

● Part Numbering

Chip Monolithic Ceramic Capacitors

(Part Number)

GR	M	18	8	B1	1H	102	K	A01	D
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①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩
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① Product ID

② Series

Product ID	Code	Series
GR	J	Soft Termination Type
	M	Tin Plated Layer
	3	Large Capacitance and High Allowable Ripple Current
	4	Only for Information Devices
	7	Only for Camera Flash Circuit
GQ	M	High Frequency for Flow/Reflow Soldering
GM	A	Monolithic Microchip
	D	For Bonding
GN	M	Capacitor Array
LL	L	Low ESL Type
	R	Controlled ESR Low ESL Type
	A	8-termination Low ESL Type
	M	10-termination Low ESL Type
GJ	M	High Frequency Low Loss Type
	4	Low Distortion Type
	8	Low Acoustic Type
GA	2	For AC250V (r.m.s.)
	3	Safety Standard Certified Type
GW	M	For Decoupling

③ Dimensions (L×W)

Code	Dimensions (L×W)	EIA
02	0.4×0.2mm	01005
03	0.6×0.3mm	0201
05	0.5×0.5mm	0202
08	0.8×0.8mm	0303
0D	0.38×0.38mm	015015
0M	0.9×0.6mm	0302
15	1.0×0.5mm	0402
18	1.6×0.8mm	0603
1M	1.37×1.0mm	0504
1U	0.6×1.0mm	02404
21	2.0×1.25mm	0805
22	2.8×2.8mm	1111
31	3.2×1.6mm	1206
32	3.2×2.5mm	1210
42	4.5×2.0mm	1808
43	4.5×3.2mm	1812
52	5.7×2.8mm	2211
55	5.7×5.0mm	2220

④ Dimension (T) (Except GNM)

Code	Dimension (T)
2	0.2mm
3	0.3mm
4	0.4mm
5	0.5mm
6	0.6mm
7	0.7mm
8	0.8mm
9	0.85mm
A	1.0mm
B	1.25mm
C	1.6mm
D	2.0mm
E	2.5mm
F	3.2mm
M	1.15mm
N	1.35mm
Q	1.5mm
R	1.8mm
S	2.8mm
X	Depends on individual standards.

④ Elements (GNM Only)

Code	Elements
2	2-elements
4	4-elements

Continued on the following page. 

Continued from the preceding page.

⑤ Temperature Characteristics

Temperature Characteristic Codes			Temperature Characteristics			Operating Temperature Range	Capacitance Change Each Temperature (%)					
Code	Public STD Code						Reference Temperature	Temperature Range	Capacitance Change or Temperature Coefficient	-55°C		-25°C
			Max.	Min.	Max.					Min.	Max.	Min.
0C	CHA	*2	20°C	20 to 150°C	0±60ppm/°C	-55 to 150°C	0.82	-0.45	0.49	-0.27	0.33	-0.18
1C	CG	JIS	20°C	20 to 125°C	0±30ppm/°C	-55 to 125°C	0.54	-0.23	0.33	-0.14	0.22	-0.09
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
2P	PH	JIS	20°C	20 to 85°C	-150±60ppm/°C	-25 to 85°C	-	-	1.32	0.41	0.88	0.27
2R	RH	JIS	20°C	20 to 85°C	-220±60ppm/°C	-25 to 85°C	-	-	1.7	0.72	1.13	0.48
2S	SH	JIS	20°C	20 to 85°C	-330±60ppm/°C	-25 to 85°C	-	-	2.3	1.22	1.54	0.81
2T	TH	JIS	20°C	20 to 85°C	-470±60ppm/°C	-25 to 85°C	-	-	3.07	1.85	2.05	1.23
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
3P	PJ	JIS	20°C	20 to 85°C	-150±120ppm/°C	-25 to 85°C	-	-	1.65	0.14	1.1	0.09
3R	RJ	JIS	20°C	20 to 85°C	-220±120ppm/°C	-25 to 85°C	-	-	2.03	0.45	1.35	0.3
3S	SJ	JIS	20°C	20 to 85°C	-330±120ppm/°C	-25 to 85°C	-	-	2.63	0.95	1.76	0.63
3T	TJ	JIS	20°C	20 to 85°C	-470±120ppm/°C	-25 to 85°C	-	-	3.4	1.58	2.27	1.05
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
4P	PK	JIS	20°C	20 to 85°C	-150±250ppm/°C	-25 to 85°C	-	-	2.36	-0.45	1.57	-0.3
4R	RK	JIS	20°C	20 to 85°C	-220±250ppm/°C	-25 to 85°C	-	-	2.74	-0.14	1.83	-0.09
4S	SK	JIS	20°C	20 to 85°C	-330±250ppm/°C	-25 to 85°C	-	-	3.35	0.36	2.23	0.24
4T	TK	JIS	20°C	20 to 85°C	-470±250ppm/°C	-25 to 85°C	-	-	4.12	0.99	2.74	0.66
4U	UK	JIS	20°C	20 to 85°C	-750±250ppm/°C	-25 to 85°C	-	-	5.65	2.25	3.77	1.5
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
6C	C0H	EIA	25°C	25 to 125°C	0±60ppm/°C	-55 to 125°C	0.87	-0.48	0.59	-0.33	0.38	-0.21
6P	P2H	EIA	25°C	25 to 85°C	-150±60ppm/°C	-55 to 125°C	2.33	0.72	1.61	0.5	1.02	0.32
6R	R2H	EIA	25°C	25 to 85°C	-220±60ppm/°C	-55 to 125°C	3.02	1.28	2.08	0.88	1.32	0.56
6S	S2H	EIA	25°C	25 to 85°C	-330±60ppm/°C	-55 to 125°C	4.09	2.16	2.81	1.49	1.79	0.95
6T	T2H	EIA	25°C	25 to 85°C	-470±60ppm/°C	-55 to 125°C	5.46	3.28	3.75	2.26	2.39	1.44
7U	U2J	EIA	25°C	25 to 125°C *5	-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	-	-	-	-	-	-
C3	C	JIS	20°C	-25 to 85°C	±20%	-25 to 125°C	-	-	-	-	-	-
				85 to 125°C	+15%, -30%		-	-	-	-	-	-
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	-	-	-	-	-	-
D3	D	JIS	20°C	-25 to 125°C	+20%, -30%	-25 to 85°C	-	-	-	-	-	-
D6	X5T	EIA	25°C	-55 to 125°C	+22%, -33%	-55 to 125°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	-	-	-	-	-	-
E1	E (1/2Ur)	JIS	20°C	-25 to 85°C	+20%, -55%	-25 to 85°C	-	-	-	-	-	-
E4	Z5U	EIA	25°C	10 to 85°C	+22%, -56%	10 to 85°C	-	-	-	-	-	-
E7	X7U	EIA	25°C	-55 to 125°C	+22%, -56%	-55 to 125°C	-	-	-	-	-	-
F1	F *1	JIS	20°C	-25 to 85°C	+30%, -80%	-25 to 85°C	-	-	-	-	-	-
F4	Z5V	EIA	25°C	10 to 85°C	+22%, -82%	-20 to 85°C	-	-	-	-	-	-
F5	Y5V	EIA	25°C	-30 to 85°C	+22%, -82%	-30 to 85°C	-	-	-	-	-	-
J1	JA	*2	20°C	-25 to 105°C	-20% max.	-25 to 105°C	-	-	-	-	-	-
L8	X8L	*2	25°C	-55 to 150°C	+15%, -40%	-55 to 150°C	-	-	-	-	-	-

*1 Capacitance change is specified with 50% rated voltage applied.

*2 Murata Temperature Characteristic Code.

*5 Rated Voltage 100Vdc max: 25 to 85°C

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Temperature Characteristic Codes			Temperature Characteristics			Operating Temperature Range	Capacitance Change Each Temperature (%)					
Code	Public STD Code	Reference Temperature	Temperature Range	Capacitance Change or Temperature Coefficient	-55°C		-25°C		-10°C			
					Max.		Min.	Max.	Min.	Max.	Min.	
R1	R *1	JIS	20°C	-55 to 125°C	±15%	-55 to 125°C	-	-	-	-	-	-
R3	R	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	JIS	20°C	-25 to 85°C	±15%	-25 to 85°C	-	-	-	-	-	-
R9	X8R	EIA	25°C	-55 to 150°C	±15%	-55 to 150°C	-	-	-	-	-	-
W0	-	*2	25°C	-55 to 125°C	±10% *3	-55 to 125°C	-	-	-	-	-	-
					+22%, -33% *4		-	-	-	-	-	-

*1 Capacitance change is specified with 50% rated voltage applied.

*2 Murata Temperature Characteristic Code.

*3 Apply DC350V bias.

*4 No DC bias.

⑥ Rated Voltage

Code	Rated Voltage
0E	DC2.5V
0G	DC4V
0J	DC6.3V
1A	DC10V
1C	DC16V
1E	DC25V
YA	DC35V
1H	DC50V
2A	DC100V
2D	DC200V
2E	DC250V
YD	DC300V
2W	DC450V
2H	DC500V
2J	DC630V
3A	DC1kV
3D	DC2kV
3F	DC3.15kV
BB	DC350V (for Camera Flash Circuit)
E2	AC250V
GC	X1/Y2; AC250V (Safety Standard Certified Type GC)
GF	Y2, X1/Y2; AC250V (Safety Standard Certified Type GF)
GD	Y3; AC250V (Safety Standard Certified Type GD)
GB	X2; AC250V (Safety Standard Certified Type GB)

⑦ Capacitance

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	0.5pF
	1R0	1.0pF
	100	10pF
	103	10000pF

⑧ Capacitance Tolerance

Code	Capacitance Tolerance
B	±0.1pF
C	±0.25pF
D	±0.5pF (10pF and below)
	±0.5% (10pF and over)
F	±1%
G	±2%
J	±5%
K	±10%
M	±20%
N	±30%
R	Depends on individual standards.
W	±0.05pF
X	Depends on individual standards.
Y	Depends on individual standards.
Z	+80/-20%

⑨ Individual Specification Code (Except LLR)

Expressed by three figures.

⑨ ESR (LLR Only)

Code	ESR
E01	100mΩ
E03	220mΩ
E05	470mΩ
E07	1000mΩ

⑩ Packaging

Code	Packaging
L	ø180mm Embossed Taping
D	ø180mm Paper Taping
E	ø180mm Paper Taping (LLL15)
K	ø330mm Embossed Taping
J	ø330mm Paper Taping
F	ø330mm Paper Taping (LLL15)
B	Bulk
C	Bulk Case
T	Bulk Tray

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