

## ● Part Numbering

### Chip Multilayer Ceramic Capacitors for Automotive

(Part Number)

<b>GC</b>	<b>M</b>	<b>18</b>	<b>8</b>	<b>R7</b>	<b>1H</b>	<b>102</b>	<b>K</b>	<b>A37</b>	<b>D</b>
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩

① Product ID ② Series

Product ID	Code	Series
<b>GC</b>	<b>3</b>	High Effective Capacitance & High Ripple Current Chip Multilayer Ceramic Capacitors for Automotive
	<b>B</b>	Ni Plating + Pd Plating termination Conductive Glue Mounting Chip Multilayer Ceramic Capacitors for Automotive
	<b>D</b>	MLSC Design Chip Multilayer Ceramic Capacitors for Automotive
	<b>E</b>	Soft Termination MLSC Design Chip Multilayer Ceramic Capacitors for Automotive
	<b>G</b>	AgPd Termination Conductive Glue Mounting Chip Multilayer Ceramic Capacitors for Automotive
	<b>J</b>	Soft Termination Chip Multilayer Ceramic Capacitors for Automotive
	<b>M</b>	Chip Multilayer Ceramic Capacitors for Automotive
	<b>Q</b>	High Q Chip Multilayer Ceramic Capacitors for Automotive
<b>GR</b>	<b>T</b>	AEC-Q200 Compliant Chip Multilayer Ceramic Capacitors for Infotainment
<b>KC</b>	<b>3</b>	High Effective Capacitance & High Allowable Ripple Current Metal Terminal Type Multilayer Ceramic Capacitors for Automotive
	<b>A</b>	Safety Standard Certified Metal Terminal Type Multilayer Ceramic Capacitors for Automotive
	<b>M</b>	Metal Terminal Type Multilayer Ceramic Capacitors for Automotive
<b>LL</b>	<b>C</b>	LW Reversed Low ESL Chip Multilayer Ceramic Capacitors for Automotive

③ Chip Dimension (L x W)

Code	Dimension (L x W)	EIA
<b>03</b>	0.6 x 0.3mm	0201
<b>15</b>	1.0 x 0.5mm	0402
<b>18</b>	1.6 x 0.8mm	0603
<b>21</b>	2.0 x 1.25mm	0805
<b>31</b>	3.2 x 1.6mm	1206
<b>32</b>	3.2 x 2.5mm	1210
<b>43</b>	4.5 x 3.2mm	1812
<b>55</b>	5.7 x 5.0mm	2220

④ Height Dimension (T) (Except **KC**)

Code	Dimension (T)
<b>2</b>	0.2mm
<b>3</b>	0.3mm
<b>5</b>	0.5mm
<b>6</b>	0.6mm
<b>8</b>	0.8mm
<b>9</b>	0.85mm
<b>A</b>	1.0mm
<b>B</b>	1.25mm
<b>C</b>	1.6mm
<b>D</b>	2.0mm
<b>E</b>	2.5mm
<b>M</b>	1.15mm
<b>N</b>	1.35mm
<b>Q</b>	1.5mm
<b>X</b>	Depends on individual standards.

④ Height Dimension (T) (**KC** Only)

Code	Dimension (T)
<b>L</b>	2.8mm
<b>R</b>	3.6mm
<b>Q</b>	3.7mm
<b>T</b>	4.8mm
<b>V</b>	6.2mm
<b>W</b>	6.4mm

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(Part Number)

GC	M	18	8	R7	1H	102	K	A37	D
1	2	3	4	5	6	7	8	9	10

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## 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		*4		-10°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
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
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
9E	ZLM	*2	20°C	-55 to -40°C	-4700+1000/-2500ppm/°C	-55 to 125°C	-	-	-	-	-	-
				-40 to 20°C	-5350±750ppm/°C		-	-	-	-	-	-
				20 to 85°C	-4700±500ppm/°C		-	-	-	-	-	-
				85 to 125°C	-4700+2000/-1000ppm/°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	-	-	-	-	-	-
L8	X8L	*2	25°C	-55 to 150°C	+15%, -40%	-55 to 150°C	-	-	-	-	-	-
M8	X8M	*2	25°C	-55 to 150°C	+15%, -50%	-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	-	-	-	-	-	-
R9	X8R	EIA	25°C	-55 to 150°C	±15%	-55 to 150°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)

## ⑥ Rated Voltage

Code		Rated Voltage
Standard Product	Voltage Derated Product	
0E	-	DC2.5V
0G	-	DC4V
0J	EC	DC6.3V
1A	ED	DC10V
1C	EE	DC16V
1E	EF	DC25V
YA	EG	DC35V
1H	EH	DC50V
1J	-	DC63V
1K	-	DC80V
2A	EL	DC100V
2E	-	DC250V
2W	LP	DC450V
2J	LQ	DC630V
3A	-	DC1kV
MF	-	X1/Y2: AC250V (Safety Standard Certified Type MF)

## ⑦ Capacitance

Expressed by three-digit alphanumerics. The unit is pico-farad (pF). The first and second figures are significant digits, and the third figure expresses the number of zeros that 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 letter, 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

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(Part Number)

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Continued from the preceding page. ↘

③ Capacitance 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

⑨ Individual Specification Code

Expressed by three figures.

⑩ Package

Code	Package
L	ø180mm Embossed Taping
D/W	ø180mm Paper Taping
K	ø330mm Embossed Taping
J	ø330mm Paper Taping

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

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