Part Numbering

Chip Monolithic Ceramic Capacitors for General

(Part Number)

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

❶Product ID ❷Series

Product ID	Code	Series
GA	2	Products based on the Electrical Appliance and Material Safety Law of Japan
	3	Safety standard certified type
GJ	4	Audio signal low distortion type
	8	Acoustic noise reduction type
	M	High Q type for High frequency
GM	A	Top & bottom electrode type for bonding
	D	Product for bonding/AuSn soldering
GQ	M	High Q type for High frequency and High power
GR	3	High effective capacitance & High allowable ripple current
	4	For Ethernet LAN & primary-secondary coupling of DC-DC converters
	7	Product limited to camera flash units
	J	Resin external electrode type
	M	General purpose products
KR	3	Metal terminal type/High effective capacitance & High allowable ripple current
	M	Metal terminal type
LL	A	8 terminal low ESL type
	L	LW reversed low ESL type
	M	10 terminal low ESL type
	R	ESR controlled low ESL type
ZR	A	On interposer substrates (Chip < interposer substrates)
	B	On interposer substrates (Chip ≧ interposer substrates)

❸Chip Dimensions (L×W) (Except **ZRA**)

Code	Dimensions (L×W)	EIA
01	0.25×0.125mm	008004
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
15	1.0×0.5mm	0402
18	1.6×0.8mm	0603
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

❸Dimensions (L×W) (**ZRA** Only)

Code	Dimensions (L×W)
21	2.4×1.65mm

❹Height Dimension (T) (Except **KR**□)

Code	Dimension (T)
1	0.125mm
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
M	1.15mm
N	1.35mm
Q	1.5mm
R	1.8mm
S	2.8mm
X	Depends on individual standards.

❹Height Dimension (T) (**KR**□ Only)

Code	Dimension (T)
E	1.8mm
F	1.9mm
K	2.7mm
L	2.8mm
Q	3.7mm
T	4.8mm
W	6.4mm

Continued on the following page.

(Part Number) GR M 18 8 B1 1H 102 K A01 D
❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿

Continued from the preceding page.

❺Temperature 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		*6		–10°C	
							Max.	Min.	Max.	Min.	Max.	Min.
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
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
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
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
9C	CGJ	*2	20°C	20 to 85°C	0±30ppm/°C	–55 to 85°C	0.54	–0.23	0.33	–0.14	0.22	–0.09
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	-	-	-	-	-	-
D6	X5T	EIA	25°C	–55 to 85°C	+22%, –33%	–55 to 85°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	-	-	-	-	-	-
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	JIS	20°C	–25 to 85°C	±15%	–25 to 85°C	-	-	-	-	-	-
W0	X7T	EIA	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.
*5 Rated Voltage 100Vdc max: 25 to 85°C
*6 –25°C (Reference Temperature 20°C) / –30°C (Reference Temperature 25°C)

Continued on the following page.

(Part Number)

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

Continued from the preceding page.

❻Rated Voltage

Code	Rated Voltage
0E	DC2.5V
0G	DC4V
0J	DC6.3V
1A	DC10V
1C	DC16V
1D	DC20V
1E	DC25V
1H	DC50V
1J	DC63V
1K	DC80V
2A	DC100V
2D	DC200V
2E	DC250V
2W	DC450V
2H	DC500V
2J	DC630V
3A	DC1kV
3D	DC2kV
3F	DC3.15kV
BB	DC350V
E2	AC250V
GB	X2; AC250V (Safety Standard Certified Type GB)
GD	Y3; AC250V (Safety Standard Certified Type GD)
GF	Y2, X1/Y2; AC250V (Safety Standard Certified Type GF)
YA	DC35V

❼Capacitance

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

❽Capacitance 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%
R	Depends on individual standards.
W	±0.05pF

❾Individual Specification Code (Except **LLR**)

Expressed by three figures.

❾ESR (**LLR** Only)

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

❿Packaging

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

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