53	MASWSS0136	52	MAVR-000409-0287FT	37	MRF10031	11
MASW-004240-13170	53	MASWSS0143	51	MAVR-001230-12790T	37	MRF1004MB	11
MASW-005100-1194	53	MASWSS0144	53	MAVR-001240-12790T	37	MRF10120	11
MASW-005102-13600	53	MASWSS0148	51	MAVR-001320-11410T	37	MRF10150	11
MASW-006102-13610	53	MASWSS0151	51	MAVR-001320-1146FT	37	MRF10350	11
MASW-006102-13610	53	MASWSS0157	51	MAVR-001320-12790T	37	MRF10502	11
MASW-007071-000100	52	MASWSS0161	51	MAVR-001330-11410T	37	MRF1090MB	11
MASW-007072-000100	51	MASWSS0162	51	MAVR-001330-1146FT	37	MRF1150MB	11
MASW-007074-000100	53	MASWSS0166	51	MAVR-001330-12790T	37	MRF134	13
MASW-007075-000100	51	MASWSS0167	52	MAVR-001340-11410T	37	MRF136	13
MASW-007107	52	MASWSS0169	52	MAVR-001340-1146FT	37	MRF136Y	13
MASW-007221	51	MASWSS0176	52	MAVR-001340-12790T	37	MRF137	13
MASW-007588	52	MASWSS0178	52	MAVR-001350-11410T	37	MRF140	13
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MASW-011043	52	MAVR-000230-0287FT	36	MC4507 ◆	59	MRF327	11
MASW-011052	51	MAVR-000230-11410T	36	MC4510 ◆	59	MRF392	11
MASW-011053	52	MAVR-000240-0287AT	36	MC4513 ◆	59	MRF393	11
MASW-011057• Reflective	52	MAVR-000240-11410T	36	MD-108-PIN ◆	56	MRF421	11
MASW-011067• Absorbtive	52	MAVR-000240-1146FT	36	MD-123-PIN ◆	56	MRF422	11
MASW-011068	51	MAVR-000250-0287AT	36	MD-148-PIN ◆	56	MRF426	11
MASW-011071• Absorbtive	52	MAVR-000250-0287FT	36	MD-149-PIN ◆	56	MRF428	11
MASW-011074• Asymmetrical	52	MAVR-000250-11410T	36	MD-158-PIN ◆	56	MRF429	11
MASW-011075• Asymmetrical	53	MAVR-000250-1146FT	36	MD-160-PIN ◆	56	MRF448	11
MASW-011087	53	MAVR-000250-12790T	36	MD-161-PIN ◆	56	MRF454	11
MASW2000	51	MAVR-000320-11410T	36	MD-169-PIN ◆	57	MRF455	11
MASW20000	51	MAVR-000330-11410T	36	MD-179-PIN ◆	57	MRF587	11
MASW4030G	51	MAVR-000340-11410T	36	MD-189-PIN ◆	57	MTH-50-PIN ◆	65
MASW4060G	53	MAVR-000350-11410T	36	MDC-162-SMA ◆	57	MTV-50-PIN ◆	65
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MASW6010G	51	MAVR-000401-0287FT	37	MDC-179-SMA ◆	57	MY50A ◆	59
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MY76HC ◆	57	PH1090-350L	11	SMA1	32	SMA76	32
MY77 ◆	58	PH1090-550S	11	SMA101	31	SMA76-1	32
MY77C ◆	58	PH1090-700B	11	SMA1021	29	SMA77	28
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MY83HC ◆	58	PH1214-100EL	12	SMA1211	33	SMA80	32
MY84 ◆	57	PH1214-110M	12	SMA1212	33	SMA80-1	31
MY84C ◆	58	PH1214-12M	12	SMA17	29	SMA81	31
MY85 ◆	59	PH1214-220M	12	SMA18-1	33	SMA81-1	31
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MY87 ◆	59	PH1214-25M	12	SMA181	28	SMA82	31
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NPT1007B	10	PH3135-25S	12	SMA45-1	34	SMRA69	29
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Note: Part numbers are RoHS compliant ◆ indicates non-RoHS compliant

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