



COAXIAL

High Power Amplifier

ZHL-100W-63+

Mini-Circuits

50Ω 100W 2500 to 6000 MHz

THE BIG DEAL

- Saturated Power 100W typ.
- Wide Bandwidth, 2500 to 6000 MHz
- High Gain, 58 dB typ.
- Unconditionally stable
- Self protected against excessive drive, high case temp., reverse polarity and shorting/unshorting
- Can withstand short and open circuit at output while delivering 50 watts



Generic photo used for illustration purposes only

Model No.	ZHL-100W-63+
Case Style	BT1834-3
Connectors	IN-SMA, OUT-N-TYPE

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our website for methodologies and qualifications

APPLICATIONS

- High Power Test Sets
- Burn-in set-ups
- Communications
- Radar

PRODUCT OVERVIEW

The ZHL-100W-63+ is a Class AB, high-power amplifier providing 100W saturated power over the 2500 to 6000 MHz band, ideal for a variety of high-power test setups as well as applications including communications, radar and more. The ruggedly-designed amplifier provides unconditional stability and built-in self-protection against reverse polarity and overheating. The amplifier's output stage is further protected in the event of a fault condition, allowing high power operation for up to 5 minutes into an OPEN or SHORT load (refer to the maximum input power specifications). Housed in a rugged aluminum alloy case measuring 6.0 x 9.1 x 1.2", the unit features SMA connectors and heat sink and fan attachment for cooling.

KEY FEATURES

Feature	Advantages
Wideband, usable from 2300 to 6200 MHz	Suitable for a broad range of high-power, wideband applications, including test setups, communications and defense applications.
High Gain, 58 dB typ.	Enables signal amplification to 100W output without the need for multiple gain stages.
Built-in self-protection	In instances of potentially-damaging overheating within the housing an automatic sensing feature signals the unit to power down.
Unconditional stability	Provides reliable performance independent of input and load conditions.

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 ECO-017770
 ZHL-100W-382-S+
 MCL NY
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ELECTRICAL SPECIFICATIONS AT 25°C

Parameter	Min.	Typ.	Max.	Units
Frequency Range	2500	—	6000	MHz
Gain ¹	52	58	64	dB
Gain Flatness ¹	—	±2.0	±3.5	dB
Output Power at 1dB compression	—	+43 ⁴	—	dBm
Output Power at Saturation	+47.5	+50 ⁴	—	dBm
Noise Figure	—	12	19	dB
Output third order intercept point ²	+44	+54	—	dBm
Input VSWR ¹	—	2.0	—	:1
Output VSWR ¹	—	1.2	—	:1
DC Supply Voltage	—	+30 ³	+32	V
Supply Current	—	8	22	A

1. Small signal input power -50 dBm typ.
2. Two tones, 26 dBm/tone, 1 MHz spacing.
3. Recommended Operating Voltage.
4. Power measured of fundamental tone only. Does not include power contribution of harmonic signals.

ABSOLUTE MAXIMUM RATINGS⁵

Parameter	Ratings
Operating Ambient Temperature (With Mini-Circuits' heatsink and fan)	0°C to +60°C
Storage Temperature	-55°C to +100°C
DC Voltage	+32V
Input RF Power (no damage)	+3 dBm ⁶ -15 dBm ⁷

5. Specifications apply to CW signals only permanent damage may occur if any of these limits are exceeded.
6. Into 50 ohm load
7. Into open or short load, for up to 5 minutes.





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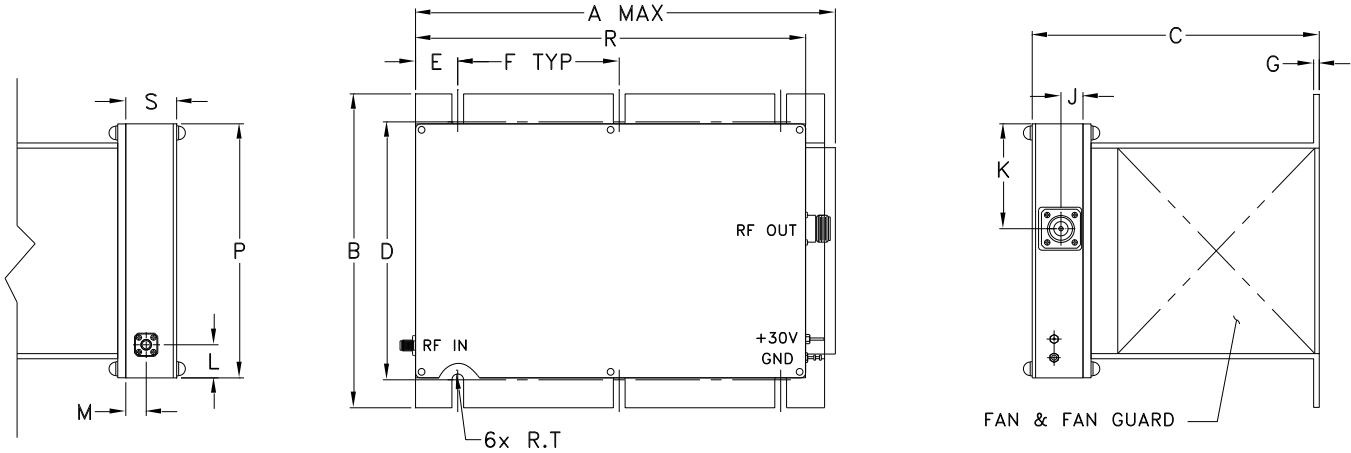
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OUTLINE DRAWING FOR MODELS WITH HEATSINK



OUTLINE DIMENSIONS (Inch/mm)

A	B	C	D	E	F	G	J	K	L	M	P	R	S	T	wt
9.85	7.30	6.60	6.00	0.98	3.75	0.13	0.51	2.44	0.59	0.47	5.91	9.06	1.18	0.14	grams*
250.19	185.42	167.64	152.4	24.89	95.25	3.30	13.0	62.1	15.0	12.0	150.0	230.0	30.0	3.43	5350

*1670 grams without heatsink



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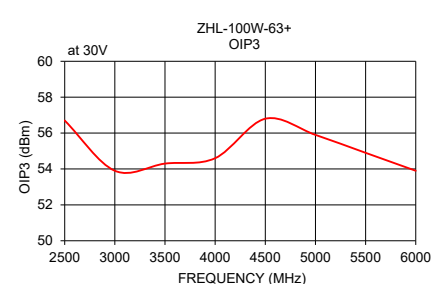
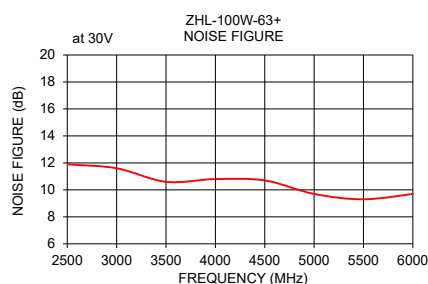
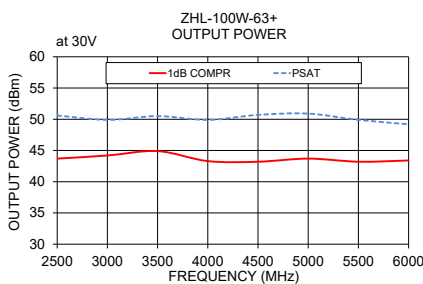
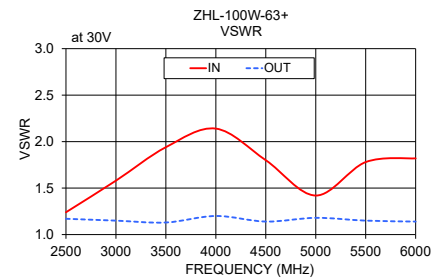
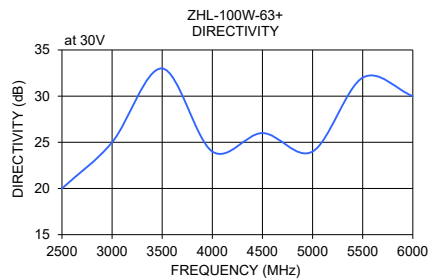
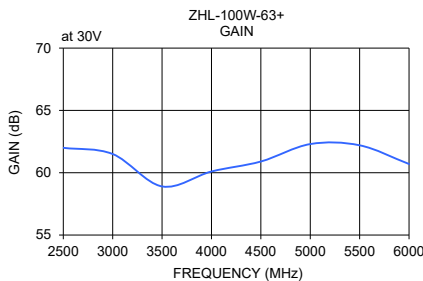
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TYPICAL PERFORMANCE DATA / GRAPHS

FREQUENCY (MHz)	GAIN (dB)	DIRECTIVITY (dB)	VSWR (:1)		POUT at 1 dB COMPR. (dBm)	POUT at Saturation (dBm)	NOISE FIGURE (dB)	OIP3 (dBm)
	30V	30V	IN	OUT	30V	30V	30V	30V
2500	62.0	20	1.24	1.17	43.7	50.6	11.9	56.7
3000	61.5	25	1.58	1.15	44.2	49.9	11.6	53.9
3500	58.9	33	1.94	1.13	44.9	50.5	10.6	54.3
4000	60.1	24	2.14	1.20	43.3	49.9	10.8	54.6
4500	60.9	26	1.80	1.14	43.2	50.7	10.7	56.8
5000	62.3	24	1.42	1.18	43.7	50.9	9.7	55.9
5500	62.2	32	1.78	1.15	43.2	49.9	9.3	54.9
6000	60.7	30	1.82	1.14	43.4	49.2	9.7	53.9



NOTES

- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the standard terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/terms/viewterm.html



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