Part Numbering

Chip Multilayer Ceramic Capacitors for Automotive

(Part Number)

GC	M	18	8	R7	1H	102	K	A37	D
❶	❷	❸	❹	❺	❻	❼	❽	❾	❿

❶Product ID ❷Series

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

❸Chip Dimension (L x W)

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

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

Code	Dimension (T)
2	0.2mm
3	0.3mm
5	0.5mm
6	0.6mm
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
X	Depends on individual standards.

❹Height Dimension (T) (**KC**□ Only)

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

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❺Temperature 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.
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)

❻Rated 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)

❼Capacitance

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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❽Capacitance 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

❾Individual Specification Code

Expressed by three figures.

❿Package

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.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Murata:

GRJ31BR73A681KWJ1L GRJ55DR72E684KWJ1L GRJ55DR73A683KWJ1L GRJ55DR72J224KWJ1L GRJ21AR72E102KWJ1D GRJ21AR72E152KWJ1D GRJ21AR72E222KWJ1D GRJ21AR72E332KWJ1D GRJ21AR72E472KWJ1D GRJ21AR72E682KWJ1D GRJ21BR72E103KWJ3L GRJ31BR72E153KWJ1L GRJ31BR72E223KWJ1L GRJ31BR72E683KWJ1L GRJ31BR72J102KWJ1L GRJ31BR72J103KWJ1L GRJ31BR72J152KWJ1L GRJ31BR72J222KWJ1L GRJ31BR72J332KWJ1L GRJ31BR72J472KWJ1L GRJ31BR72J682KWJ1L GRJ31BR73A102KWJ1L GRJ31BR73A152KWJ1L GRJ31BR73A222KWJ1L GRJ31BR73A332KWJ1L GRJ31BR73A471KWJ1L GRJ31BR73A472KWJ1L GRJ31CR72E104KWJ3L GRJ31CR72E333KWJ3L GRJ31CR72E473KWJ3L GRJ31CR72J153KWJ3L GRJ32DR72E104KWJ1L GRJ32DR72E224KWJ1L GRJ32DR72J333KWJ1L GRJ32DR72J473KWJ1L GRJ32DR73A153KWJ1L GRJ32DR73A223KWJ1L GRJ32QR72E154KWJ1L GRJ32QR72E683KWJ1L GRJ32QR72J223KWJ1L GRJ32QR73A103KWJ1L GRJ32QR73A682KWJ1L GRJ43DR72E224KWJ1L GRJ43DR72E334KWJ1L GRJ43DR72E474KWJ1L GRJ43DR72J104KWJ1L GRJ43DR73A333KWJ1L GRJ43DR73A473KWJ1L GRJ43QR72E154KWJ1L GRJ43QR72J683KWJ1L GRJ55DR72E105KWJ1L GRJ55DR72E334KWJ1L GRJ55DR72E474KWJ1L GRJ55DR72J154KWJ1L GRJ55DR73A104KWJ1L GRJ21BR72E153KWJ3L GRJ31CR73A682KWJ3L GRJ21BR72E223KWJ3L GRJ31CR72J223KWJ3L GRJ31CR73A103KWJ3L GRJ32EC71H106KE11L GRJ32ER71C226KE11L GRJ32ER71A226KE11L GRJ32ER70J476KE11L GRJ32ER71E106KE11L GRJ32DC72A475KE11L GRJ32ER71H475KE11L GRJ31CR71E106KE11L GRJ31CR71H475KE11L GRJ188R71E224KE11D GRJ188R72A223KE11D GRJ216R71H223KE01D GRJ188R71H102KE11D GRJ188R71H222KE11D GRJ188R71C474KE11D GRJ216R72A222KE01D GRJ21BR71H473KE01L GRJ31CC71E106KE11L GRJ21BR72A104KE01L GRJ31MR71C225KE11L GRJ188R72A472KE11D GRJ319R72A104KE11L GRJ31CR70J226KE12L GRJ188R72A104KE11D GRJ188R71H472KE11D GRJ31MR71E105KE01L GRJ31MR71H105KE01L GRJ21BR72A473KE01L GRJ31CR71E475KE11L GRJ21BR71H104KE01L GRJ31MR71E225KE11L GRJ188R71E473KE11D GRJ216R71H471KE01D GRJ21BR71E225KE01L GRJ31MR71H474KE01L GRJ188R71E105KE11D GRJ31CR71A226KE12L GRJ188R61C105KE11D GRJ216R71H472KE01D GRJ216R72A472KE01D