THE DATASHEET OF

GRM188R60J106ME47D

Part Numbering

Chip Multilayer Ceramic Capacitors for General

(Part Number)

GRM	18	8	B1	1H	102	K	A01	D
❶	❷	❸	❹	❺	❻	❼	❽	❾

❶Series

Code	Series
GA2	Based on the Electrical Appliance and Material Safety Law of Japan Chip Multilayer Ceramic Capacitors for Consumer Electronics & Industrial Equipment
GCH	Chip Multilayer Ceramic Capacitors for Implanted Medical Equipment or Medical Equipment [GHTF D] (Non Life Support Circuit)
GJ4	Low Distortion Chip Multilayer Ceramic Capacitors for Consumer Electronics & Industrial Equipment
GJM	High Q Chip Multilayer Ceramic Capacitors for Consumer Electronics & Industrial Equipment (≦100Vdc)
GMA	Wire Bonding Mount Multilayer Microchip Capacitors for Consumer Electronics & Industrial Equipment
GMD	Wire Bonding/AuSn Soldering Mount Chip Multilayer Ceramic Capacitors for Consumer Electronics & Industrial Equipment
GQM	High Q and High Power Chip Multilayer Ceramic Capacitors for Consumer Electronics & Industrial Equipment (>100Vdc)
GR3	High Effective Capacitance & High Ripple Current Chip Multilayer Ceramic Capacitors for Consumer Electronics & Industrial Equipment
GR4	Chip Multilayer Ceramic Capacitors for Ethernet LAN and Primary-secondary Coupling of DC-DC Converters for Consumer Electronics & Industrial Equipment
	Chip Multilayer Ceramic Capacitors for Splitter Circuit of G-Fast, xDSL for Consumer Electronics & Industrial Equipment
GRJ	Chip Multilayer Ceramic Capacitors with Soft Termination for Consumer Electronics & Industrial Equipment
GRM	Chip Multilayer Ceramic Capacitors for Consumer Electronics & Industrial Equipment
	Chip Multilayer Ceramic Capacitors for LCD Backlight Inverter Circuit only
KR3	High Effective Capacitance & High Allowable Ripple Current Metal Terminal Type Multilayer Ceramic Capacitors for Consumer Electronics & Industrial Equipment
KRM	Metal Terminal Type Multilayer Ceramic Capacitors for Consumer Electronics & Industrial Equipment
LLA	8 Terminals Low ESL Chip Multilayer Ceramic Capacitors for Consumer Electronics & Industrial Equipment
LLL	LW Reversed Low ESL Chip Multilayer Ceramic Capacitors for Consumer Electronics & Industrial Equipment
ZRA	Low Acoustic Noise Chip Multilayer Ceramic Capacitors on Interposer Board for Consumer Electronics & Industrial Equipment
ZRB	Low Acoustic Noise Chip Multilayer Ceramic Capacitors on Interposer Board for Consumer Electronics & Industrial Equipment

❷Chip Dimensions (LxW)

Code	Dimensions (LxW)	EIA
01	0.25x0.125mm	008004
02	0.4x0.2mm	01005
0D	0.38x0.38mm	015015
MD	0.5x0.25mm	015008
03	0.6x0.3mm	0201
05	0.5x0.5mm	0202
08	0.8x0.8mm	0303
1U	0.6x1.0mm	02404
15	1.0x0.5mm	0402
18	1.6x0.8mm	0603
JN	1.8x1.0mm	0704
21	2.0x1.25mm	0805
	2.4x1.65mm (**ZRA** Only)	-
22	2.8x2.8mm	1111
31	3.2x1.6mm	1206
32	3.2x2.5mm	1210
42	4.5x2.0mm	1808
43	4.5x3.2mm	1812
55	5.7x5.0mm	2220

❸Dimension (T)

Except KR□		KR□ Only	
Code	Dimension (T)	Code	Dimension (T)
1	0.125mm	E	1.8mm
2	0.2mm	F	1.9mm
3	0.3mm	K	2.7mm
4	0.4mm	L	2.8mm
5	0.5mm	R	3.6mm
6	0.6mm	Q	3.7mm
7	0.7mm	T	4.8mm
8	0.8mm	V	6.2mm
9	0.85mm	W	6.4mm
A	1.0mm		
B	1.25mm		
C	1.6mm		
D	2.0mm		
E	2.5mm		
M	1.15mm		
Q	1.5mm		
S	0.16mm		
T	0.18mm		
X	Depends on individual standards.		
Y	0.135mm		

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❹Temperature Characteristics

Temperature Characteristic Codes			Temperature Characteristics			Operating Temperature Range	Capacitance Change Each Temperature (%)					
							−55°C		*4		−10°C	
Code	Public STD Code		Reference Temperature	Temperature Range	Capacitance Change or Temperature Coefficient		Max.	Min.	Max.	Min.	Max.	Min.
1X	SL	JIS	20°C	20 to 85°C	+350 to −1000ppm/°C	−55 to 125°C	-	-	-	-	-	-
2C	CH	JIS	20°C	20 to 125°C	0±60ppm/°C	−55 to 125°C	0.82	−0.45	0.49	−0.27	0.33	−0.18
3C	CJ	JIS	20°C	20 to 125°C	0±120ppm/°C	−55 to 125°C	1.37	−0.9	0.82	−0.54	0.55	−0.36
3U	UJ	JIS	20°C	20 to 85°C	−750±120ppm/°C	−25 to 85°C	-	-	4.94	2.84	3.29	1.89
4C	CK	JIS	20°C	20 to 125°C	0±250ppm/°C	−55 to 125°C	2.56	−1.88	1.54	−1.13	1.02	−0.75
5C	C0G	EIA	25°C	25 to 125°C	0±30ppm/°C	−55 to 125°C	0.58	−0.24	0.4	−0.17	0.25	−0.11
5G	X8G	*2	25°C	25 to 150°C	0±30ppm/°C	−55 to 150°C	0.58	−0.24	0.4	−0.17	0.25	−0.11
7U	U2J	EIA	25°C	25 to 125°C *3	−750±120ppm/°C	−55 to 125°C	8.78	5.04	6.04	3.47	3.84	2.21
B1	B *1	JIS	20°C	−25 to 85°C	±10%	−25 to 85°C	-	-	-	-	-	-
B3	B	JIS	20°C	−25 to 85°C	±10%	−25 to 85°C	-	-	-	-	-	-
C6	X5S	EIA	25°C	−55 to 85°C	±22%	−55 to 85°C	-	-	-	-	-	-
C7	X7S	EIA	25°C	−55 to 125°C	±22%	−55 to 125°C	-	-	-	-	-	-
C8	X6S	EIA	25°C	−55 to 105°C	±22%	−55 to 105°C	-	-	-	-	-	-
D7	X7T	EIA	25°C	−55 to 125°C	+22%, −33%	−55 to 125°C	-	-	-	-	-	-
D8	X6T	EIA	25°C	−55 to 105°C	+22%, −33%	−55 to 105°C	-	-	-	-	-	-
E7	X7U	EIA	25°C	−55 to 125°C	+22%, −56%	−55 to 125°C	-	-	-	-	-	-
L8	X8L	*2	25°C	−55 to 150°C	+15%, −40%	−55 to 150°C	-	-	-	-	-	-
R1	R *1	JIS	20°C	−55 to 125°C	±15%	−55 to 125°C	-	-	-	-	-	-
R6	X5R	EIA	25°C	−55 to 85°C	±15%	−55 to 85°C	-	-	-	-	-	-
R7	X7R	EIA	25°C	−55 to 125°C	±15%	−55 to 125°C	-	-	-	-	-	-
R8	R *1	*2	20°C	−25 to 85°C	±15%	−25 to 85°C	-	-	-	-	-	-
Z7	X7R	*2	25°C	−55 to 125°C	±15% *5	−55 to 125°C	-	-	-	-	-	-

*1 Capacitance change is specified with 50% rated voltage applied.
*2 Murata Temperature Characteristic Code.
*3 Rated Voltage 100Vdc max: 25 to 85°C
*4 −25°C (Reference Temperature 20°C) / −30°C (Reference Temperature 25°C)
*5 Range of capacitance change rate with 50% rated voltage applied (See detailed specifications sheet).

❺Rated Voltage

Code		Rated Voltage
Standard Product	Voltage Derated Product	
0E	-	2.5Vdc
0G	-	4Vdc
0J	-	6.3Vdc
1A	-	10Vdc
1C	-	16Vdc
1E	-	25Vdc
1H	-	50Vdc
1J	-	63Vdc
2A	EL	100Vdc
2D	-	200Vdc

Code		Rated Voltage
Standard Product	Voltage Derated Product	
2E	-	250Vdc
2W	LP	450Vdc
2H	LU	500Vdc
2J	LQ/LV	630Vdc
3A	LF/LW	1kVdc
3B	LG/LX	1.25kVdc
3D	-	2kVdc
3F	-	3.15kVdc
E2	-	250Vac
YA	-	35Vdc

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(Part Number)

GRM	18	8	B1	1H	102	K	A01	D
❶	❷	❸	❹	❺	❻	❼	❽	❾

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❻Capacitance

Expressed by three-digit alphanumerics. The unit is picofarad (pF). The first and second figures are significant digits, and the third figure expresses the number of zeros which follow the two numbers. If there is a decimal point, it is expressed by the capital letter "**R**." In this case, all figures are significant digits.
If any alphabet, other than "**R**", is included, this indicates the specific part number is a non-standard part.

Ex.)

Code	Capacitance
R50	0.50pF
1R0	1.0pF
100	10pF
103	10000pF

❼Capacitance Tolerance

Code	Capacitance Tolerance
B	±0.1pF
C	±0.25pF
D	±0.5pF (Less than 10pF)
	±0.5% (10pF and over)
F	±1%
G	±2%
J	±5%
K	±10%
M	±20%
R	Depends on individual standards.
W	±0.05pF

❽Individual Specification Code

Expressed by three figures.

❾Packaging

Code	Packaging
L	ø180mm Embossed Taping
D/E/W	ø180mm Paper Taping
K	ø330mm Embossed Taping
J/F	ø330mm Paper Taping
T	Bulk Tray

Please contact us if you find any part number not provided in this table.

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