GRM21-0805-Sample-Kit

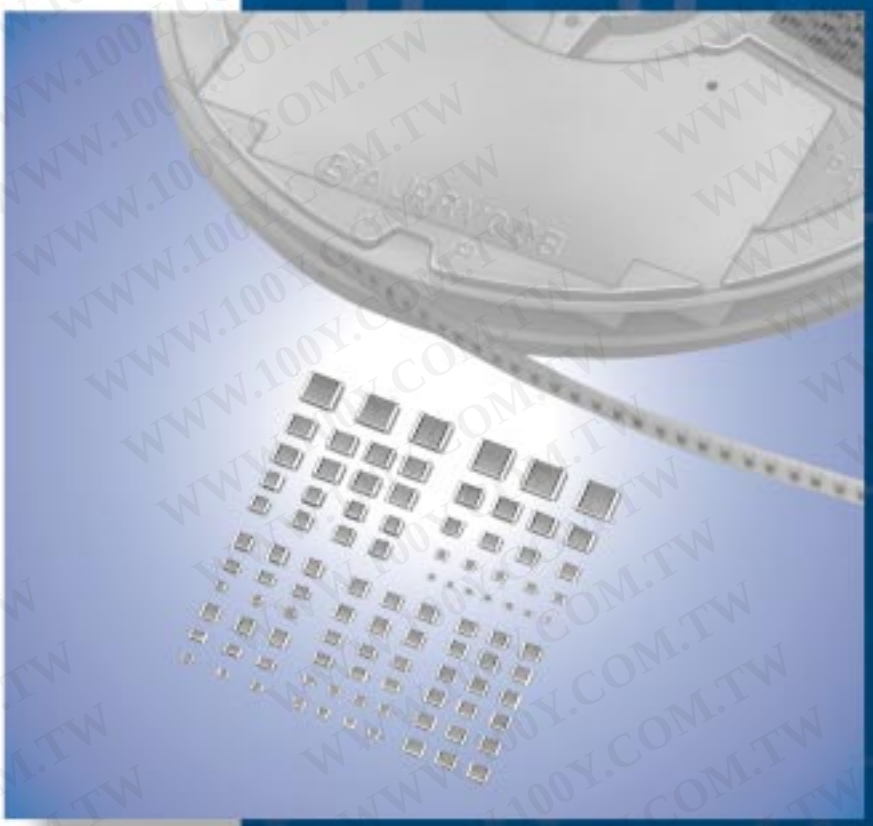
概述:Murata GRM21 系列
共 92 種型號，每種 50 顆，一共 4600 顆。
0805 貼片電容樣品本 詳細清單

序號	物料描述	型號
1	C0805,0.5pF±0.25pF 50V C0G	GRM2165C1HR50CD01D
2	C0805,0.75pF±0.25pF 50V C0G	GRM2165C1HR75CD01D
3	C0805,1pF±0.25pF 50V C0G	GRM2165C1H1R0CD01D
4	C0805,1.2pF±0.25pF 50V C0G	GRM2165C1H1R2CD01D
5	C0805,1.5pF±0.25pF 50V C0G	GRM2165C1H1R5CD01D
6	C0805,1.6pF±0.25pF 50V C0G	GRM2165C1H1R6CZ01D
7	C0805,1.8pF±0.25pF 50V C0G	GRM2165C1H1R8CA01D
8	C0805,2pF±0.25pF 50V C0G	GRM2165C1H2R0CA01D
9	C0805,2.2pF±0.25pF 50V C0G	GRM2165C1H2R2CA01D
10	C0805,2.4pF±0.25pF 50V C0G	GRM2165C1H2R4CD01D
11	C0805,2.5pF±0.25pF 50V C0G	GRM2165C1H2R5CA01D
12	C0805,2.7pF±0.25pF 50V C0G	GRM2165C1H2R7CD01D
13	C0805,3pF±0.25pF 50V C0G	GRM2165C1H3R0CD01D
14	C0805,3.3pF±0.25pF 50V C0G	GRM2165C1H3R3CD01D
15	C0805,3.6pF±0.25pF 50V C0G	GRM2165C1H3R6CD01D
16	C0805,3.9pF±0.25pF 50V C0G	GRM2165C1H3R9CD01D
17	C0805,4pF±0.25pF 50V C0G	GRM2165C1H4R0CD01D
18	C0805,4.3pF±0.25pF 50V C0G	GRM2165C1H4R3CD01D
19	C0805,4.7pF±0.25pF 50V C0G	GRM2165C1H4R7CA01D
20	C0805,5pF±0.25pF 50V C0G	GRM2165C1H5R0CD01D
21	C0805,5.1pF±0.5pF 50V C0G	GRM2165C1H5R1DD01D
22	C0805,5.6pF±0.5pF 50V C0G	GRM2165C1H5R6DD01D
23	C0805,6pF±0.5pF 50V C0G	GRM2165C1H6R0DD01D
24	C0805,6.2pF±0.5pF 50V C0G	GRM2165C1H6R2DD01D
25	C0805,6.8pF±0.5pF 50V C0G	GRM2165C1H6R8DD01D
26	C0805,7pF±0.25pF 50V C0G	GRM2165C1H7R0CA01D
27	C0805,7.5pF±0.5pF 50V C0G	GRM2165C1H7R5DZ01D
28	C0805,8pF±0.5pF 50V C0G	GRM2165C1H8R0DZ01D
29	C0805,8.2pF±0.5pF 50V C0G	GRM2165C1H8R2DZ01D
30	C0805,9pF±0.5pF 50V C0G	GRM2165C1H9R0DZ01D
31	C0805,10pF±5% 50V C0G	GRM2165C1H100JZ01D
32	C0805,11pF±5% 50V C0G	GRM2165C1H110JZ01D
33	C0805,12pF±5% 50V C0G	GRM2165C1H120JZ01D
34	C0805,13pF±5% 50V C0G	GRM2165C1H130JZ01D
35	C0805,15pF±5% 50V C0G	GRM2165C1H150JZ01D

36	C0805,16pF±5% 50V C0G	GRM2165C1H160JA01D
37	C0805,18pF±5% 50V C0G	GRM2165C1H180JZ01D
38	C0805,20pF±5% 50V C0G	GRM2165C1H200JZ01D
39	C0805,22pF±5% 50V C0G	GRM2165C1H220JZ01D
40	C0805,24pF±5% 50V C0G	GRM2165C1H240JZ01D
41	C0805,27pF±5% 50V C0G	GRM2165C1H270JZ01D
42	C0805,30pF±5% 50V C0G	GRM2165C1H300JZ01D
43	C0805,33pF±5% 50V C0G	GRM2165C1H330JZ01D
44	C0805,36pF±5% 50V C0G	GRM2165C1H360JZ01D
45	C0805,39pF±5% 50V C0G	GRM2165C1H390JZ01D
46	C0805,43pF±5% 50V C0G	GRM2165C1H430JZ01D
47	C0805,47pF±5% 50V C0G	GRM2165C1H470JZ01D
48	C0805,51pF±5% 50V C0G	GRM2165C1H510JZ01D
49	C0805,56pF±5% 50V C0G	GRM2165C1H560JZ01D
50	C0805,62pF±5% 50V C0G	GRM2165C1H620JZ01D
51	C0805,68pF±5% 50V C0G	GRM2165C1H680JZ01D
52	C0805,75pF±5% 50V C0G	GRM2165C1H750JA01D
53	C0805,82pF±5% 50V C0G	GRM2165C1H820JZ01D
54	C0805,91pF±5% 50V C0G	GRM2165C1H910JZ01D
55	C0805,100pF±5% 50V C0G	GRM2165C1H101JA01D
56	C0805,120pF±5% 50V C0G	GRM2165C1H121JA01D
57	C0805,150pF±5% 50V C0G	GRM2165C1H151JA01D
58	C0805,180pF±5% 50V C0G	GRM2165C1H181JA01D
59	C0805,200pF±5% 50V C0G	GRM2165C1H201JA01D
60	C0805,220pF±10% 50V X7R	GRM216R71H221KA01D
61	C0805,270pF±10% 50V X7R	GRM216R71H271KA01D
62	C0805,330pF±10% 50V X7R	GRM216R71H331KA01D
63	C0805,360pF±10% 50V X7R	GRM216R71H361KA01D
64	C0805,390pF±10% 50V X7R	GRM216R71H391KA01D
65	C0805,470pF±10% 50V X7R	GRM216R71H471KA01D
66	C0805,560pF±10% 50V X7R	GRM216R71H561KA01D
67	C0805,680pF±10% 50V X7R	GRM216R71H681KA01D
68	C0805,820pF±10% 50V X7R	GRM216R71H821KA01D
69	C0805,1nF±10% 50V X7R	GRM216R71H102KA01D
70	C0805,1.2nF±10% 50V X7R	GRM216R71H122KA01D
71	C0805,1.5nF±10% 50V X7R	GRM216R71H152KA01D
72	C0805,2.2nF±10% 50V X7R	GRM216R71H222KA01D
73	C0805,3.3nF±10% 50V X7R	GRM216R71H332KA01D
74	C0805,4.7nF±10% 50V X7R	GRM216R71H472KA01D
75	C0805,6.8nF±10% 50V X7R	GRM216R71H682KA01D
76	C0805,8.2nF±10% 50V X7R	GRM216R71H822KA01D
77	C0805,10nF±10% 50V X7R	GRM216R71H103KA01D
78	C0805,15nF±10% 50V X7R	GRM216R71H153KA01D

79	C0805, 22nF±10% 25V X7R	GRM216R71E223KA01D
80	C0805, 33nF±10% 25V X7R	GRM216R71E333KA01D
81	C0805, 47nF±10% 25V X7R	GRM219R71E473KA01D
82	C0805, 68nF±10% 25V X7R	GRM219R71E683KA01D
83	C0805, 82nF±10% 25V X7R	GRM219R71E823KA01D
84	C0805, 100nF±10% 25V X7R	GRM21BR71E104KA01L
85	C0805, 220nF±10% 25V X7R	GRM21BR71E224KA01L
86	C0805, 330nF±10% 25V X7R	GRM21BR71E334KA01L
87	C0805, 470nF±10% 25V X7R	GRM21BR71E474KA88L
88	C0805, 680nF±10% 25V X7R	GRM21BR71E684KA01L
89	C0805, 1uF±10% 10V X7R	GRM21BR71A105KA01L
90	C0805, 2.2uF±10% 16V X5R	GRM21BR61C225KA88L
91	C0805, 4.7uF±10% 10V X5R	GRM21BR61A475KA73L
92	C0805, 10uF±10% 10V X5R	GRM21BR61A106KE19L

Chip Monolithic Ceramic Capacitors



Murata
Manufacturing Co., Ltd.

Cat.No.C02E-16

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Chip Monolithic Ceramic Capacitors

for EU RoHS Compliant

・All the products in this catalog comply with EU RoHS.
・EU RoHS is "the European Directive 2002/95/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment".
・For more details, please refer to our website 'Murata's Approach for EU RoHS' (http://www.murata.com/info/rohs.html).

Chip Monolithic Ceramic Capacitors (Medium Voltage)

Please check the MURATA home page (http://www.murata.com/) if you cannot find the part number in the catalog.

Part Numbering

Chip Monolithic Ceramic Capacitors

(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
GR	J	Soft Termination Type
	M	Tin Plated Layer
	4	Only for Information Devices / Tip & Ring
	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
GA	2	For AC250V (r.m.s.)
	3	Safety Standard Certified Type

❸Dimensions (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
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

❹Dimension (T) (Except **GNM**)

Code	Dimension (T)
2	0.2mm
3	0.3mm
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.

❹Elements (**GNM** Only)

Code	Elements
2	2-elements
4	4-elements

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Please check the MURATA home page (http://www.murata.com/) if you cannot find the part number in the catalog.

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❺Temperature Characteristics

Temperature Characteristic Codes			Temperature Characteristics			Operating Temperature Range
Code	Public STD Code		Reference Temperature	Temperature Range	Capacitance Change or Temperature Coefficient	
1X	SL *1	JIS	20°C	20 to 85°C	+350 to -1000ppm/°C	-55 to 125°C
2C	CH *1	JIS	20°C	20 to 125°C	0±60ppm/°C	-55 to 125°C
2P	PH *1	JIS	20°C	20 to 85°C	-150±60ppm/°C	-25 to 85°C
2R	RH *1	JIS	20°C	20 to 85°C	-220±60ppm/°C	-25 to 85°C
2S	SH *1	JIS	20°C	20 to 85°C	-330±60ppm/°C	-25 to 85°C
2T	TH *1	JIS	20°C	20 to 85°C	-470±60ppm/°C	-25 to 85°C
3C	CJ *1	JIS	20°C	20 to 125°C	0±120ppm/°C	-55 to 125°C
3P	PJ *1	JIS	20°C	20 to 85°C	-150±120ppm/°C	-25 to 85°C
3R	RJ *1	JIS	20°C	20 to 85°C	-220±120ppm/°C	-25 to 85°C
3S	SJ *1	JIS	20°C	20 to 85°C	-330±120ppm/°C	-25 to 85°C
3T	TJ *1	JIS	20°C	20 to 85°C	-470±120ppm/°C	-25 to 85°C
3U	UJ *1	JIS	20°C	20 to 85°C	-750±120ppm/°C	-25 to 85°C
4C	CK *1	JIS	20°C	20 to 125°C	0±250ppm/°C	-55 to 125°C
5C	C0G *1	EIA	25°C	25 to 125°C	0±30ppm/°C	-55 to 125°C
5G	X8G *1	EIA	25°C	25 to 150°C	0±30ppm/°C	-55 to 150°C
6C	C0H *1	EIA	25°C	25 to 125°C	0±60ppm/°C	-55 to 125°C
6P	P2H *1	EIA	25°C	25 to 85°C	-150±60ppm/°C	-55 to 125°C
6R	R2H *1	EIA	25°C	25 to 85°C	-220±60ppm/°C	-55 to 125°C
6S	S2H *1	EIA	25°C	25 to 85°C	-330±60ppm/°C	-55 to 125°C
6T	T2H *1	EIA	25°C	25 to 85°C	-470±60ppm/°C	-55 to 125°C
7U	U2J *1	EIA	25°C	25 to 125°C *6	-750±120ppm/°C	-55 to 125°C
B1	B *2	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
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
F1	F *2	JIS	20°C	-25 to 85°C	+30, -80%	-25 to 85°C
F5	Y5V	EIA	25°C	-30 to 85°C	+22, -82%	-30 to 85°C
L8	X8L	*3	25°C	-55 to 150°C	+15, -40%	-55 to 150°C
R1	R *2	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
R9	X8R	EIA	25°C	-55 to 150°C	±15%	-55 to 150°C
W0	-	-	25°C	-55 to 125°C	±10% *4 +22, -33% *5	-55 to 125°C

*1 Please refer to table for Capacitance Change under reference temperature.
*2 Capacitance change is specified with 50% rated voltage applied.
*3 Murata Temperature Characteristic Code.
*4 Apply DC350V bias.
*5 No DC bias.
*6 Rated Voltage 100Vdc max : 25 to 85°C

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●Capacitance Change from each temperature

JIS Code

Murata Code	Capacitance Change from 20°C (%)					
	–55°C		–25°C		–10°C	
	Max.	Min.	Max.	Min.	Max.	Min.
1X	–	–	–	–	–	–
2C	0.82	–0.45	0.49	–0.27	0.33	–0.18
2P	–	–	1.32	0.41	0.88	0.27
2R	–	–	1.70	0.72	1.13	0.48
2S	–	–	2.30	1.22	1.54	0.81
2T	–	–	3.07	1.85	2.05	1.23
3C	1.37	–0.90	0.82	–0.54	0.55	–0.36
3P	–	–	1.65	0.14	1.10	0.09
3R	–	–	2.03	0.45	1.35	0.30
3S	–	–	2.63	0.95	1.76	0.63
3T	–	–	3.40	1.58	2.27	1.05
3U	–	–	4.94	2.84	3.29	1.89
4C	2.56	–1.88	1.54	–1.13	1.02	–0.75

EIA Code

Murata Code	Capacitance Change from 25°C (%)					
	–55°C		–30°C		–10°C	
	Max.	Min.	Max.	Min.	Max.	Min.
5C/5G	0.58	–0.24	0.40	–0.17	0.25	–0.11
6C	0.87	–0.48	0.59	–0.33	0.38	–0.21
6P	2.33	0.72	1.61	0.50	1.02	0.32
6R	3.02	1.28	2.08	0.88	1.32	0.56
6S	4.09	2.16	2.81	1.49	1.79	0.95
6T	5.46	3.28	3.75	2.26	2.39	1.44
7U	8.78	5.04	6.04	3.47	3.84	2.21

❻Rated 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
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)

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.

Ex.)

Code	Capacitance
R50	0.5pF
1R0	1.0pF
100	10pF
103	10000pF

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❽Capacitance Tolerance

Code	Capacitance Tolerance	TC	Series	Capacitance Step	
W	±0.05pF	CΔ	**GRM/GJM**	≦9.9pF	0.1pF
B	±0.1pF	CΔ	**GRM/GJM**	≦9.9pF	0.1pF
			GQM	≦1pF	0.1pF
				1.1 to 9.9pF	1pF Step and E24 Series
C	±0.25pF	CΔ	**GRM/GJM**	≦9.9pF	0.1pF
		except CΔ	**GRM**	≦5pF	* 1pF
		CΔ	**GQM**	≦1pF	0.1pF
				1.1 to 9.9pF	1pF Step and E24 Series
D	±0.5pF	CΔ	**GRM/GJM**	5.1 to 9.9pF	0.1pF
		except CΔ	**GRM**	5.1 to 9.9pF	* 1pF
		CΔ	**GQM**	5.1 to 9.9pF	1pF Step and E24 Series
G	±2%	CΔ	**GJM**	≧10pF	E12 Series
		CΔ	**GQM**	≧10pF	E24 Series
J	±5%	CΔ, SL, U2J	**GRM/GA3**	≧10pF	E12 Series
		CΔ	**GQM/GJM**	≧10pF	E24 Series
K	±10%	B, R, X7R, X5R, ZLM	**GRJ/GRM/GR7/GA3**	E6 Series	
		C0G	**GNM**	E6 Series	
		B, R, X7R, X5R, ZLM	**GR4, GMD**	E12 Series	
M	±20%	B, R, X7R, X7S	**GRM/GMA**	E6 Series	
		X5R, X7R, X7S	**GNM**	E3 Series	
		X7R	**GA2**	E3 Series	
		X5R, X7R, X7S, X6S	**LLL/LLR/LLA/LLM**	E3 Series	
Z	+80%, -20%	F, Y5V	**GRM**	E3 Series	
R	Depends on individual standards.				

***** E24 series is also available.

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	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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Selection Guide For Chip Monolithic Ceramic Capacitors

Applications?

Function	Type	Series
Decoupling, Smoothing	High Capacitance	GRM (X5R, X7R, Y5V etc.) 68pF–100µF
	Array (2 or 4 Elements)	GNM 10pF–2.2µF
Frequency Control/Tuning, Impedance Matching	Class 1 TC's	GRM (C0G) 0.1pF–0.1µF
		GRM (U2J etc.)
High Speed Decoupling	Low Inductance (Reverse Geometry)	LLL 2200pF–10µF
	Low Inductance (Controlled ESR)	LLR 1.0µF
	Low Inductance (Multi-Termination)	LLA/LLM (From 1GHz) 0.01µF–4.7µF
High Frequency	Low ESR, Ultra Small	GJM (500MHz to 10GHz) 0.1pF–33pF
	Lowest ESR	GQM (500MHz to 10GHz) 0.1pF–100pF
Optical Communications	Wire-Die-Bonding	GMA 100pF–0.47µF GMD 100pF–1µF
Medium Voltage High Frequency Snubber	250V/630V/1kV/2kV/3.15kV Low Dissipation	GRM (C0G, U2J) 10pF–10000pF
Medium Voltage LCD Backlight Inverter	3.15kV Low Dissipation	GRM (C0G) 5pF–47pF
Medium Voltage Decoupling, Smoothing	250V/630V/1kV High Capacitance	GRM (X7R) 220pF–1µF
	250V/630V/1kV Soft Termination Type	GRJ (X7R) 470pF–1µF
Medium Voltage Only for Camera Flash Circuit	350V High Capacitance	GR7 10000pF–47000pF
Medium Voltage Only for Information Devices	2kV High Capacitance	GR4 100pF–10000pF
	Safety Standard Certified	Type GD 10pF–4700pF Type GF 10pF–4700pF
AC Lines Noise Removal	Safety Standard Certified	Type GC 100pF–330pF Type GF 470pF–4700pF Type GB 10000pF–56000pF
	AC250V which meets Japanese Law	GA2 470pF–0.1µF
Automotive (Powertrain, Safety Equipment)	High Capacitance	GCM (X7R etc.) 100pF–47µF
	Class 1 TC's	GCM (C0G etc.) 1.0pF–56000pF
Medium Voltage for Automotive (Powertrain, Safety Equipment)	250V/630V Low Dissipation	GCM (U2J) 10pF–10000pF
	250V/630V Soft Termination Type	GCJ (X7R) 1000pF–0.47µF

Chip Monolithic Ceramic Capacitors

Chip Monolithic Ceramic Capacitors

For General Purpose GRM Series

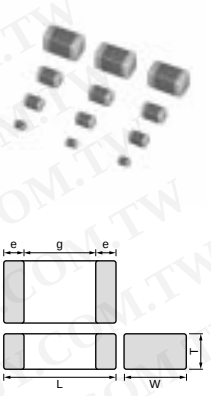
■ Features

1. Higher resistance of solder-leaching due to the Ni-barriered termination, applicable for reflow-soldering, and flow-soldering (GRM18/21/31 type only).
2. The GRM series is a lead free product.
3. Smaller size and higher capacitance value.
4. High reliability and no polarity.
5. Excellent pulse response and noise reduction due to the low impedance at high frequency.
6. The GRM series is available in paper or embossed tape and reel packaging for automatic placement. Bulk case packaging is also available for GRM15/18/21(T=0.6,1.25).
7. TA replacement.

■ Applications

General electronic equipment

Part Number	Dimensions (mm)				
	L	W	T	e	g min.
GRM022	0.4 ±0.02	0.2 ±0.02	0.2 ±0.02	0.07 to 0.14	0.13
GRM033	0.6 ±0.03	0.3 ±0.03	0.3 ±0.03	0.1 to 0.2	0.2
GRM15X	1.0 ±0.05	0.5 ±0.05	0.25 ±0.05	0.1 to 0.3	0.4
GRM153			0.3 ±0.03		
GRM155			0.5 ±0.05	0.15 to 0.35	0.3
GRM185	1.6 ±0.1	0.8 ±0.1	0.5 +0/-0.1	0.2 to 0.5	0.5
GRM188*			0.8 ±0.1		
GRM216	2.0 ±0.1	1.25 ±0.1	0.6 ±0.1	0.2 to 0.7	0.7
GRM219			0.85 ±0.1		
GRM21A			1.0 +0/-0.2		
GRM21B			1.25 ±0.1		
GRM316	3.2 ±0.15	1.6 ±0.15	0.6 ±0.1	0.3 to 0.8	1.5
GRM319			0.85 ±0.1		
GRM31M			1.15 ±0.1		
GRM31C	3.2 ±0.2	1.6 ±0.2	1.6 ±0.2		
GRM329	3.2 ±0.3	2.5 ±0.2	0.85 +0.15/-0.05	0.3 min.	1.0
GRM32A			1.0 +0/-0.2		
GRM32M			1.15 ±0.1		
GRM32N			1.35 ±0.15		
GRM32C			1.6 ±0.2		
GRM32R			1.8 ±0.2		
GRM32D			2.0 ±0.2		
GRM32E			2.5 ±0.2		



* Bulk Case: 1.6 ±0.07(L)×0.8 ±0.07(W)×0.8 ±0.07(T)
The figures indicate typical specification.

Capacitance Table

Temperature Compensating Type C0G(5C),U2J(7U) Characteristics

6 ex.6: T Dimension [mm]

TC	C0G(**5C**)												U2J(**7U**)								
LxW [mm]	0.4x0.2 (**02**) <01005>			0.6x0.3 (**03**) <0201>	1.0x0.5 (**15**) <0402>	1.6x0.8 (**18**) <0603>		2.0x1.25 (**21**) <0805>		3.2x1.6 (**31**) <1206>			0.6x0.3 (**03**) <0201>		1.0x0.5 (**15**) <0402>		1.6x0.8 (**18**) <0603>		2.0x1.25 (**21**) <0805>		3.2x1.6 (**31**) <1206>
Rated Voltage [Vdc] / Capacitance	16 (**1C**)	10 (**1A**)	6.3 (**0J**)	50 (**1H**)	50 (**1H**)	100 (**1E**)	50 (**1H**)	100 (**1E**)	50 (**1H**)	100 (**1E**)	50 (**1H**)	50 (**1H**)	25 (**1E**)	50 (**1H**)	10 (**1A**)	50 (**1H**)	10 (**1A**)	50 (**1H**)	10 (**1A**)	50 (**1H**)
0.1pF(**R10**)				3	3, 5															
0.2pF(**R20**)	2			3	3, 5															
0.3pF(**R30**)	2			3	3, 5															
0.4pF(**R40**)	2			3	3, 5															
0.5pF(**R50**)	2			3	3, 5															
0.6pF(**R60**)	2			3	3, 5															
0.7pF(**R70**)	2			3	3, 5															
0.8pF(**R80**)	2			3	3, 5															
0.9pF(**R90**)	2			3	3, 5															
1.0pF(**1R0**)	2			3	3, 5								3		5					
1.1pF(**1R1**)	2			3	3, 5															
1.2pF(**1R2**)	2			3	3, 5															
1.3pF(**1R3**)	2			3	3, 5															
1.4pF(**1R4**)	2			3	3, 5															
1.5pF(**1R5**)	2			3	3, 5															
1.6pF(**1R6**)	2			3	3, 5															
1.7pF(**1R7**)	2			3	3, 5															
1.8pF(**1R8**)	2			3	3, 5															
1.9pF(**1R9**)	2			3	3, 5															
2.0pF(**2R0**)	2			3	3, 5								3		5					
2.1pF(**2R1**)	2			3	3, 5															
2.2pF(**2R2**)	2			3	3, 5															
2.3pF(**2R3**)	2			3	3, 5															
2.4pF(**2R4**)	2			3	3, 5															
2.5pF(**2R5**)	2			3	3, 5															
2.6pF(**2R6**)	2			3	3, 5															
2.7pF(**2R7**)	2			3	3, 5															
2.8pF(**2R8**)	2			3	3, 5															
2.9pF(**2R9**)	2			3	3, 5															
3.0pF(**3R0**)	2			3	3, 5								3		5					
3.1pF(**3R1**)	2			3	3, 5															
3.2pF(**3R2**)	2			3	3, 5															
3.3pF(**3R3**)	2			3	3, 5															
3.4pF(**3R4**)	2			3	3, 5															
3.5pF(**3R5**)	2			3	3, 5															
3.6pF(**3R6**)	2			3	3, 5															
3.7pF(**3R7**)	2			3	3, 5															
3.8pF(**3R8**)	2			3	3, 5															
3.9pF(**3R9**)	2			3	3, 5															
4.0pF(**4R0**)	2			3	3, 5								3		5					
4.1pF(**4R1**)	2			3	3, 5															
4.2pF(**4R2**)	2			3	3, 5															
4.3pF(**4R3**)	2			3	3, 5															
4.4pF(**4R4**)	2			3	3, 5															
4.5pF(**4R5**)	2			3	3, 5															
4.6pF(**4R6**)	2			3	3, 5															
4.7pF(**4R7**)	2			3	3, 5															
4.8pF(**4R8**)	2			3	3, 5															
4.9pF(**4R9**)	2			3	3, 5															

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code

Continued on the following page.

Capacitance Table

Continued from the preceding page.

6 ex.6: T Dimension [mm]

TC	C0G(**5C**)												U2J(**7U**)									
LxW [mm]	0.4x0.2 (**02**) <01005>			0.6x0.3 (**03**) <0201>	1.0x0.5 (**15**) <0402>	1.6x0.8 (**18**) <0603>		2.0x1.25 (**21**) <0805>		3.2x1.6 (**31**) <1206>			0.6x0.3 (**03**) <0201>		1.0x0.5 (**15**) <0402>		1.6x0.8 (**18**) <0603>		2.0x1.25 (**21**) <0805>		3.2x1.6 (**31**) <1206>
Rated Voltage [Vdc] / Capacitance	16 (**1C**)	10 (**1A**)	6.3 (**0J**)	50 (**1H**)	50 (**1H**)	100 (**1E**)	50 (**1H**)	100 (**1E**)	50 (**1H**)	100 (**1E**)	50 (**1H**)		50 (**1H**)	25 (**1E**)	50 (**1H**)	10 (**1A**)	50 (**1H**)	10 (**1A**)	50 (**1H**)	10 (**1A**)	50 (**1H**)	
5.0pF(**5R0**)	2			3	3, 5								3		5							
5.1pF(**5R1**)	2			3	3, 5																	
5.2pF(**5R2**)	2			3	3, 5																	
5.3pF(**5R3**)	2			3	3, 5																	
5.4pF(**5R4**)	2			3	3, 5																	
5.5pF(**5R5**)	2			3	3, 5																	
5.6pF(**5R6**)	2			3	3, 5																	
5.7pF(**5R7**)	2			3	3, 5																	
5.8pF(**5R8**)	2			3	3, 5																	
5.9pF(**5R9**)	2			3	3, 5																	
6.0pF(**6R0**)	2			3	3, 5								3		5							
6.1pF(**6R1**)	2			3	3, 5																	
6.2pF(**6R2**)	2			3	3, 5																	
6.3pF(**6R3**)	2			3	3, 5																	
6.4pF(**6R4**)	2			3	3, 5																	
6.5pF(**6R5**)	2			3	3, 5																	
6.6pF(**6R6**)	2			3	3, 5																	
6.7pF(**6R7**)	2			3	3, 5																	
6.8pF(**6R8**)	2			3	3, 5																	
6.9pF(**6R9**)	2			3	3, 5																	
7.0pF(**7R0**)	2			3	3, 5								3		5							
7.1pF(**7R1**)	2			3	3, 5																	
7.2pF(**7R2**)	2			3	3, 5																	
7.3pF(**7R3**)	2			3	3, 5																	
7.4pF(**7R4**)	2			3	3, 5																	
7.5pF(**7R5**)	2			3	3, 5																	
7.6pF(**7R6**)	2			3	3, 5																	
7.7pF(**7R7**)	2			3	3, 5																	
7.8pF(**7R8**)	2			3	3, 5																	
7.9pF(**7R9**)	2			3	3, 5																	
8.0pF(**8R0**)	2			3	3, 5								3		5							
8.1pF(**8R1**)	2			3	3, 5																	
8.2pF(**8R2**)	2			3	3, 5																	
8.3pF(**8R3**)	2			3	3, 5																	
8.4pF(**8R4**)	2			3	3, 5																	
8.5pF(**8R5**)	2			3	3, 5																	
8.6pF(**8R6**)	2			3	3, 5																	
8.7pF(**8R7**)	2			3	3, 5																	
8.8pF(**8R8**)	2			3	3, 5																	
8.9pF(**8R9**)	2			3	3, 5																	
9.0pF(**9R0**)	2			3	3, 5								3		5							
9.1pF(**9R1**)	2			3	3, 5																	
9.2pF(**9R2**)	2			3	3, 5																	
9.3pF(**9R3**)	2			3	3, 5																	
9.4pF(**9R4**)	2			3	3, 5																	
9.5pF(**9R5**)	2			3	3, 5																	
9.6pF(**9R6**)	2			3	3, 5																	
9.7pF(**9R7**)	2			3	3, 5																	
9.8pF(**9R8**)	2			3	3, 5																	
9.9pF(**9R9**)	2			3	3, 5																	

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code

Continued on the following page.

Capacitance Table

Continued from the preceding page.

6 ex.6: T Dimension [mm]

TC	C0G(**5C**)											U2J(**7U**)								
LxW [mm]	0.4x0.2 (**02**) <01005>			0.6x0.3 (**03**) <0201>	1.0x0.5 (**15**) <0402>	1.6x0.8 (**18**) <0603>		2.0x1.25 (**21**) <0805>		3.2x1.6 (**31**) <1206>		0.6x0.3 (**03**) <0201>		1.0x0.5 (**15**) <0402>		1.6x0.8 (**18**) <0603>		2.0x1.25 (**21**) <0805>		3.2x1.6 (**31**) <1206>
Rated Voltage [Vdc] / Capacitance	16 (**1C**)	10 (**1A**)	6.3 (**0J**)	50 (**1H**)	50 (**1H**)	100 (**1E**)	50 (**1H**)	100 (**1E**)	50 (**1H**)	100 (**1E**)	50 (**1H**)	50 (**1H**)	25 (**1E**)	50 (**1H**)	10 (**1A**)	50 (**1H**)	10 (**1A**)	50 (**1H**)	10 (**1A**)	50 (**1H**)
10pF(**100**)	2			3	3, 5	8	8					3		5						
12pF(**120**)	2			3	3, 5	8	8					3		5						
15pF(**150**)	2			3	3, 5	8	8					3		5						
18pF(**180**)	2			3	3, 5	8	8						3	5						
22pF(**220**)	2			3	3, 5	8	8						3	5						
27pF(**270**)	2			3	3, 5	8	8						3	5						
33pF(**330**)	2			3	3, 5	8	8						3	5						
39pF(**390**)	2			3	3, 5	8	8						3	5						
47pF(**470**)	2			3	3, 5	8	8						3	5						
56pF(**560**)		2	2	3	3, 5	8	8						3	5						
68pF(**680**)		2	2	3	3, 5	8	8						3	5						
82pF(**820**)		2	2	3	3, 5	8	8						3	5						
100pF(**101**)		2	2	3	3, 5	8	8	6					3	5						
120pF(**121**)					3, 5	8	8	6						5						
150pF(**151**)					3, 5	8	8	6						5						
180pF(**181**)					3, 5	8	8	6						5						
220pF(**221**)					3, 5	8	8	6												
270pF(**271**)					3, 5	8	8	6												
330pF(**331**)					3, 5	8	8	6												
390pF(**391**)					3, 5	8	8	6												
470pF(**471**)					3, 5	8	8	6												
560pF(**561**)					3, 5	8	8	6												
680pF(**681**)					3, 5	8	8	6												
820pF(**821**)					5	8	8	6												
1000pF(**102**)					5	8	8	6								8				
1200pF(**122**)						8	8	6	6						5	8				
1500pF(**152**)						8	8	6	6						5	8				
1800pF(**182**)							8	6	6	9					5	8				
2200pF(**222**)							8	6	6	9					5	5, 8				
2700pF(**272**)							8	6	6	9					5	5, 8				
3300pF(**332**)							8	6	6	9					5	5, 8				
3900pF(**392**)							8		6	9					5	5, 8				
4700pF(**472**)									6	9	9				5	5, 8				
5600pF(**562**)									9	9	9					8	5			
6800pF(**682**)									9	9	9					8	5			
8200pF(**822**)									9	9	9					8	5			
10000pF(**103**)									9	9	9					8	5	6		
12000pF(**123**)									9	9	9						8	6		
15000pF(**153**)									9	9	9						8	6		
18000pF(**183**)									B	9	9						8	6		
22000pF(**223**)									B	9	9						8	9		
27000pF(**273**)											9							9		
33000pF(**333**)											9							A		
39000pF(**393**)											9							B		
47000pF(**473**)											M							B		
56000pF(**563**)											M								9	9
68000pF(**683**)											C								B	M
82000pF(**823**)											C								B	M
0.1μF(**104**)											C								B	M

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code

Capacitance Table

Temperature Compensating Type P2H(6P),R2H(6R),S2H(6S),T2H(6T) Characteristics

6 ex.6: T Dimension [mm]

TC	P2H (**6P**)	R2H (**6R**)		S2H (**6S**)		T2H (**6T**)	
LxW [mm]	1.0x0.5 (**15**) <0402>	0.6x0.3 (**03**) <0201>	1.0x0.5 (**15**) <0402>	0.6x0.3 (**03**) <0201>	1.0x0.5 (**15**) <0402>	0.6x0.3 (**03**) <0201>	1.0x0.5 (**15**) <0402>
Capacitance \ Rated Voltage [Vdc]	50 (**1H**)	25 (**1E**)	50 (**1H**)	25 (**1E**)	50 (**1H**)	25 (**1E**)	50 (**1H**)
1.0pF(**1R0**)	**5**	**3**	**5**	**3**	**5**	**3**	**5**
2.0pF(**2R0**)	**5**	**3**	**5**	**3**	**5**	**3**	**5**
3.0pF(**3R0**)	**5**	**3**	**5**	**3**	**5**	**3**	**5**
4.0pF(**4R0**)	**5**	**3**	**5**	**3**	**5**	**3**	**5**
5.0pF(**5R0**)	**5**	**3**	**5**	**3**	**5**	**3**	**5**
6.0pF(**6R0**)	**5**	**3**	**5**	**3**	**5**	**3**	**5**
7.0pF(**7R0**)	**5**	**3**	**5**	**3**	**5**	**3**	**5**
8.0pF(**8R0**)	**5**	**3**	**5**	**3**	**5**	**3**	**5**
9.0pF(**9R0**)	**5**	**3**	**5**	**3**	**5**	**3**	**5**
10pF(**100**)	**5**	**3**	**5**	**3**	**5**	**3**	**5**
12pF(**120**)	**5**	**3**	**5**	**3**	**5**	**3**	**5**
15pF(**150**)	**5**	**3**	**5**	**3**	**5**	**3**	**5**
18pF(**180**)	**5**	**3**	**5**	**3**	**5**	**3**	**5**
22pF(**220**)	**5**	**3**	**5**	**3**	**5**	**3**	**5**
27pF(**270**)	**5**	**3**	**5**	**3**	**5**	**3**	**5**
33pF(**330**)		**3**	**5**	**3**	**5**	**3**	**5**
39pF(**390**)		**3**		**3**	**5**	**3**	**5**
47pF(**470**)		**3**		**3**		**3**	**5**
56pF(**560**)		**3**		**3**		**3**	**5**
68pF(**680**)		**3**		**3**		**3**	**5**
82pF(**820**)		**3**		**3**		**3**	**5**
100pF(**101**)		**3**		**3**		**3**	**5**

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code

Capacitance Table

Continued from the preceding page.

High Dielectric Constant Type X7R(R7)/X7S(C7)/X7T(D7)/X7U(E7) Characteristics

5 ex.5: T Dimension [mm]

Capacitance \ LxW [mm]	0.4x0.2 (02) <01005>	0.6x0.3 (03) <0201>				1.0x0.5 (15) <0402>					1.6x0.8 (18) <0603>						
Rated Voltage [Vdc]	10 (1A)	25 (1E)	16 (1C)	10 (1A)	6.3 (0J)	100 (2A)	50 (1H)	25 (1E)	16 (1C)	10 (1A)	100 (2A)	50 (1H)	25 (1E)	16 (1C)	10 (1A)	6.3 (0J)	4 (0G)
68pF(**680**)	**2**																
100pF(**101**)	**2**	**3**	**3**														
150pF(**151**)	**2**	**3**	**3**														
220pF(**221**)	**2**	**3**	**3**			**5**	**X, 5**				**8**	**8**					
330pF(**331**)	**2**	**3**	**3**			**5**	**X, 5**				**8**	**8**					
470pF(**471**)	**2**	**3**	**3**			**5**	**X, 5**				**8**	**8**					
680pF(**681**)		**3**	**3**			**5**	**X, 5**				**8**	**8**					
1000pF(**102**)		**3**	**3**			**5**	**X, 5**				**8**	**8**					
1500pF(**152**)		**3**	**3**			**5**	**X, 5**				**8**	**8**					
2200pF(**222**)			**3**	**3**		**5**	**5**	**X**			**8**	**8**	**8**				
3300pF(**332**)			**3**	**3**		**5**	**5**		**X**		**8**	**8**	**8**				
4700pF(**472**)				**3**	**3**	**5**	**5**	**5**	**X**		**8**	**8**	**8**				
6800pF(**682**)				**3**	**3**		**5**	**5**	**X**		**8**	**8**	**8**				
10000pF(**103**)				**3**	**3**		**5**	**5**	**X**		**8**	**8**	**8**				
15000pF(**153**)							**5**	**5**	**5**			**8**	**8**				
22000pF(**223**)							**5**	**5**	**5**			**8**	**8**				
33000pF(**333**)								**5**	**5**			**8**	**8**				
47000pF(**473**)								**5**	**5**			**8**	**8**				
68000pF(**683**)									**5**	**5**		**8**	**8**				
0.10µF(**104**)									**5**	**5**	**8**	**8**	**8**				
0.15µF(**154**)									**5**				**8**	**8**			
0.22µF(**224**)									**5**				**8**	**8**			
0.33µF(**334**)														**8**	**8**		
0.47µF(**474**)													**8**	**8**	**8**		
0.68µF(**684**)														**8**	**8**		
1.0µF(**105**)													**8**	**8**	**5, 8**		
2.2µF(**225**)															**8**	**8**	**8**

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code

Continued on the following page.

Capacitance Table

Continued from the preceding page.

Capacitance \ LxW [mm]	2.0x1.25 (21) <0805>							3.2x1.6 (31) <1206>							3.2x2.5 (32) <1210>							
Rated Voltage [Vdc]	100 (2A)	50 (1H)	25 (1E)	16 (1C)	10 (1A)	6.3 (0J)	4 (0G)	100 (2A)	50 (1H)	25 (1E)	16 (1C)	10 (1A)	6.3 (0J)	4 (0G)	100 (2A)	50 (1H)	35 (YA)	25 (1E)	16 (1C)	10 (1A)	6.3 (0J)	4 (0G)
6800pF(**682**)	**9**																					
10000pF(**103**)	**B**																					
15000pF(**153**)	**B**							**9**														
22000pF(**223**)	**B**							**M**														
33000pF(**333**)	**B**	**9**						**M**														
47000pF(**473**)	**B**	**B**						**M**														
68000pF(**683**)		**B**	**9**					**M**														
0.10μF(**104**)		**B**	**B**					**9**														
0.15μF(**154**)		**B**	**B**					**M**	**M**													
0.22μF(**224**)	**A**	**B**	**B**					**M**	**M**													
0.33μF(**334**)	**A**	**9**	**B**						**9**	**9**												
0.47μF(**474**)	**B**	**B**	**9**					**M**	**M**	**9**												
0.68μF(**684**)			**9**	**9**				**M**	**M**	**9**					**C**							
1.0μF(**105**)		**B**	**9, B**	**B**				**C**	**M**						**C**							
2.2μF(**225**)			**B**	**B**	**B**				**C**	**M**	**M**				**E**							
4.7μF(**475**)				**B**	**B**				**C**	**C**	**9#, C**					**E**						
10μF(**106**)					**B**	**B**				**C**	**C**	**C**					**E**	**D**				
22μF(**226**)							**B**					**C**	**C**					**E**	**E**	**E**		
47μF(**476**)														**C**						**E**	**E**	
100μF(**107**)																						**E**

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code

These Part Numbers have individual testing conditions on Durability of GRM Series Specifications and Test Methods (2). Please refer to P60.

High Dielectric Constant Type X6S(C8)/X6T(D8) Characteristics

5 ex.5: T Dimension [mm]

Capacitance \ LxW [mm]	0.6x0.3 (03) <0201>		1.0x0.5 (15) <0402>		
Rated Voltage [Vdc]	6.3 (0J)	4 (0G)	25 (1E)	6.3 (0J)	4 (0G)
15000pF(**153**)	**3**	**3**			
22000pF(**223**)	**3**	**3**			
33000pF(**333**)	**3**	**3**			
47000pF(**473**)	**3**	**3**			
68000pF(**683**)			**5**		
0.10μF(**104**)			**5**		
0.15μF(**154**)				**5**	**5**
0.22μF(**224**)				**5**	**5**
0.33μF(**334**)				**5**	**5**
0.47μF(**474**)				**5**	**5**
0.68μF(**684**)				**5#**	**5**

Capacitance \ LxW [mm]	1.6x0.8 (18) <0603>					2.0x1.25 (21) <0805>					3.2x1.6 (31) <1206>					3.2x2.5 (32) <1210>			
Rated Voltage [Vdc]	25 (1E)	10 (1A)	6.3 (0J)	4 (0G)	2.5 (0E)	25 (1E)	16 (1C)	10 (1A)	6.3 (0J)	4 (0G)	25 (1E)	16 (1C)	10 (1A)	6.3 (0J)	4 (0G)	25 (1E)	10 (1A)	6.3 (0J)	4 (0G)
1.0μF(**105**)	**8**	**5**	**5**				**6**												
2.2μF(**225**)		**8**	**8**				**9**					**6**							
4.7μF(**475**)				**8**		**B**	**B**	**9**	**9**			**9**							
10μF(**106**)				**8#**	**8**			**B**	**9, B**		**C**	**M**	**9**	**9**		**D**			
22μF(**226**)									**B#**	**B**			**C**	**C**		**E**	**N**		
47μF(**476**)														**C**	**C**		**E**	**E**	
100μF(**107**)															**C**			**E**	**E**

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code

These Part Numbers have individual testing conditions on Durability of GRM Series Specifications and Test Methods (2). Please refer to P60.

Capacitance Table

Continued from the preceding page.

High Dielectric Constant Type X5R(R6) Characteristics

5 ex.5: T Dimension [mm] : Please refer to X7R(R7) etc. Characteristics.

Capacitance \ LxW [mm]	0.4x0.2 (**02**) <01005>		0.6x0.3 (**03**) <0201>				1.0x0.5 (**15**) <0402>						1.6x0.8 (**18**) <0603>						
Rated Voltage [Vdc]	10 (**1A**)	6.3 (**0J**)	25 (**1E**)	16 (**1C**)	10 (**1A**)	6.3 (**0J**)	100 (**2A**)	50 (**1H**)	25 (**1E**)	16 (**1C**)	10 (**1A**)	6.3 (**0J**)	100 (**2A**)	50 (**1H**)	25 (**1E**)	16 (**1C**)	10 (**1A**)	6.3 (**0J**)	4 (**0G**)
68pF(**680**)	**2**																		
100pF(**101**)	**2**																		
150pF(**151**)	**2**																		
220pF(**221**)	**2**																		
330pF(**331**)	**2**																		
470pF(**471**)	**2**																		
680pF(**681**)	**2**	**2**																	
1000pF(**102**)	**2**	**2**						**5**						**8**					
1500pF(**152**)	**2**	**2**			**3**														
2200pF(**222**)	**2**	**2**			**3**			**5**						**8**					
3300pF(**332**)	**2**	**2**			**3**														
4700pF(**472**)	**2**	**2**			**3**			**5**						**8**					
6800pF(**682**)	**2**	**2**			**3**														
10000pF(**103**)	**2**	**2**			**3**	**3**								**8**					
15000pF(**153**)						**3**													
22000pF(**223**)						**3**				**5**				**8**					
33000pF(**333**)						**3**				**5**	**5**								
47000pF(**473**)						**3**				**5**	**5**								
68000pF(**683**)									**5**	**5**	**5**								
0.10µF(**104**)									**5**	**5**	**5**				**8**				
0.15µF(**154**)											**5**	**5**							
0.22µF(**224**)											**5**	**5**			**8**	**8**			
0.33µF(**334**)											**5**	**5**							
0.47µF(**474**)											**5**	**5**			**8**	**8**			
0.68µF(**684**)											**5**	**5**					**8**		
1.0µF(**105**)											**5**				**8**	**5, 8**	**5**		
2.2µF(**225**)																**8**	**8**		
4.7µF(**475**)																		**8**	
10µF(**106**)																		**8**	**8**
22µF(**226**)																			**8**

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code

Continued on the following page.

Capacitance Table

Continued from the preceding page.

Capacitance \ LxW [mm]	2.0x1.25 (21) <0805>							3.2x1.6 (31) <1206>							3.2x2.5 (32) <1210>							
Rated Voltage [Vdc]	100 (2A)	50 (1H)	25 (1E)	16 (1C)	10 (1A)	6.3 (0J)	4 (0G)	100 (2A)	50 (1H)	25 (1E)	16 (1C)	10 (1A)	6.3 (0J)	4 (0G)	100 (2A)	50 (1H)	35 (YA)	25 (1E)	16 (1C)	10 (1A)	6.3 (0J)	4 (0G)
6800pF(**682**)																						
10000pF(**103**)																						
15000pF(**153**)																						
22000pF(**223**)																						
33000pF(**333**)																						
47000pF(**473**)																						
68000pF(**683**)																						
0.10μF(**104**)																						
0.15μF(**154**)																						
0.22μF(**224**)																						
0.33μF(**334**)																						
0.47μF(**474**)																						
0.68μF(**684**)																						
1.0μF(**105**)			6	6, B																		
2.2μF(**225**)			9, B	9, B	B				C	6												
4.7μF(**475**)			B	9, B	9, B	B				9,C	9,C											
10μF(**106**)				B	9, B	9, B				C	9, C	9						E	D			
22μF(**226**)						B	9				C	C	C						E			
47μF(**476**)												C	C							E	E	
100μF(**107**)													C	C								E

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code

Temperature Compensating Type C0G(5C) Characteristics

LxW [mm]		0.4x0.2(**02**)<01005>	0.6x0.3(**03**)<0201>	1.0x0.5(**15**)<0402>
Rated Volt. [Vdc]		16(**1C**)	50(**1H**)	50(**1H**)
Capacitance	Tolerance	Part Number		
0.1pF(**R10**)	±0.05pF(**W**)		GRM0335C1HR10WD01D	GRM1555C1HR10WA01D
	±0.1pF(**B**)		GRM0335C1HR10BD01D	GRM1555C1HR10BA01D
0.2pF(**R20**)	±0.05pF(**W**)	GRM0225C1CR20WD05L	GRM0335C1HR20WD01D	GRM1555C1HR20WA01D
	±0.1pF(**B**)	GRM0225C1CR20BD05L	GRM0335C1HR20BD01D	GRM1555C1HR20BA01D
0.3pF(**R30**)	±0.05pF(**W**)	GRM0225C1CR30WD05L	GRM0335C1HR30WD01D	GRM1555C1HR30WA01D
	±0.1pF(**B**)	GRM0225C1CR30BD05L	GRM0335C1HR30BD01D	GRM1555C1HR30BA01D
0.4pF(**R40**)	±0.05pF(**W**)	GRM0225C1CR40WD05L	GRM0335C1HR40WD01D	GRM1555C1HR40WA01D
	±0.1pF(**B**)	GRM0225C1CR40BD05L	GRM0335C1HR40BD01D	GRM1555C1HR40BA01D
0.5pF(**R50**)	±0.05pF(**W**)	GRM0225C1CR50WD05L	GRM0335C1HR50WD01D	GRM1555C1HR50WA01D
	±0.1pF(**B**)	GRM0225C1CR50BD05L	GRM0335C1HR50BD01D	GRM1555C1HR50BA01D
0.6pF(**R60**)	±0.05pF(**W**)	GRM0225C1CR60WD05L	GRM0335C1HR60WD01D	GRM1555C1HR60WA01D
	±0.1pF(**B**)	GRM0225C1CR60BD05L	GRM0335C1HR60BD01D	GRM1555C1HR60BA01D
0.7pF(**R70**)	±0.05pF(**W**)	GRM0225C1CR70WD05L	GRM0335C1HR70WD01D	GRM1555C1HR70WA01D
	±0.1pF(**B**)	GRM0225C1CR70BD05L	GRM0335C1HR70BD01D	GRM1555C1HR70BA01D
0.8pF(**R80**)	±0.05pF(**W**)	GRM0225C1CR80WD05L	GRM0335C1HR80WD01D	GRM1555C1HR80WA01D
	±0.1pF(**B**)	GRM0225C1CR80BD05L	GRM0335C1HR80BD01D	GRM1555C1HR80BA01D
0.9pF(**R90**)	±0.05pF(**W**)	GRM0225C1CR90WD05L	GRM0335C1HR90WD01D	GRM1555C1HR90WA01D
	±0.1pF(**B**)	GRM0225C1CR90BD05L	GRM0335C1HR90BD01D	GRM1555C1HR90BA01D
1.0pF(**1R0**)	±0.05pF(**W**)	GRM0225C1C1R0WD05L	GRM0335C1H1R0WD01D	GRM1555C1H1R0WA01D
	±0.1pF(**B**)	GRM0225C1C1R0BD05L	GRM0335C1H1R0BD01D	GRM1555C1H1R0BA01D
	±0.25pF(**C**)	GRM0225C1C1R0CD05L	GRM0335C1H1R0CD01D	GRM1555C1H1R0CA01D
1.1pF(**1R1**)	±0.05pF(**W**)	GRM0225C1C1R1WD05L	GRM0335C1H1R1WD01D	GRM1555C1H1R1WA01D
	±0.1pF(**B**)	GRM0225C1C1R1BD05L	GRM0335C1H1R1BD01D	GRM1555C1H1R1BA01D
	±0.25pF(**C**)	GRM0225C1C1R1CD05L	GRM0335C1H1R1CD01D	GRM1555C1H1R1CA01D
1.2pF(**1R2**)	±0.05pF(**W**)	GRM0225C1C1R2WD05L	GRM0335C1H1R2WD01D	GRM1555C1H1R2WA01D
	±0.1pF(**B**)	GRM0225C1C1R2BD05L	GRM0335C1H1R2BD01D	GRM1555C1H1R2BA01D
	±0.25pF(**C**)	GRM0225C1C1R2CD05L	GRM0335C1H1R2CD01D	GRM1555C1H1R2CA01D
1.3pF(**1R3**)	±0.05pF(**W**)	GRM0225C1C1R3WD05L	GRM0335C1H1R3WD01D	GRM1555C1H1R3WA01D
	±0.1pF(**B**)	GRM0225C1C1R3BD05L	GRM0335C1H1R3BD01D	GRM1555C1H1R3BA01D
	±0.25pF(**C**)	GRM0225C1C1R3CD05L	GRM0335C1H1R3CD01D	GRM1555C1H1R3CA01D
1.4pF(**1R4**)	±0.05pF(**W**)	GRM0225C1C1R4WD05L	GRM0335C1H1R4WD01D	GRM1555C1H1R4WA01D
	±0.1pF(**B**)	GRM0225C1C1R4BD05L	GRM0335C1H1R4BD01D	GRM1555C1H1R4BA01D
	±0.25pF(**C**)	GRM0225C1C1R4CD05L	GRM0335C1H1R4CD01D	GRM1555C1H1R4CA01D
1.5pF(**1R5**)	±0.05pF(**W**)	GRM0225C1C1R5WD05L	GRM0335C1H1R5WD01D	GRM1555C1H1R5WA01D
	±0.1pF(**B**)	GRM0225C1C1R5BD05L	GRM0335C1H1R5BD01D	GRM1555C1H1R5BA01D
	±0.25pF(**C**)	GRM0225C1C1R5CD05L	GRM0335C1H1R5CD01D	GRM1555C1H1R5CA01D
1.6pF(**1R6**)	±0.05pF(**W**)	GRM0225C1C1R6WD05L	GRM0335C1H1R6WD01D	GRM1555C1H1R6WA01D
	±0.1pF(**B**)	GRM0225C1C1R6BD05L	GRM0335C1H1R6BD01D	GRM1555C1H1R6BA01D
	±0.25pF(**C**)	GRM0225C1C1R6CD05L	GRM0335C1H1R6CD01D	GRM1555C1H1R6CA01D
1.7pF(**1R7**)	±0.05pF(**W**)	GRM0225C1C1R7WD05L	GRM0335C1H1R7WD01D	GRM1555C1H1R7WA01D
	±0.1pF(**B**)	GRM0225C1C1R7BD05L	GRM0335C1H1R7BD01D	GRM1555C1H1R7BA01D
	±0.25pF(**C**)	GRM0225C1C1R7CD05L	GRM0335C1H1R7CD01D	GRM1555C1H1R7CA01D
1.8pF(**1R8**)	±0.05pF(**W**)	GRM0225C1C1R8WD05L	GRM0335C1H1R8WD01D	GRM1555C1H1R8WA01D
	±0.1pF(**B**)	GRM0225C1C1R8BD05L	GRM0335C1H1R8BD01D	GRM1555C1H1R8BA01D
	±0.25pF(**C**)	GRM0225C1C1R8CD05L	GRM0335C1H1R8CD01D	GRM1555C1H1R8CA01D
1.9pF(**1R9**)	±0.05pF(**W**)	GRM0225C1C1R9WD05L	GRM0335C1H1R9WD01D	GRM1555C1H1R9WA01D
	±0.1pF(**B**)	GRM0225C1C1R9BD05L	GRM0335C1H1R9BD01D	GRM1555C1H1R9BA01D
	±0.25pF(**C**)	GRM0225C1C1R9CD05L	GRM0335C1H1R9CD01D	GRM1555C1H1R9CA01D

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code

(Part Number) GR ❶ | M ❷ | 02 ❸ | 2 ❹ | 5C ❺ | 1C ❻ | R20 ❼ | W ❽ | D05 ❾ | L ❿

❶Product ID ❷Series ❸Dimensions (LxW) ❹Dimension (T)
❺Temperature Characteristics ❻Rated Voltage ❼Capacitance
❽Capacitance Tolerance ❾Individual Specification Code ❿Packaging*

Packaging Code in Part Number shows STD 180mm Reel Taping.

*GRM022: D is applicable.

Temperature Compensating Type C0G(5C) Characteristics

LxW [mm]		0.4x0.2(**02**)<01005>	0.6x0.3(**03**)<0201>	1.0x0.5(**15**)<0402>
Rated Volt. [Vdc]		16(**1C**)	50(**1H**)	50(**1H**)
Capacitance	Tolerance	Part Number		
2.0pF(**2R0**)	±0.05pF(**W**)	**GRM0225C1C2R0WD05L**	**GRM0335C1H2R0WD01D**	**GRM1555C1H2R0WA01D**
	±0.1pF(**B**)	**GRM0225C1C2R0BD05L**	**GRM0335C1H2R0BD01D**	**GRM1555C1H2R0BA01D**
	±0.25pF(**C**)	**GRM0225C1C2R0CD05L**	**GRM0335C1H2R0CD01D**	**GRM1555C1H2R0CA01D**
2.1pF(**2R1**)	±0.05pF(**W**)	**GRM0225C1C2R1WD05L**	**GRM0335C1H2R1WD01D**	**GRM1555C1H2R1WA01D**
	±0.1pF(**B**)	**GRM0225C1C2R1BD05L**	**GRM0335C1H2R1BD01D**	**GRM1555C1H2R1BA01D**
	±0.25pF(**C**)	**GRM0225C1C2R1CD05L**	**GRM0335C1H2R1CD01D**	**GRM1555C1H2R1CA01D**
2.2pF(**2R2**)	±0.05pF(**W**)	**GRM0225C1C2R2WD05L**	**GRM0335C1H2R2WD01D**	**GRM1555C1H2R2WA01D**
	±0.1pF(**B**)	**GRM0225C1C2R2BD05L**	**GRM0335C1H2R2BD01D**	**GRM1555C1H2R2BA01D**
	±0.25pF(**C**)	**GRM0225C1C2R2CD05L**	**GRM0335C1H2R2CD01D**	**GRM1555C1H2R2CA01D**
2.3pF(**2R3**)	±0.05pF(**W**)	**GRM0225C1C2R3WD05L**	**GRM0335C1H2R3WD01D**	**GRM1555C1H2R3WA01D**
	±0.1pF(**B**)	**GRM0225C1C2R3BD05L**	**GRM0335C1H2R3BD01D**	**GRM1555C1H2R3BA01D**
	±0.25pF(**C**)	**GRM0225C1C2R3CD05L**	**GRM0335C1H2R3CD01D**	**GRM1555C1H2R3CA01D**
2.4pF(**2R4**)	±0.05pF(**W**)	**GRM0225C1C2R4WD05L**	**GRM0335C1H2R4WD01D**	**GRM1555C1H2R4WA01D**
	±0.1pF(**B**)	**GRM0225C1C2R4BD05L**	**GRM0335C1H2R4BD01D**	**GRM1555C1H2R4BA01D**
	±0.25pF(**C**)	**GRM0225C1C2R4CD05L**	**GRM0335C1H2R4CD01D**	**GRM1555C1H2R4CA01D**
2.5pF(**2R5**)	±0.05pF(**W**)	**GRM0225C1C2R5WD05L**	**GRM0335C1H2R5WD01D**	**GRM1555C1H2R5WA01D**
	±0.1pF(**B**)	**GRM0225C1C2R5BD05L**	**GRM0335C1H2R5BD01D**	**GRM1555C1H2R5BA01D**
	±0.25pF(**C**)	**GRM0225C1C2R5CD05L**	**GRM0335C1H2R5CD01D**	**GRM1555C1H2R5CA01D**
2.6pF(**2R6**)	±0.05pF(**W**)	**GRM0225C1C2R6WD05L**	**GRM0335C1H2R6WD01D**	**GRM1555C1H2R6WA01D**
	±0.1pF(**B**)	**GRM0225C1C2R6BD05L**	**GRM0335C1H2R6BD01D**	**GRM1555C1H2R6BA01D**
	±0.25pF(**C**)	**GRM0225C1C2R6CD05L**	**GRM0335C1H2R6CD01D**	**GRM1555C1H2R6CA01D**
2.7pF(**2R7**)	±0.05pF(**W**)	**GRM0225C1C2R7WD05L**	**GRM0335C1H2R7WD01D**	**GRM1555C1H2R7WA01D**
	±0.1pF(**B**)	**GRM0225C1C2R7BD05L**	**GRM0335C1H2R7BD01D**	**GRM1555C1H2R7BA01D**
	±0.25pF(**C**)	**GRM0225C1C2R7CD05L**	**GRM0335C1H2R7CD01D**	**GRM1555C1H2R7CA01D**
2.8pF(**2R8**)	±0.05pF(**W**)	**GRM0225C1C2R8WD05L**	**GRM0335C1H2R8WD01D**	**GRM1555C1H2R8WA01D**
	±0.1pF(**B**)	**GRM0225C1C2R8BD05L**	**GRM0335C1H2R8BD01D**	**GRM1555C1H2R8BA01D**
	±0.25pF(**C**)	**GRM0225C1C2R8CD05L**	**GRM0335C1H2R8CD01D**	**GRM1555C1H2R8CA01D**
2.9pF(**2R9**)	±0.05pF(**W**)	**GRM0225C1C2R9WD05L**	**GRM0335C1H2R9WD01D**	**GRM1555C1H2R9WA01D**
	±0.1pF(**B**)	**GRM0225C1C2R9BD05L**	**GRM0335C1H2R9BD01D**	**GRM1555C1H2R9BA01D**
	±0.25pF(**C**)	**GRM0225C1C2R9CD05L**	**GRM0335C1H2R9CD01D**	**GRM1555C1H2R9CA01D**
3.0pF(**3R0**)	±0.05pF(**W**)	**GRM0225C1C3R0WD05L**	**GRM0335C1H3R0WD01D**	**GRM1555C1H3R0WA01D**
	±0.1pF(**B**)	**GRM0225C1C3R0BD05L**	**GRM0335C1H3R0BD01D**	**GRM1555C1H3R0BA01D**
	±0.25pF(**C**)	**GRM0225C1C3R0CD05L**	**GRM0335C1H3R0CD01D**	**GRM1555C1H3R0CA01D**
3.1pF(**3R1**)	±0.05pF(**W**)	**GRM0225C1C3R1WD05L**	**GRM0335C1H3R1WD01D**	**GRM1555C1H3R1WA01D**
	±0.1pF(**B**)	**GRM0225C1C3R1BD05L**	**GRM0335C1H3R1BD01D**	**GRM1555C1H3R1BA01D**
	±0.25pF(**C**)	**GRM0225C1C3R1CD05L**	**GRM0335C1H3R1CD01D**	**GRM1555C1H3R1CA01D**
3.2pF(**3R2**)	±0.05pF(**W**)	**GRM0225C1C3R2WD05L**	**GRM0335C1H3R2WD01D**	**GRM1555C1H3R2WA01D**
	±0.1pF(**B**)	**GRM0225C1C3R2BD05L**	**GRM0335C1H3R2BD01D**	**GRM1555C1H3R2BA01D**
	±0.25pF(**C**)	**GRM0225C1C3R2CD05L**	**GRM0335C1H3R2CD01D**	**GRM1555C1H3R2CA01D**
3.3pF(**3R3**)	±0.05pF(**W**)	**GRM0225C1C3R3WD05L**	**GRM0335C1H3R3WD01D**	**GRM1555C1H3R3WA01D**
	±0.1pF(**B**)	**GRM0225C1C3R3BD05L**	**GRM0335C1H3R3BD01D**	**GRM1555C1H3R3BA01D**
	±0.25pF(**C**)	**GRM0225C1C3R3CD05L**	**GRM0335C1H3R3CD01D**	**GRM1555C1H3R3CA01D**
3.4pF(**3R4**)	±0.05pF(**W**)	**GRM0225C1C3R4WD05L**	**GRM0335C1H3R4WD01D**	**GRM1555C1H3R4WA01D**
	±0.1pF(**B**)	**GRM0225C1C3R4BD05L**	**GRM0335C1H3R4BD01D**	**GRM1555C1H3R4BA01D**
	±0.25pF(**C**)	**GRM0225C1C3R4CD05L**	**GRM0335C1H3R4CD01D**	**GRM1555C1H3R4CA01D**
3.5pF(**3R5**)	±0.05pF(**W**)	**GRM0225C1C3R5WD05L**	**GRM0335C1H3R5WD01D**	**GRM1555C1H3R5WA01D**
	±0.1pF(**B**)	**GRM0225C1C3R5BD05L**	**GRM0335C1H3R5BD01D**	**GRM1555C1H3R5BA01D**
	±0.25pF(**C**)	**GRM0225C1C3R5CD05L**	**GRM0335C1H3R5CD01D**	**GRM1555C1H3R5CA01D**

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code

(Part Number) GR ❶ | M ❷ | 02 ❸ | 2 ❹ | 5C ❺ | 1C ❻ | 2R0 ❼ | W ❽ | D05 ❾ | L ❿

❶Product ID ❷Series ❸Dimensions (LxW) ❹Dimension (T)
❺Temperature Characteristics ❻Rated Voltage ❼Capacitance
❽Capacitance Tolerance ❾Individual Specification Code ❿Packaging*

Packaging Code in Part Number shows STD 180mm Reel Taping.

*GRM022: **D** is applicable.

Temperature Compensating Type C0G(5C) Characteristics

LxW [mm]		0.4x0.2(**02**)<01005>	0.6x0.3(**03**)<0201>	1.0x0.5(**15**)<0402>
Rated Volt. [Vdc]		16(**1C**)	50(**1H**)	50(**1H**)
Capacitance	Tolerance	Part Number		
3.6pF(**3R6**)	±0.05pF(**W**)	**GRM0225C1C3R6WD05L**	**GRM0335C1H3R6WD01D**	**GRM1555C1H3R6WA01D**
	±0.1pF(**B**)	**GRM0225C1C3R6BD05L**	**GRM0335C1H3R6BD01D**	**GRM1555C1H3R6BA01D**
	±0.25pF(**C**)	**GRM0225C1C3R6CD05L**	**GRM0335C1H3R6CD01D**	**GRM1555C1H3R6CA01D**
3.7pF(**3R7**)	±0.05pF(**W**)	**GRM0225C1C3R7WD05L**	**GRM0335C1H3R7WD01D**	**GRM1555C1H3R7WA01D**
	±0.1pF(**B**)	**GRM0225C1C3R7BD05L**	**GRM0335C1H3R7BD01D**	**GRM1555C1H3R7BA01D**
	±0.25pF(**C**)	**GRM0225C1C3R7CD05L**	**GRM0335C1H3R7CD01D**	**GRM1555C1H3R7CA01D**
3.8pF(**3R8**)	±0.05pF(**W**)	**GRM0225C1C3R8WD05L**	**GRM0335C1H3R8WD01D**	**GRM1555C1H3R8WA01D**
	±0.1pF(**B**)	**GRM0225C1C3R8BD05L**	**GRM0335C1H3R8BD01D**	**GRM1555C1H3R8BA01D**
	±0.25pF(**C**)	**GRM0225C1C3R8CD05L**	**GRM0335C1H3R8CD01D**	**GRM1555C1H3R8CA01D**
3.9pF(**3R9**)	±0.05pF(**W**)	**GRM0225C1C3R9WD05L**	**GRM0335C1H3R9WD01D**	**GRM1555C1H3R9WA01D**
	±0.1pF(**B**)	**GRM0225C1C3R9BD05L**	**GRM0335C1H3R9BD01D**	**GRM1555C1H3R9BA01D**
	±0.25pF(**C**)	**GRM0225C1C3R9CD05L**	**GRM0335C1H3R9CD01D**	**GRM1555C1H3R9CA01D**
4.0pF(**4R0**)	±0.05pF(**W**)	**GRM0225C1C4R0WD05L**	**GRM0335C1H4R0WD01D**	**GRM1555C1H4R0WA01D**
	±0.1pF(**B**)	**GRM0225C1C4R0BD05L**	**GRM0335C1H4R0BD01D**	**GRM1555C1H4R0BA01D**
	±0.25pF(**C**)	**GRM0225C1C4R0CD05L**	**GRM0335C1H4R0CD01D**	**GRM1555C1H4R0CA01D**
4.1pF(**4R1**)	±0.05pF(**W**)	**GRM0225C1C4R1WD05L**	**GRM0335C1H4R1WD01D**	**GRM1555C1H4R1WA01D**
	±0.1pF(**B**)	**GRM0225C1C4R1BD05L**	**GRM0335C1H4R1BD01D**	**GRM1555C1H4R1BA01D**
	±0.25pF(**C**)	**GRM0225C1C4R1CD05L**	**GRM0335C1H4R1CD01D**	**GRM1555C1H4R1CA01D**
4.2pF(**4R2**)	±0.05pF(**W**)	**GRM0225C1C4R2WD05L**	**GRM0335C1H4R2WD01D**	**GRM1555C1H4R2WA01D**
	±0.1pF(**B**)	**GRM0225C1C4R2BD05L**	**GRM0335C1H4R2BD01D**	**GRM1555C1H4R2BA01D**
	±0.25pF(**C**)	**GRM0225C1C4R2CD05L**	**GRM0335C1H4R2CD01D**	**GRM1555C1H4R2CA01D**
4.3pF(**4R3**)	±0.05pF(**W**)	**GRM0225C1C4R3WD05L**	**GRM0335C1H4R3WD01D**	**GRM1555C1H4R3WA01D**
	±0.1pF(**B**)	**GRM0225C1C4R3BD05L**	**GRM0335C1H4R3BD01D**	**GRM1555C1H4R3BA01D**
	±0.25pF(**C**)	**GRM0225C1C4R3CD05L**	**GRM0335C1H4R3CD01D**	**GRM1555C1H4R3CA01D**
4.4pF(**4R4**)	±0.05pF(**W**)	**GRM0225C1C4R4WD05L**	**GRM0335C1H4R4WD01D**	**GRM1555C1H4R4WA01D**
	±0.1pF(**B**)	**GRM0225C1C4R4BD05L**	**GRM0335C1H4R4BD01D**	**GRM1555C1H4R4BA01D**
	±0.25pF(**C**)	**GRM0225C1C4R4CD05L**	**GRM0335C1H4R4CD01D**	**GRM1555C1H4R4CA01D**
4.5pF(**4R5**)	±0.05pF(**W**)	**GRM0225C1C4R5WD05L**	**GRM0335C1H4R5WD01D**	**GRM1555C1H4R5WA01D**
	±0.1pF(**B**)	**GRM0225C1C4R5BD05L**	**GRM0335C1H4R5BD01D**	**GRM1555C1H4R5BA01D**
	±0.25pF(**C**)	**GRM0225C1C4R5CD05L**	**GRM0335C1H4R5CD01D**	**GRM1555C1H4R5CA01D**
4.6pF(**4R6**)	±0.05pF(**W**)	**GRM0225C1C4R6WD05L**	**GRM0335C1H4R6WD01D**	**GRM1555C1H4R6WA01D**
	±0.1pF(**B**)	**GRM0225C1C4R6BD05L**	**GRM0335C1H4R6BD01D**	**GRM1555C1H4R6BA01D**
	±0.25pF(**C**)	**GRM0225C1C4R6CD05L**	**GRM0335C1H4R6CD01D**	**GRM1555C1H4R6CA01D**
4.7pF(**4R7**)	±0.05pF(**W**)	**GRM0225C1C4R7WD05L**	**GRM0335C1H4R7WD01D**	**GRM1555C1H4R7WA01D**
	±0.1pF(**B**)	**GRM0225C1C4R7BD05L**	**GRM0335C1H4R7BD01D**	**GRM1555C1H4R7BA01D**
	±0.25pF(**C**)	**GRM0225C1C4R7CD05L**	**GRM0335C1H4R7CD01D**	**GRM1555C1H4R7CA01D**
4.8pF(**4R8**)	±0.05pF(**W**)	**GRM0225C1C4R8WD05L**	**GRM0335C1H4R8WD01D**	**GRM1555C1H4R8WA01D**
	±0.1pF(**B**)	**GRM0225C1C4R8BD05L**	**GRM0335C1H4R8BD01D**	**GRM1555C1H4R8BA01D**
	±0.25pF(**C**)	**GRM0225C1C4R8CD05L**	**GRM0335C1H4R8CD01D**	**GRM1555C1H4R8CA01D**
4.9pF(**4R9**)	±0.05pF(**W**)	**GRM0225C1C4R9WD05L**	**GRM0335C1H4R9WD01D**	**GRM1555C1H4R9WA01D**
	±0.1pF(**B**)	**GRM0225C1C4R9BD05L**	**GRM0335C1H4R9BD01D**	**GRM1555C1H4R9BA01D**
	±0.25pF(**C**)	**GRM0225C1C4R9CD05L**	**GRM0335C1H4R9CD01D**	**GRM1555C1H4R9CA01D**
5.0pF(**5R0**)	±0.05pF(**W**)	**GRM0225C1C5R0WD05L**	**GRM0335C1H5R0WD01D**	**GRM1555C1H5R0WA01D**
	±0.1pF(**B**)	**GRM0225C1C5R0BD05L**	**GRM0335C1H5R0BD01D**	**GRM1555C1H5R0BA01D**
	±0.25pF(**C**)	**GRM0225C1C5R0CD05L**	**GRM0335C1H5R0CD01D**	**GRM1555C1H5R0CA01D**
5.1pF(**5R1**)	±0.05pF(**W**)	**GRM0225C1C5R1WD05L**	**GRM0335C1H5R1WD01D**	**GRM1555C1H5R1WA01D**
	±0.1pF(**B**)	**GRM0225C1C5R1BD05L**	**GRM0335C1H5R1BD01D**	**GRM1555C1H5R1BA01D**
	±0.25pF(**C**)	**GRM0225C1C5R1CD05L**	**GRM0335C1H5R1CD01D**	**GRM1555C1H5R1CA01D**
	±0.5pF(**D**)	**GRM0225C1C5R1DD05L**	**GRM0335C1H5R1DD01D**	**GRM1555C1H5R1DA01D**

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code

Temperature Compensating Type C0G(5C) Characteristics

LxW [mm]		0.4x0.2(**02**)<01005>	0.6x0.3(**03**)<0201>	1.0x0.5(**15**)<0402>
Rated Volt. [Vdc]		16(**1C**)	50(**1H**)	50(**1H**)
Capacitance	Tolerance	Part Number		
5.2pF(**5R2**)	±0.05pF(**W**)	**GRM0225C1C5R2WD05L**	**GRM0335C1H5R2WD01D**	**GRM1555C1H5R2WA01D**
	±0.1pF(**B**)	**GRM0225C1C5R2BD05L**	**GRM0335C1H5R2BD01D**	**GRM1555C1H5R2BA01D**
	±0.25pF(**C**)	**GRM0225C1C5R2CD05L**	**GRM0335C1H5R2CD01D**	**GRM1555C1H5R2CA01D**
	±0.5pF(**D**)	**GRM0225C1C5R2DD05L**	**GRM0335C1H5R2DD01D**	**GRM1555C1H5R2DA01D**
5.3pF(**5R3**)	±0.05pF(**W**)	**GRM0225C1C5R3WD05L**	**GRM0335C1H5R3WD01D**	**GRM1555C1H5R3WA01D**
	±0.1pF(**B**)	**GRM0225C1C5R3BD05L**	**GRM0335C1H5R3BD01D**	**GRM1555C1H5R3BA01D**
	±0.25pF(**C**)	**GRM0225C1C5R3CD05L**	**GRM0335C1H5R3CD01D**	**GRM1555C1H5R3CA01D**
	±0.5pF(**D**)	**GRM0225C1C5R3DD05L**	**GRM0335C1H5R3DD01D**	**GRM1555C1H5R3DA01D**
5.4pF(**5R4**)	±0.05pF(**W**)	**GRM0225C1C5R4WD05L**	**GRM0335C1H5R4WD01D**	**GRM1555C1H5R4WA01D**
	±0.1pF(**B**)	**GRM0225C1C5R4BD05L**	**GRM0335C1H5R4BD01D**	**GRM1555C1H5R4BA01D**
	±0.25pF(**C**)	**GRM0225C1C5R4CD05L**	**GRM0335C1H5R4CD01D**	**GRM1555C1H5R4CA01D**
	±0.5pF(**D**)	**GRM0225C1C5R4DD05L**	**GRM0335C1H5R4DD01D**	**GRM1555C1H5R4DA01D**
5.5pF(**5R5**)	±0.05pF(**W**)	**GRM0225C1C5R5WD05L**	**GRM0335C1H5R5WD01D**	**GRM1555C1H5R5WA01D**
	±0.1pF(**B**)	**GRM0225C1C5R5BD05L**	**GRM0335C1H5R5BD01D**	**GRM1555C1H5R5BA01D**
	±0.25pF(**C**)	**GRM0225C1C5R5CD05L**	**GRM0335C1H5R5CD01D**	**GRM1555C1H5R5CA01D**
	±0.5pF(**D**)	**GRM0225C1C5R5DD05L**	**GRM0335C1H5R5DD01D**	**GRM1555C1H5R5DA01D**
5.6pF(**5R6**)	±0.05pF(**W**)	**GRM0225C1C5R6WD05L**	**GRM0335C1H5R6WD01D**	**GRM1555C1H5R6WA01D**
	±0.1pF(**B**)	**GRM0225C1C5R6BD05L**	**GRM0335C1H5R6BD01D**	**GRM1555C1H5R6BA01D**
	±0.25pF(**C**)	**GRM0225C1C5R6CD05L**	**GRM0335C1H5R6CD01D**	**GRM1555C1H5R6CA01D**
	±0.5pF(**D**)	**GRM0225C1C5R6DD05L**	**GRM0335C1H5R6DD01D**	**GRM1555C1H5R6DA01D**
5.7pF(**5R7**)	±0.05pF(**W**)	**GRM0225C1C5R7WD05L**	**GRM0335C1H5R7WD01D**	**GRM1555C1H5R7WA01D**
	±0.1pF(**B**)	**GRM0225C1C5R7BD05L**	**GRM0335C1H5R7BD01D**	**GRM1555C1H5R7BA01D**
	±0.25pF(**C**)	**GRM0225C1C5R7CD05L**	**GRM0335C1H5R7CD01D**	**GRM1555C1H5R7CA01D**
	±0.5pF(**D**)	**GRM0225C1C5R7DD05L**	**GRM0335C1H5R7DD01D**	**GRM1555C1H5R7DA01D**
5.8pF(**5R8**)	±0.05pF(**W**)	**GRM0225C1C5R8WD05L**	**GRM0335C1H5R8WD01D**	**GRM1555C1H5R8WA01D**
	±0.1pF(**B**)	**GRM0225C1C5R8BD05L**	**GRM0335C1H5R8BD01D**	**GRM1555C1H5R8BA01D**
	±0.25pF(**C**)	**GRM0225C1C5R8CD05L**	**GRM0335C1H5R8CD01D**	**GRM1555C1H5R8CA01D**
	±0.5pF(**D**)	**GRM0225C1C5R8DD05L**	**GRM0335C1H5R8DD01D**	**GRM1555C1H5R8DA01D**
5.9pF(**5R9**)	±0.05pF(**W**)	**GRM0225C1C5R9WD05L**	**GRM0335C1H5R9WD01D**	**GRM1555C1H5R9WA01D**
	±0.1pF(**B**)	**GRM0225C1C5R9BD05L**	**GRM0335C1H5R9BD01D**	**GRM1555C1H5R9BA01D**
	±0.25pF(**C**)	**GRM0225C1C5R9CD05L**	**GRM0335C1H5R9CD01D**	**GRM1555C1H5R9CA01D**
	±0.5pF(**D**)	**GRM0225C1C5R9DD05L**	**GRM0335C1H5R9DD01D**	**GRM1555C1H5R9DA01D**
6.0pF(**6R0**)	±0.05pF(**W**)	**GRM0225C1C6R0WD05L**	**GRM0335C1H6R0WD01D**	**GRM1555C1H6R0WA01D**
	±0.1pF(**B**)	**GRM0225C1C6R0BD05L**	**GRM0335C1H6R0BD01D**	**GRM1555C1H6R0BA01D**
	±0.25pF(**C**)	**GRM0225C1C6R0CD05L**	**GRM0335C1H6R0CD01D**	**GRM1555C1H6R0CA01D**
	±0.5pF(**D**)	**GRM0225C1C6R0DD05L**	**GRM0335C1H6R0DD01D**	**GRM1555C1H6R0DA01D**
6.1pF(**6R1**)	±0.05pF(**W**)	**GRM0225C1C6R1WD05L**	**GRM0335C1H6R1WD01D**	**GRM1555C1H6R1WA01D**
	±0.1pF(**B**)	**GRM0225C1C6R1BD05L**	**GRM0335C1H6R1BD01D**	**GRM1555C1H6R1BA01D**
	±0.25pF(**C**)	**GRM0225C1C6R1CD05L**	**GRM0335C1H6R1CD01D**	**GRM1555C1H6R1CA01D**
	±0.5pF(**D**)	**GRM0225C1C6R1DD05L**	**GRM0335C1H6R1DD01D**	**GRM1555C1H6R1DA01D**
6.2pF(**6R2**)	±0.05pF(**W**)	**GRM0225C1C6R2WD05L**	**GRM0335C1H6R2WD01D**	**GRM1555C1H6R2WA01D**
	±0.1pF(**B**)	**GRM0225C1C6R2BD05L**	**GRM0335C1H6R2BD01D**	**GRM1555C1H6R2BA01D**
	±0.25pF(**C**)	**GRM0225C1C6R2CD05L**	**GRM0335C1H6R2CD01D**	**GRM1555C1H6R2CA01D**
	±0.5pF(**D**)	**GRM0225C1C6R2DD05L**	**GRM0335C1H6R2DD01D**	**GRM1555C1H6R2DA01D**
6.3pF(**6R3**)	±0.05pF(**W**)	**GRM0225C1C6R3WD05L**	**GRM0335C1H6R3WD01D**	**GRM1555C1H6R3WA01D**
	±0.1pF(**B**)	**GRM0225C1C6R3BD05L**	**GRM0335C1H6R3BD01D**	**GRM1555C1H6R3BA01D**
	±0.25pF(**C**)	**GRM0225C1C6R3CD05L**	**GRM0335C1H6R3CD01D**	**GRM1555C1H6R3CA01D**
	±0.5pF(**D**)	**GRM0225C1C6R3DD05L**	**GRM0335C1H6R3DD01D**	**GRM1555C1H6R3DA01D**

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code

(Part Number) **GR** | **M** | **02** | **2** | **5C** | **1C** | **5R2** | **W** | **D05** | **L**
❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿

❶Product ID ❷Series ❸Dimensions (LxW) ❹Dimension (T)
❺Temperature Characteristics ❻Rated Voltage ❼Capacitance
❽Capacitance Tolerance ❾Individual Specification Code ❿Packaging*

Packaging Code in Part Number shows STD 180mm Reel Taping.

*__GRM022__: **D** is applicable.

Temperature Compensating Type C0G(5C) Characteristics

LxW [mm]		0.4x0.2(**02**)<01005>	0.6x0.3(**03**)<0201>	1.0x0.5(**15**)<0402>
Rated Volt. [Vdc]		16(**1C**)	50(**1H**)	50(**1H**)
Capacitance	Tolerance	Part Number		
6.4pF(**6R4**)	±0.05pF(**W**)	**GRM0225C1C6R4WD05L**	**GRM0335C1H6R4WD01D**	**GRM1555C1H6R4WA01D**
	±0.1pF(**B**)	**GRM0225C1C6R4BD05L**	**GRM0335C1H6R4BD01D**	**GRM1555C1H6R4BA01D**
	±0.25pF(**C**)	**GRM0225C1C6R4CD05L**	**GRM0335C1H6R4CD01D**	**GRM1555C1H6R4CA01D**
	±0.5pF(**D**)	**GRM0225C1C6R4DD05L**	**GRM0335C1H6R4DD01D**	**GRM1555C1H6R4DA01D**
6.5pF(**6R5**)	±0.05pF(**W**)	**GRM0225C1C6R5WD05L**	**GRM0335C1H6R5WD01D**	**GRM1555C1H6R5WA01D**
	±0.1pF(**B**)	**GRM0225C1C6R5BD05L**	**GRM0335C1H6R5BD01D**	**GRM1555C1H6R5BA01D**
	±0.25pF(**C**)	**GRM0225C1C6R5CD05L**	**GRM0335C1H6R5CD01D**	**GRM1555C1H6R5CA01D**
	±0.5pF(**D**)	**GRM0225C1C6R5DD05L**	**GRM0335C1H6R5DD01D**	**GRM1555C1H6R5DA01D**
6.6pF(**6R6**)	±0.05pF(**W**)	**GRM0225C1C6R6WD05L**	**GRM0335C1H6R6WD01D**	**GRM1555C1H6R6WA01D**
	±0.1pF(**B**)	**GRM0225C1C6R6BD05L**	**GRM0335C1H6R6BD01D**	**GRM1555C1H6R6BA01D**
	±0.25pF(**C**)	**GRM0225C1C6R6CD05L**	**GRM0335C1H6R6CD01D**	**GRM1555C1H6R6CA01D**
	±0.5pF(**D**)	**GRM0225C1C6R6DD05L**	**GRM0335C1H6R6DD01D**	**GRM1555C1H6R6DA01D**
6.7pF(**6R7**)	±0.05pF(**W**)	**GRM0225C1C6R7WD05L**	**GRM0335C1H6R7WD01D**	**GRM1555C1H6R7WA01D**
	±0.1pF(**B**)	**GRM0225C1C6R7BD05L**	**GRM0335C1H6R7BD01D**	**GRM1555C1H6R7BA01D**
	±0.25pF(**C**)	**GRM0225C1C6R7CD05L**	**GRM0335C1H6R7CD01D**	**GRM1555C1H6R7CA01D**
	±0.5pF(**D**)	**GRM0225C1C6R7DD05L**	**GRM0335C1H6R7DD01D**	**GRM1555C1H6R7DA01D**
6.8pF(**6R8**)	±0.05pF(**W**)	**GRM0225C1C6R8WD05L**	**GRM0335C1H6R8WD01D**	**GRM1555C1H6R8WA01D**
	±0.1pF(**B**)	**GRM0225C1C6R8BD05L**	**GRM0335C1H6R8BD01D**	**GRM1555C1H6R8BA01D**
	±0.25pF(**C**)	**GRM0225C1C6R8CD05L**	**GRM0335C1H6R8CD01D**	**GRM1555C1H6R8CA01D**
	±0.5pF(**D**)	**GRM0225C1C6R8DD05L**	**GRM0335C1H6R8DD01D**	**GRM1555C1H6R8DA01D**
6.9pF(**6R9**)	±0.05pF(**W**)	**GRM0225C1C6R9WD05L**	**GRM0335C1H6R9WD01D**	**GRM1555C1H6R9WA01D**
	±0.1pF(**B**)	**GRM0225C1C6R9BD05L**	**GRM0335C1H6R9BD01D**	**GRM1555C1H6R9BA01D**
	±0.25pF(**C**)	**GRM0225C1C6R9CD05L**	**GRM0335C1H6R9CD01D**	**GRM1555C1H6R9CA01D**
	±0.5pF(**D**)	**GRM0225C1C6R9DD05L**	**GRM0335C1H6R9DD01D**	**GRM1555C1H6R9DA01D**
7.0pF(**7R0**)	±0.05pF(**W**)	**GRM0225C1C7R0WD05L**	**GRM0335C1H7R0WD01D**	**GRM1555C1H7R0WA01D**
	±0.1pF(**B**)	**GRM0225C1C7R0BD05L**	**GRM0335C1H7R0BD01D**	**GRM1555C1H7R0BA01D**
	±0.25pF(**C**)	**GRM0225C1C7R0CD05L**	**GRM0335C1H7R0CD01D**	**GRM1555C1H7R0CA01D**
	±0.5pF(**D**)	**GRM0225C1C7R0DD05L**	**GRM0335C1H7R0DD01D**	**GRM1555C1H7R0DA01D**
7.1pF(**7R1**)	±0.05pF(**W**)	**GRM0225C1C7R1WD05L**	**GRM0335C1H7R1WD01D**	**GRM1555C1H7R1WA01D**
	±0.1pF(**B**)	**GRM0225C1C7R1BD05L**	**GRM0335C1H7R1BD01D**	**GRM1555C1H7R1BA01D**
	±0.25pF(**C**)	**GRM0225C1C7R1CD05L**	**GRM0335C1H7R1CD01D**	**GRM1555C1H7R1CA01D**
	±0.5pF(**D**)	**GRM0225C1C7R1DD05L**	**GRM0335C1H7R1DD01D**	**GRM1555C1H7R1DA01D**
7.2pF(**7R2**)	±0.05pF(**W**)	**GRM0225C1C7R2WD05L**	**GRM0335C1H7R2WD01D**	**GRM1555C1H7R2WA01D**
	±0.1pF(**B**)	**GRM0225C1C7R2BD05L**	**GRM0335C1H7R2BD01D**	**GRM1555C1H7R2BA01D**
	±0.25pF(**C**)	**GRM0225C1C7R2CD05L**	**GRM0335C1H7R2CD01D**	**GRM1555C1H7R2CA01D**
	±0.5pF(**D**)	**GRM0225C1C7R2DD05L**	**GRM0335C1H7R2DD01D**	**GRM1555C1H7R2DA01D**
7.3pF(**7R3**)	±0.05pF(**W**)	**GRM0225C1C7R3WD05L**	**GRM0335C1H7R3WD01D**	**GRM1555C1H7R3WA01D**
	±0.1pF(**B**)	**GRM0225C1C7R3BD05L**	**GRM0335C1H7R3BD01D**	**GRM1555C1H7R3BA01D**
	±0.25pF(**C**)	**GRM0225C1C7R3CD05L**	**GRM0335C1H7R3CD01D**	**GRM1555C1H7R3CA01D**
	±0.5pF(**D**)	**GRM0225C1C7R3DD05L**	**GRM0335C1H7R3DD01D**	**GRM1555C1H7R3DA01D**
7.4pF(**7R4**)	±0.05pF(**W**)	**GRM0225C1C7R4WD05L**	**GRM0335C1H7R4WD01D**	**GRM1555C1H7R4WA01D**
	±0.1pF(**B**)	**GRM0225C1C7R4BD05L**	**GRM0335C1H7R4BD01D**	**GRM1555C1H7R4BA01D**
	±0.25pF(**C**)	**GRM0225C1C7R4CD05L**	**GRM0335C1H7R4CD01D**	**GRM1555C1H7R4CA01D**
	±0.5pF(**D**)	**GRM0225C1C7R4DD05L**	**GRM0335C1H7R4DD01D**	**GRM1555C1H7R4DA01D**
7.5pF(**7R5**)	±0.05pF(**W**)	**GRM0225C1C7R5WD05L**	**GRM0335C1H7R5WD01D**	**GRM1555C1H7R5WA01D**
	±0.1pF(**B**)	**GRM0225C1C7R5BD05L**	**GRM0335C1H7R5BD01D**	**GRM1555C1H7R5BA01D**
	±0.25pF(**C**)	**GRM0225C1C7R5CD05L**	**GRM0335C1H7R5CD01D**	**GRM1555C1H7R5CA01D**
	±0.5pF(**D**)	**GRM0225C1C7R5DD05L**	**GRM0335C1H7R5DD01D**	**GRM1555C1H7R5DA01D**

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code

Temperature Compensating Type C0G(5C) Characteristics

LxW [mm]		0.4x0.2(**02**)<01005>	0.6x0.3(**03**)<0201>	1.0x0.5(**15**)<0402>
Rated Volt. [Vdc]		16(**1C**)	50(**1H**)	50(**1H**)
Capacitance	Tolerance	Part Number		
7.6pF(**7R6**)	±0.05pF(**W**)	**GRM0225C1C7R6WD05L**	**GRM0335C1H7R6WD01D**	**GRM1555C1H7R6WA01D**
	±0.1pF(**B**)	**GRM0225C1C7R6BD05L**	**GRM0335C1H7R6BD01D**	**GRM1555C1H7R6BA01D**
	±0.25pF(**C**)	**GRM0225C1C7R6CD05L**	**GRM0335C1H7R6CD01D**	**GRM1555C1H7R6CA01D**
	±0.5pF(**D**)	**GRM0225C1C7R6DD05L**	**GRM0335C1H7R6DD01D**	**GRM1555C1H7R6DA01D**
7.7pF(**7R7**)	±0.05pF(**W**)	**GRM0225C1C7R7WD05L**	**GRM0335C1H7R7WD01D**	**GRM1555C1H7R7WA01D**
	±0.1pF(**B**)	**GRM0225C1C7R7BD05L**	**GRM0335C1H7R7BD01D**	**GRM1555C1H7R7BA01D**
	±0.25pF(**C**)	**GRM0225C1C7R7CD05L**	**GRM0335C1H7R7CD01D**	**GRM1555C1H7R7CA01D**
	±0.5pF(**D**)	**GRM0225C1C7R7DD05L**	**GRM0335C1H7R7DD01D**	**GRM1555C1H7R7DA01D**
7.8pF(**7R8**)	±0.05pF(**W**)	**GRM0225C1C7R8WD05L**	**GRM0335C1H7R8WD01D**	**GRM1555C1H7R8WA01D**
	±0.1pF(**B**)	**GRM0225C1C7R8BD05L**	**GRM0335C1H7R8BD01D**	**GRM1555C1H7R8BA01D**
	±0.25pF(**C**)	**GRM0225C1C7R8CD05L**	**GRM0335C1H7R8CD01D**	**GRM1555C1H7R8CA01D**
	±0.5pF(**D**)	**GRM0225C1C7R8DD05L**	**GRM0335C1H7R8DD01D**	**GRM1555C1H7R8DA01D**
7.9pF(**7R9**)	±0.05pF(**W**)	**GRM0225C1C7R9WD05L**	**GRM0335C1H7R9WD01D**	**GRM1555C1H7R9WA01D**
	±0.1pF(**B**)	**GRM0225C1C7R9BD05L**	**GRM0335C1H7R9BD01D**	**GRM1555C1H7R9BA01D**
	±0.25pF(**C**)	**GRM0225C1C7R9CD05L**	**GRM0335C1H7R9CD01D**	**GRM1555C1H7R9CA01D**
	±0.5pF(**D**)	**GRM0225C1C7R9DD05L**	**GRM0335C1H7R9DD01D**	**GRM1555C1H7R9DA01D**
8.0pF(**8R0**)	±0.05pF(**W**)	**GRM0225C1C8R0WD05L**	**GRM0335C1H8R0WD01D**	**GRM1555C1H8R0WA01D**
	±0.1pF(**B**)	**GRM0225C1C8R0BD05L**	**GRM0335C1H8R0BD01D**	**GRM1555C1H8R0BA01D**
	±0.25pF(**C**)	**GRM0225C1C8R0CD05L**	**GRM0335C1H8R0CD01D**	**GRM1555C1H8R0CA01D**
	±0.5pF(**D**)	**GRM0225C1C8R0DD05L**	**GRM0335C1H8R0DD01D**	**GRM1555C1H8R0DA01D**
8.1pF(**8R1**)	±0.05pF(**W**)	**GRM0225C1C8R1WD05L**	**GRM0335C1H8R1WD01D**	**GRM1555C1H8R1WA01D**
	±0.1pF(**B**)	**GRM0225C1C8R1BD05L**	**GRM0335C1H8R1BD01D**	**GRM1555C1H8R1BA01D**
	±0.25pF(**C**)	**GRM0225C1C8R1CD05L**	**GRM0335C1H8R1CD01D**	**GRM1555C1H8R1CA01D**
	±0.5pF(**D**)	**GRM0225C1C8R1DD05L**	**GRM0335C1H8R1DD01D**	**GRM1555C1H8R1DA01D**
8.2pF(**8R2**)	±0.05pF(**W**)	**GRM0225C1C8R2WD05L**	**GRM0335C1H8R2WD01D**	**GRM1555C1H8R2WA01D**
	±0.1pF(**B**)	**GRM0225C1C8R2BD05L**	**GRM0335C1H8R2BD01D**	**GRM1555C1H8R2BA01D**
	±0.25pF(**C**)	**GRM0225C1C8R2CD05L**	**GRM0335C1H8R2CD01D**	**GRM1555C1H8R2CA01D**
	±0.5pF(**D**)	**GRM0225C1C8R2DD05L**	**GRM0335C1H8R2DD01D**	**GRM1555C1H8R2DA01D**
8.3pF(**8R3**)	±0.05pF(**W**)	**GRM0225C1C8R3WD05L**	**GRM0335C1H8R3WD01D**	**GRM1555C1H8R3WA01D**
	±0.1pF(**B**)	**GRM0225C1C8R3BD05L**	**GRM0335C1H8R3BD01D**	**GRM1555C1H8R3BA01D**
	±0.25pF(**C**)	**GRM0225C1C8R3CD05L**	**GRM0335C1H8R3CD01D**	**GRM1555C1H8R3CA01D**
	±0.5pF(**D**)	**GRM0225C1C8R3DD05L**	**GRM0335C1H8R3DD01D**	**GRM1555C1H8R3DA01D**
8.4pF(**8R4**)	±0.05pF(**W**)	**GRM0225C1C8R4WD05L**	**GRM0335C1H8R4WD01D**	**GRM1555C1H8R4WA01D**
	±0.1pF(**B**)	**GRM0225C1C8R4BD05L**	**GRM0335C1H8R4BD01D**	**GRM1555C1H8R4BA01D**
	±0.25pF(**C**)	**GRM0225C1C8R4CD05L**	**GRM0335C1H8R4CD01D**	**GRM1555C1H8R4CA01D**
	±0.5pF(**D**)	**GRM0225C1C8R4DD05L**	**GRM0335C1H8R4DD01D**	**GRM1555C1H8R4DA01D**
8.5pF(**8R5**)	±0.05pF(**W**)	**GRM0225C1C8R5WD05L**	**GRM0335C1H8R5WD01D**	**GRM1555C1H8R5WA01D**
	±0.1pF(**B**)	**GRM0225C1C8R5BD05L**	**GRM0335C1H8R5BD01D**	**GRM1555C1H8R5BA01D**
	±0.25pF(**C**)	**GRM0225C1C8R5CD05L**	**GRM0335C1H8R5CD01D**	**GRM1555C1H8R5CA01D**
	±0.5pF(**D**)	**GRM0225C1C8R5DD05L**	**GRM0335C1H8R5DD01D**	**GRM1555C1H8R5DA01D**
8.6pF(**8R6**)	±0.05pF(**W**)	**GRM0225C1C8R6WD05L**	**GRM0335C1H8R6WD01D**	**GRM1555C1H8R6WA01D**
	±0.1pF(**B**)	**GRM0225C1C8R6BD05L**	**GRM0335C1H8R6BD01D**	**GRM1555C1H8R6BA01D**
	±0.25pF(**C**)	**GRM0225C1C8R6CD05L**	**GRM0335C1H8R6CD01D**	**GRM1555C1H8R6CA01D**
	±0.5pF(**D**)	**GRM0225C1C8R6DD05L**	**GRM0335C1H8R6DD01D**	**GRM1555C1H8R6DA01D**
8.7pF(**8R7**)	±0.05pF(**W**)	**GRM0225C1C8R7WD05L**	**GRM0335C1H8R7WD01D**	**GRM1555C1H8R7WA01D**
	±0.1pF(**B**)	**GRM0225C1C8R7BD05L**	**GRM0335C1H8R7BD01D**	**GRM1555C1H8R7BA01D**
	±0.25pF(**C**)	**GRM0225C1C8R7CD05L**	**GRM0335C1H8R7CD01D**	**GRM1555C1H8R7CA01D**
	±0.5pF(**D**)	**GRM0225C1C8R7DD05L**	**GRM0335C1H8R7DD01D**	**GRM1555C1H8R7DA01D**

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code

(Part Number) GR ❶ | M ❷ | 02 ❸ | 2 ❹ | 5C ❺ | 1C ❻ | 7R6 ❼ | W ❽ | D05 ❾ | L ❿

❶Product ID ❷Series ❸Dimensions (LxW) ❹Dimension (T)
❺Temperature Characteristics ❻Rated Voltage ❼Capacitance
❽Capacitance Tolerance ❾Individual Specification Code ❿Packaging*

Packaging Code in Part Number shows STD 180mm Reel Taping.

*GRM022: **D** is applicable.

Temperature Compensating Type C0G(5C) Characteristics

LxW [mm]		0.4x0.2(**02**)<01005>	0.6x0.3(**03**)<0201>	1.0x0.5(**15**)<0402>
Rated Volt. [Vdc]		16(**1C**)	50(**1H**)	50(**1H**)
Capacitance	Tolerance	Part Number		
8.8pF(**8R8**)	±0.05pF(**W**)	**GRM0225C1C8R8WD05L**	**GRM0335C1H8R8WD01D**	**GRM1555C1H8R8WA01D**
	±0.1pF(**B**)	**GRM0225C1C8R8BD05L**	**GRM0335C1H8R8BD01D**	**GRM1555C1H8R8BA01D**
	±0.25pF(**C**)	**GRM0225C1C8R8CD05L**	**GRM0335C1H8R8CD01D**	**GRM1555C1H8R8CA01D**
	±0.5pF(**D**)	**GRM0225C1C8R8DD05L**	**GRM0335C1H8R8DD01D**	**GRM1555C1H8R8DA01D**
8.9pF(**8R9**)	±0.05pF(**W**)	**GRM0225C1C8R9WD05L**	**GRM0335C1H8R9WD01D**	**GRM1555C1H8R9WA01D**
	±0.1pF(**B**)	**GRM0225C1C8R9BD05L**	**GRM0335C1H8R9BD01D**	**GRM1555C1H8R9BA01D**
	±0.25pF(**C**)	**GRM0225C1C8R9CD05L**	**GRM0335C1H8R9CD01D**	**GRM1555C1H8R9CA01D**
	±0.5pF(**D**)	**GRM0225C1C8R9DD05L**	**GRM0335C1H8R9DD01D**	**GRM1555C1H8R9DA01D**
9.0pF(**9R0**)	±0.05pF(**W**)	**GRM0225C1C9R0WD05L**	**GRM0335C1H9R0WD01D**	**GRM1555C1H9R0WA01D**
	±0.1pF(**B**)	**GRM0225C1C9R0BD05L**	**GRM0335C1H9R0BD01D**	**GRM1555C1H9R0BA01D**
	±0.25pF(**C**)	**GRM0225C1C9R0CD05L**	**GRM0335C1H9R0CD01D**	**GRM1555C1H9R0CA01D**
	±0.5pF(**D**)	**GRM0225C1C9R0DD05L**	**GRM0335C1H9R0DD01D**	**GRM1555C1H9R0DA01D**
9.1pF(**9R1**)	±0.05pF(**W**)	**GRM0225C1C9R1WD05L**	**GRM0335C1H9R1WD01D**	**GRM1555C1H9R1WA01D**
	±0.1pF(**B**)	**GRM0225C1C9R1BD05L**	**GRM0335C1H9R1BD01D**	**GRM1555C1H9R1BA01D**
	±0.25pF(**C**)	**GRM0225C1C9R1CD05L**	**GRM0335C1H9R1CD01D**	**GRM1555C1H9R1CA01D**
	±0.5pF(**D**)	**GRM0225C1C9R1DD05L**	**GRM0335C1H9R1DD01D**	**GRM1555C1H9R1DA01D**
9.2pF(**9R2**)	±0.05pF(**W**)	**GRM0225C1C9R2WD05L**	**GRM0335C1H9R2WD01D**	**GRM1555C1H9R2WA01D**
	±0.1pF(**B**)	**GRM0225C1C9R2BD05L**	**GRM0335C1H9R2BD01D**	**GRM1555C1H9R2BA01D**
	±0.25pF(**C**)	**GRM0225C1C9R2CD05L**	**GRM0335C1H9R2CD01D**	**GRM1555C1H9R2CA01D**
	±0.5pF(**D**)	**GRM0225C1C9R2DD05L**	**GRM0335C1H9R2DD01D**	**GRM1555C1H9R2DA01D**
9.3pF(**9R3**)	±0.05pF(**W**)	**GRM0225C1C9R3WD05L**	**GRM0335C1H9R3WD01D**	**GRM1555C1H9R3WA01D**
	±0.1pF(**B**)	**GRM0225C1C9R3BD05L**	**GRM0335C1H9R3BD01D**	**GRM1555C1H9R3BA01D**
	±0.25pF(**C**)	**GRM0225C1C9R3CD05L**	**GRM0335C1H9R3CD01D**	**GRM1555C1H9R3CA01D**
	±0.5pF(**D**)	**GRM0225C1C9R3DD05L**	**GRM0335C1H9R3DD01D**	**GRM1555C1H9R3DA01D**
9.4pF(**9R4**)	±0.05pF(**W**)	**GRM0225C1C9R4WD05L**	**GRM0335C1H9R4WD01D**	**GRM1555C1H9R4WA01D**
	±0.1pF(**B**)	**GRM0225C1C9R4BD05L**	**GRM0335C1H9R4BD01D**	**GRM1555C1H9R4BA01D**
	±0.25pF(**C**)	**GRM0225C1C9R4CD05L**	**GRM0335C1H9R4CD01D**	**GRM1555C1H9R4CA01D**
	±0.5pF(**D**)	**GRM0225C1C9R4DD05L**	**GRM0335C1H9R4DD01D**	**GRM1555C1H9R4DA01D**
9.5pF(**9R5**)	±0.05pF(**W**)	**GRM0225C1C9R5WD05L**	**GRM0335C1H9R5WD01D**	**GRM1555C1H9R5WA01D**
	±0.1pF(**B**)	**GRM0225C1C9R5BD05L**	**GRM0335C1H9R5BD01D**	**GRM1555C1H9R5BA01D**
	±0.25pF(**C**)	**GRM0225C1C9R5CD05L**	**GRM0335C1H9R5CD01D**	**GRM1555C1H9R5CA01D**
	±0.5pF(**D**)	**GRM0225C1C9R5DD05L**	**GRM0335C1H9R5DD01D**	**GRM1555C1H9R5DA01D**
9.6pF(**9R6**)	±0.05pF(**W**)	**GRM0225C1C9R6WD05L**	**GRM0335C1H9R6WD01D**	**GRM1555C1H9R6WA01D**
	±0.1pF(**B**)	**GRM0225C1C9R6BD05L**	**GRM0335C1H9R6BD01D**	**GRM1555C1H9R6BA01D**
	±0.25pF(**C**)	**GRM0225C1C9R6CD05L**	**GRM0335C1H9R6CD01D**	**GRM1555C1H9R6CA01D**
	±0.5pF(**D**)	**GRM0225C1C9R6DD05L**	**GRM0335C1H9R6DD01D**	**GRM1555C1H9R6DA01D**
9.7pF(**9R7**)	±0.05pF(**W**)	**GRM0225C1C9R7WD05L**	**GRM0335C1H9R7WD01D**	**GRM1555C1H9R7WA01D**
	±0.1pF(**B**)	**GRM0225C1C9R7BD05L**	**GRM0335C1H9R7BD01D**	**GRM1555C1H9R7BA01D**
	±0.25pF(**C**)	**GRM0225C1C9R7CD05L**	**GRM0335C1H9R7CD01D**	**GRM1555C1H9R7CA01D**
	±0.5pF(**D**)	**GRM0225C1C9R7DD05L**	**GRM0335C1H9R7DD01D**	**GRM1555C1H9R7DA01D**
9.8pF(**9R8**)	±0.05pF(**W**)	**GRM0225C1C9R8WD05L**	**GRM0335C1H9R8WD01D**	**GRM1555C1H9R8WA01D**
	±0.1pF(**B**)	**GRM0225C1C9R8BD05L**	**GRM0335C1H9R8BD01D**	**GRM1555C1H9R8BA01D**
	±0.25pF(**C**)	**GRM0225C1C9R8CD05L**	**GRM0335C1H9R8CD01D**	**GRM1555C1H9R8CA01D**
	±0.5pF(**D**)	**GRM0225C1C9R8DD05L**	**GRM0335C1H9R8DD01D**	**GRM1555C1H9R8DA01D**
9.9pF(**9R9**)	±0.05pF(**W**)	**GRM0225C1C9R9WD05L**	**GRM0335C1H9R9WD01D**	**GRM1555C1H9R9WA01D**
	±0.1pF(**B**)	**GRM0225C1C9R9BD05L**	**GRM0335C1H9R9BD01D**	**GRM1555C1H9R9BA01D**
	±0.25pF(**C**)	**GRM0225C1C9R9CD05L**	**GRM0335C1H9R9CD01D**	**GRM1555C1H9R9CA01D**
	±0.5pF(**D**)	**GRM0225C1C9R9DD05L**	**GRM0335C1H9R9DD01D**	**GRM1555C1H9R9DA01D**

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code

Temperature Compensating Type C0G(5C) Characteristics

LxW [mm]		0.4x0.2(**02**)<01005>			0.6x0.3(**03**)<0201>
Rated Volt. [Vdc]		16(**1C**)	10(**1A**)	6.3(**0J**)	50(**1H**)
Capacitance	Tolerance	Part Number			
10pF(**100**)	±2%(**G**)	**GRM0225C1C100GD05L**			**GRM0335C1H100GD01D**
	±5%(**J**)	**GRM0225C1C100JD05L**			**GRM0335C1H100JD01D**
12pF(**120**)	±2%(**G**)	**GRM0225C1C120GD05L**			**GRM0335C1H120GD01D**
	±5%(**J**)	**GRM0225C1C120JD05L**			**GRM0335C1H120JD01D**
15pF(**150**)	±2%(**G**)	**GRM0225C1C150GD05L**			**GRM0335C1H150GD01D**
	±5%(**J**)	**GRM0225C1C150JD05L**			**GRM0335C1H150JD01D**
18pF(**180**)	±2%(**G**)	**GRM0225C1C180GD05L**			**GRM0335C1H180GD01D**
	±5%(**J**)	**GRM0225C1C180JD05L**			**GRM0335C1H180JD01D**
22pF(**220**)	±2%(**G**)	**GRM0225C1C220GD05L**			**GRM0335C1H220GD01D**
	±5%(**J**)	**GRM0225C1C220JD05L**			**GRM0335C1H220JD01D**
27pF(**270**)	±2%(**G**)	**GRM0225C1C270GD05L**			**GRM0335C1H270GD01D**
	±5%(**J**)	**GRM0225C1C270JD05L**			**GRM0335C1H270JD01D**
33pF(**330**)	±2%(**G**)	**GRM0225C1C330GD05L**			**GRM0335C1H330GD01D**
	±5%(**J**)	**GRM0225C1C330JD05L**			**GRM0335C1H330JD01D**
39pF(**390**)	±2%(**G**)	**GRM0225C1C390GD05L**			**GRM0335C1H390GD01D**
	±5%(**J**)	**GRM0225C1C390JD05L**			**GRM0335C1H390JD01D**
47pF(**470**)	±2%(**G**)	**GRM0225C1C470GD05L**			**GRM0335C1H470GD01D**
	±5%(**J**)	**GRM0225C1C470JD05L**			**GRM0335C1H470JD01D**
56pF(**560**)	±2%(**G**)		**GRM0225C1A560GD05L**	**GRM0225C0J560GD05L**	**GRM0335C1H560GD01D**
	±5%(**J**)		**GRM0225C1A560JD05L**	**GRM0225C0J560JD05L**	**GRM0335C1H560JD01D**
68pF(**680**)	±2%(**G**)		**GRM0225C1A680GD05L**	**GRM0225C0J680GD05L**	**GRM0335C1H680GD01D**
	±5%(**J**)		**GRM0225C1A680JD05L**	**GRM0225C0J680JD05L**	**GRM0335C1H680JD01D**
82pF(**820**)	±2%(**G**)		**GRM0225C1A820GD05L**	**GRM0225C0J820GD05L**	**GRM0335C1H820GD01D**
	±5%(**J**)		**GRM0225C1A820JD05L**	**GRM0225C0J820JD05L**	**GRM0335C1H820JD01D**
100pF(**101**)	±2%(**G**)		**GRM0225C1A101GD05L**	**GRM0225C0J101GD05L**	**GRM0335C1H101GD01D**
	±5%(**J**)		**GRM0225C1A101JD05L**	**GRM0225C0J101JD05L**	**GRM0335C1H101JD01D**

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code

(Part Number) **GR** ❶ | **M** ❷ | **02** ❸ | **2** ❹ | **5C** ❺ | **1C** ❻ | **100** ❼ | **G** ❽ | **D05** ❾ | **L** ❿

❶Product ID ❷Series ❸Dimensions (LxW) ❹Dimension (T)
❺Temperature Characteristics ❻Rated Voltage ❼Capacitance
❽Capacitance Tolerance ❾Individual Specification Code ❿Packaging*

Packaging Code in Part Number shows STD 180mm Reel Taping.

*__GRM022__: **D** is applicable.

Temperature Compensating Type C0G(5C) Characteristics

LxW [mm]		1.0x0.5(**15**)<0402>
Rated Volt. [Vdc]		50(**1H**)
TC		C0G(**5C**)
Capacitance	Tolerance	Part Number
10pF(**100**)	±2%(**G**)	**GRM1555C1H100GA01D**
	±5%(**J**)	**GRM1555C1H100JA01D**
12pF(**120**)	±2%(**G**)	**GRM1555C1H120GA01D**
	±5%(**J**)	**GRM1555C1H120JA01D**
15pF(**150**)	±2%(**G**)	**GRM1555C1H150GA01D**
	±5%(**J**)	**GRM1555C1H150JA01D**
18pF(**180**)	±2%(**G**)	**GRM1555C1H180GA01D**
	±5%(**J**)	**GRM1555C1H180JA01D**
22pF(**220**)	±2%(**G**)	**GRM1555C1H220GA01D**
	±5%(**J**)	**GRM1555C1H220JA01D**
27pF(**270**)	±2%(**G**)	**GRM1555C1H270GA01D**
	±5%(**J**)	**GRM1555C1H270JA01D**
33pF(**330**)	±2%(**G**)	**GRM1555C1H330GA01D**
	±5%(**J**)	**GRM1555C1H330JA01D**
39pF(**390**)	±2%(**G**)	**GRM1555C1H390GA01D**
	±5%(**J**)	**GRM1555C1H390JA01D**
47pF(**470**)	±2%(**G**)	**GRM1555C1H470GA01D**
	±5%(**J**)	**GRM1555C1H470JA01D**
56pF(**560**)	±2%(**G**)	**GRM1555C1H560GA01D**
	±5%(**J**)	**GRM1555C1H560JA01D**
68pF(**680**)	±2%(**G**)	**GRM1555C1H680GA01D**
	±5%(**J**)	**GRM1555C1H680JA01D**
82pF(**820**)	±2%(**G**)	**GRM1555C1H820GA01D**
	±5%(**J**)	**GRM1555C1H820JA01D**
100pF(**101**)	±2%(**G**)	**GRM1555C1H101GA01D**
	±5%(**J**)	**GRM1555C1H101JA01D**
120pF(**121**)	±2%(**G**)	**GRM1555C1H121GA01D**
	±5%(**J**)	**GRM1555C1H121JA01D**
150pF(**151**)	±2%(**G**)	**GRM1555C1H151GA01D**
	±5%(**J**)	**GRM1555C1H151JA01D**
180pF(**181**)	±2%(**G**)	**GRM1555C1H181GA01D**
	±5%(**J**)	**GRM1555C1H181JA01D**
220pF(**221**)	±2%(**G**)	**GRM1555C1H221GA01D**
	±5%(**J**)	**GRM1555C1H221JA01D**
270pF(**271**)	±2%(**G**)	**GRM1555C1H271GA01D**
	±5%(**J**)	**GRM1555C1H271JA01D**
330pF(**331**)	±2%(**G**)	**GRM1555C1H331GA01D**
	±5%(**J**)	**GRM1555C1H331JA01D**
390pF(**391**)	±2%(**G**)	**GRM1555C1H391GA01D**
	±5%(**J**)	**GRM1555C1H391JA01D**
470pF(**471**)	±2%(**G**)	**GRM1555C1H471GA01D**
	±5%(**J**)	**GRM1555C1H471JA01D**
560pF(**561**)	±2%(**G**)	**GRM1555C1H561GA01D**
	±5%(**J**)	**GRM1555C1H561JA01D**
680pF(**681**)	±2%(**G**)	**GRM1555C1H681GA01D**
	±5%(**J**)	**GRM1555C1H681JA01D**
820pF(**821**)	±2%(**G**)	**GRM1555C1H821GA01D**
	±5%(**J**)	**GRM1555C1H821JA01D**
1000pF(**102**)	±2%(**G**)	**GRM1555C1H102GA01D**
	±5%(**J**)	**GRM1555C1H102JA01D**

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code

Temperature Compensating Type C0G(5C) Characteristics

LxW [mm]		1.6x0.8(**18**)<0603>	
Rated Volt. [Vdc]		100(**2A**)	50(**1H**)
Capacitance	Tolerance	Part Number	
10pF(**100**)	±5%(**J**)	**GRM1885C2A100JA01D**	**GRM1885C1H100JA01D**
12pF(**120**)	±5%(**J**)	**GRM1885C2A120JA01D**	**GRM1885C1H120JA01D**
15pF(**150**)	±5%(**J**)	**GRM1885C2A150JA01D**	**GRM1885C1H150JA01D**
18pF(**180**)	±5%(**J**)	**GRM1885C2A180JA01D**	**GRM1885C1H180JA01D**
22pF(**220**)	±5%(**J**)	**GRM1885C2A220JA01D**	**GRM1885C1H220JA01D**
27pF(**270**)	±5%(**J**)	**GRM1885C2A270JA01D**	**GRM1885C1H270JA01D**
33pF(**330**)	±5%(**J**)	**GRM1885C2A330JA01D**	**GRM1885C1H330JA01D**
39pF(**390**)	±5%(**J**)	**GRM1885C2A390JA01D**	**GRM1885C1H390JA01D**
47pF(**470**)	±5%(**J**)	**GRM1885C2A470JA01D**	**GRM1885C1H470JA01D**
56pF(**560**)	±5%(**J**)	**GRM1885C2A560JA01D**	**GRM1885C1H560JA01D**
68pF(**680**)	±5%(**J**)	**GRM1885C2A680JA01D**	**GRM1885C1H680JA01D**
82pF(**820**)	±5%(**J**)	**GRM1885C2A820JA01D**	**GRM1885C1H820JA01D**
100pF(**101**)	±5%(**J**)	**GRM1885C2A101JA01D**	**GRM1885C1H101JA01D**
120pF(**121**)	±5%(**J**)	**GRM1885C2A121JA01D**	**GRM1885C1H121JA01D**
150pF(**151**)	±5%(**J**)	**GRM1885C2A151JA01D**	**GRM1885C1H151JA01D**
180pF(**181**)	±5%(**J**)	**GRM1885C2A181JA01D**	**GRM1885C1H181JA01D**
220pF(**221**)	±5%(**J**)	**GRM1885C2A221JA01D**	**GRM1885C1H221JA01D**
270pF(**271**)	±5%(**J**)	**GRM1885C2A271JA01D**	**GRM1885C1H271JA01D**
330pF(**331**)	±5%(**J**)	**GRM1885C2A331JA01D**	**GRM1885C1H331JA01D**
390pF(**391**)	±5%(**J**)	**GRM1885C2A391JA01D**	**GRM1885C1H391JA01D**
470pF(**471**)	±5%(**J**)	**GRM1885C2A471JA01D**	**GRM1885C1H471JA01D**
560pF(**561**)	±5%(**J**)	**GRM1885C2A561JA01D**	**GRM1885C1H561JA01D**
680pF(**681**)	±5%(**J**)	**GRM1885C2A681JA01D**	**GRM1885C1H681JA01D**
820pF(**821**)	±5%(**J**)	**GRM1885C2A821JA01D**	**GRM1885C1H821JA01D**
1000pF(**102**)	±5%(**J**)	**GRM1885C2A102JA01D**	**GRM1885C1H102JA01D**
1200pF(**122**)	±5%(**J**)	**GRM1885C2A122JA01D**	**GRM1885C1H122JA01D**
1500pF(**152**)	±5%(**J**)	**GRM1885C2A152JA01D**	**GRM1885C1H152JA01D**
1800pF(**182**)	±5%(**J**)		**GRM1885C1H182JA01D**
2200pF(**222**)	±5%(**J**)		**GRM1885C1H222JA01D**
2700pF(**272**)	±5%(**J**)		**GRM1885C1H272JA01D**
3300pF(**332**)	±5%(**J**)		**GRM1885C1H332JA01D**
3900pF(**392**)	±5%(**J**)		**GRM1885C1H392JA01D**

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code

(Part Number) **GR** ❶ | **M** ❷ | **18** ❸ | **8** ❹ | **5C** ❺ | **2A** ❻ | **100** ❼ | **J** ❽ | **A01** ❾ | **D** ❿

❶Product ID ❷Series ❸Dimensions (LxW) ❹Dimension (T)
❺Temperature Characteristics ❻Rated Voltage ❼Capacitance
❽Capacitance Tolerance ❾Individual Specification Code ❿Packaging

Packaging Code in Part Number shows STD 180mm Reel Taping.

Temperature Compensating Type C0G(5C) Characteristics

LxW [mm]		2.0x1.25(**21**)<0805>		3.2x1.6(**31**)<1206>	
Rated Volt. [Vdc]		100(**2A**)	50(**1H**)	100(**2A**)	50(**1H**)
Capacitance	Tolerance	Part Number			
100pF(**101**)	±5%(**J**)	**GRM2165C2A101JA01D**			
120pF(**121**)	±5%(**J**)	**GRM2165C2A121JA01D**			
150pF(**151**)	±5%(**J**)	**GRM2165C2A151JA01D**			
180pF(**181**)	±5%(**J**)	**GRM2165C2A181JA01D**			
220pF(**221**)	±5%(**J**)	**GRM2165C2A221JA01D**			
270pF(**271**)	±5%(**J**)	**GRM2165C2A271JA01D**			
330pF(**331**)	±5%(**J**)	**GRM2165C2A331JA01D**			
390pF(**391**)	±5%(**J**)	**GRM2165C2A391JA01D**			
470pF(**471**)	±5%(**J**)	**GRM2165C2A471JA01D**			
560pF(**561**)	±5%(**J**)	**GRM2165C2A561JA01D**			
680pF(**681**)	±5%(**J**)	**GRM2165C2A681JA01D**			
820pF(**821**)	±5%(**J**)	**GRM2165C2A821JA01D**			
1000pF(**102**)	±5%(**J**)	**GRM2165C2A102JA01D**			
1200pF(**122**)	±5%(**J**)	**GRM2165C2A122JA01D**	**GRM2165C1H122JA01D**		
1500pF(**152**)	±5%(**J**)	**GRM2165C2A152JA01D**	**GRM2165C1H152JA01D**		
1800pF(**182**)	±5%(**J**)	**GRM2165C2A182JA01D**	**GRM2165C1H182JA01D**	**GRM3195C2A182JA01D**	
2200pF(**222**)	±5%(**J**)	**GRM2165C2A222JA01D**	**GRM2165C1H222JA01D**	**GRM3195C2A222JA01D**	
2700pF(**272**)	±5%(**J**)	**GRM2165C2A272JA01D**	**GRM2165C1H272JA01D**	**GRM3195C2A272JA01D**	
3300pF(**332**)	±5%(**J**)	**GRM2165C2A332JA01D**	**GRM2165C1H332JA01D**	**GRM3195C2A332JA01D**	
3900pF(**392**)	±5%(**J**)		**GRM2165C1H392JA01D**	**GRM3195C2A392JA01D**	
4700pF(**472**)	±5%(**J**)		**GRM2165C1H472JA01D**	**GRM3195C2A472JA01D**	**GRM3195C1H472JA01D**
5600pF(**562**)	±5%(**J**)		**GRM2195C1H562JA01D**	**GRM3195C2A562JA01D**	**GRM3195C1H562JA01D**
6800pF(**682**)	±5%(**J**)		**GRM2195C1H682JA01D**	**GRM3195C2A682JA01D**	**GRM3195C1H682JA01D**
8200pF(**822**)	±5%(**J**)		**GRM2195C1H822JA01D**	**GRM3195C2A822JA01D**	**GRM3195C1H822JA01D**
10000pF(**103**)	±5%(**J**)		**GRM2195C1H103JA01D**	**GRM3195C2A103JA01D**	**GRM3195C1H103JA01D**
12000pF(**123**)	±5%(**J**)		**GRM2195C1H123JA01D**	**GRM3195C2A123JA01D**	**GRM3195C1H123JA01D**
15000pF(**153**)	±5%(**J**)		**GRM2195C1H153JA01D**	**GRM3195C2A153JA01D**	**GRM3195C1H153JA01D**
18000pF(**183**)	±5%(**J**)		**GRM21B5C1H183JA01L**	**GRM3195C2A183JA01D**	**GRM3195C1H183JA01D**
22000pF(**223**)	±5%(**J**)		**GRM21B5C1H223JA01L**	**GRM3195C2A223JA01D**	**GRM3195C1H223JA01D**
27000pF(**273**)	±5%(**J**)				**GRM3195C1H273JA01D**
33000pF(**333**)	±5%(**J**)				**GRM3195C1H333JA01D**
39000pF(**393**)	±5%(**J**)				**GRM3195C1H393JA01D**
47000pF(**473**)	±5%(**J**)				**GRM31M5C1H473JA01L**
56000pF(**563**)	±5%(**J**)				**GRM31M5C1H563JA01L**
68000pF(**683**)	±5%(**J**)				**GRM31C5C1H683JA01L**
82000pF(**823**)	±5%(**J**)				**GRM31C5C1H823JA01L**
100000pF(**104**)	±5%(**J**)				**GRM31C5C1H104JA01L**

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code

Temperature Compensating Type C0G(5C) Characteristics-Low Profile

LxW [mm]		1.0x0.5(**15**)<0402>
Rated Volt. [Vdc]		50(**1H**)
Capacitance	Tolerance	Part Number
0.1pF(**R10**)	±0.1pF(**B**)	**GRM1535C1HR10BDD5D**
0.2pF(**R20**)	±0.1pF(**B**)	**GRM1535C1HR20BDD5D**
0.3pF(**R30**)	±0.1pF(**B**)	**GRM1535C1HR30BDD5D**
0.4pF(**R40**)	±0.1pF(**B**)	**GRM1535C1HR40BDD5D**
0.5pF(**R50**)	±0.1pF(**B**)	**GRM1535C1HR50BDD5D**
0.6pF(**R60**)	±0.1pF(**B**)	**GRM1535C1HR60BDD5D**
0.7pF(**R70**)	±0.1pF(**B**)	**GRM1535C1HR70BDD5D**
0.8pF(**R80**)	±0.1pF(**B**)	**GRM1535C1HR80BDD5D**
0.9pF(**R90**)	±0.1pF(**B**)	**GRM1535C1HR90BDD5D**
1.0pF(**1R0**)	±0.25pF(**C**)	**GRM1535C1H1R0CDD5D**
1.1pF(**1R1**)	±0.25pF(**C**)	**GRM1535C1H1R1CDD5D**
1.2pF(**1R2**)	±0.25pF(**C**)	**GRM1535C1H1R2CDD5D**
1.3pF(**1R3**)	±0.25pF(**C**)	**GRM1535C1H1R3CDD5D**
1.4pF(**1R4**)	±0.25pF(**C**)	**GRM1535C1H1R4CDD5D**
1.5pF(**1R5**)	±0.25pF(**C**)	**GRM1535C1H1R5CDD5D**
1.6pF(**1R6**)	±0.25pF(**C**)	**GRM1535C1H1R6CDD5D**
1.7pF(**1R7**)	±0.25pF(**C**)	**GRM1535C1H1R7CDD5D**
1.8pF(**1R8**)	±0.25pF(**C**)	**GRM1535C1H1R8CDD5D**
1.9pF(**1R9**)	±0.25pF(**C**)	**GRM1535C1H1R9CDD5D**
2.0pF(**2R0**)	±0.25pF(**C**)	**GRM1535C1H2R0CDD5D**
2.1pF(**2R1**)	±0.25pF(**C**)	**GRM1535C1H2R1CDD5D**
2.2pF(**2R2**)	±0.25pF(**C**)	**GRM1535C1H2R2CDD5D**
2.3pF(**2R3**)	±0.25pF(**C**)	**GRM1535C1H2R3CDD5D**
2.4pF(**2R4**)	±0.25pF(**C**)	**GRM1535C1H2R4CDD5D**
2.5pF(**2R5**)	±0.25pF(**C**)	**GRM1535C1H2R5CDD5D**
2.6pF(**2R6**)	±0.25pF(**C**)	**GRM1535C1H2R6CDD5D**
2.7pF(**2R7**)	±0.25pF(**C**)	**GRM1535C1H2R7CDD5D**
2.8pF(**2R8**)	±0.25pF(**C**)	**GRM1535C1H2R8CDD5D**
2.9pF(**2R9**)	±0.25pF(**C**)	**GRM1535C1H2R9CDD5D**
3.0pF(**3R0**)	±0.25pF(**C**)	**GRM1535C1H3R0CDD5D**
3.1pF(**3R1**)	±0.25pF(**C**)	**GRM1535C1H3R1CDD5D**
3.2pF(**3R2**)	±0.25pF(**C**)	**GRM1535C1H3R2CDD5D**
3.3pF(**3R3**)	±0.25pF(**C**)	**GRM1535C1H3R3CDD5D**
3.4pF(**3R4**)	±0.25pF(**C**)	**GRM1535C1H3R4CDD5D**
3.5pF(**3R5**)	±0.25pF(**C**)	**GRM1535C1H3R5CDD5D**
3.6pF(**3R6**)	±0.25pF(**C**)	**GRM1535C1H3R6CDD5D**
3.7pF(**3R7**)	±0.25pF(**C**)	**GRM1535C1H3R7CDD5D**
3.8pF(**3R8**)	±0.25pF(**C**)	**GRM1535C1H3R8CDD5D**
3.9pF(**3R9**)	±0.25pF(**C**)	**GRM1535C1H3R9CDD5D**
4.0pF(**4R0**)	±0.25pF(**C**)	**GRM1535C1H4R0CDD5D**
4.1pF(**4R1**)	±0.25pF(**C**)	**GRM1535C1H4R1CDD5D**
4.2pF(**4R2**)	±0.25pF(**C**)	**GRM1535C1H4R2CDD5D**
4.3pF(**4R3**)	±0.25pF(**C**)	**GRM1535C1H4R3CDD5D**
4.4pF(**4R4**)	±0.25pF(**C**)	**GRM1535C1H4R4CDD5D**
4.5pF(**4R5**)	±0.25pF(**C**)	**GRM1535C1H4R5CDD5D**
4.6pF(**4R6**)	±0.25pF(**C**)	**GRM1535C1H4R6CDD5D**
4.7pF(**4R7**)	±0.25pF(**C**)	**GRM1535C1H4R7CDD5D**
4.8pF(**4R8**)	±0.25pF(**C**)	**GRM1535C1H4R8CDD5D**

LxW [mm]		1.0x0.5(**15**)<0402>
Rated Volt. [Vdc]		50(**1H**)
Capacitance	Tolerance	Part Number
4.9pF(**4R9**)	±0.25pF(**C**)	**GRM1535C1H4R9CDD5D**
5.0pF(**5R0**)	±0.25pF(**C**)	**GRM1535C1H5R0CDD5D**
5.1pF(**5R1**)	±0.5pF(**D**)	**GRM1535C1H5R1DDD5D**
5.2pF(**5R2**)	±0.5pF(**D**)	**GRM1535C1H5R2DDD5D**
5.3pF(**5R3**)	±0.5pF(**D**)	**GRM1535C1H5R3DDD5D**
5.4pF(**5R4**)	±0.5pF(**D**)	**GRM1535C1H5R4DDD5D**
5.5pF(**5R5**)	±0.5pF(**D**)	**GRM1535C1H5R5DDD5D**
5.6pF(**5R6**)	±0.5pF(**D**)	**GRM1535C1H5R6DDD5D**
5.7pF(**5R7**)	±0.5pF(**D**)	**GRM1535C1H5R7DDD5D**
5.8pF(**5R8**)	±0.5pF(**D**)	**GRM1535C1H5R8DDD5D**
5.9pF(**5R9**)	±0.5pF(**D**)	**GRM1535C1H5R9DDD5D**
6.0pF(**6R0**)	±0.5pF(**D**)	**GRM1535C1H6R0DDD5D**
6.1pF(**6R1**)	±0.5pF(**D**)	**GRM1535C1H6R1DDD5D**
6.2pF(**6R2**)	±0.5pF(**D**)	**GRM1535C1H6R2DDD5D**
6.3pF(**6R3**)	±0.5pF(**D**)	**GRM1535C1H6R3DDD5D**
6.4pF(**6R4**)	±0.5pF(**D**)	**GRM1535C1H6R4DDD5D**
6.5pF(**6R5**)	±0.5pF(**D**)	**GRM1535C1H6R5DDD5D**
6.6pF(**6R6**)	±0.5pF(**D**)	**GRM1535C1H6R6DDD5D**
6.7pF(**6R7**)	±0.5pF(**D**)	**GRM1535C1H6R7DDD5D**
6.8pF(**6R8**)	±0.5pF(**D**)	**GRM1535C1H6R8DDD5D**
6.9pF(**6R9**)	±0.5pF(**D**)	**GRM1535C1H6R9DDD5D**
7.0pF(**7R0**)	±0.5pF(**D**)	**GRM1535C1H7R0DDD5D**
7.1pF(**7R1**)	±0.5pF(**D**)	**GRM1535C1H7R1DDD5D**
7.2pF(**7R2**)	±0.5pF(**D**)	**GRM1535C1H7R2DDD5D**
7.3pF(**7R3**)	±0.5pF(**D**)	**GRM1535C1H7R3DDD5D**
7.4pF(**7R4**)	±0.5pF(**D**)	**GRM1535C1H7R4DDD5D**
7.5pF(**7R5**)	±0.5pF(**D**)	**GRM1535C1H7R5DDD5D**
7.6pF(**7R6**)	±0.5pF(**D**)	**GRM1535C1H7R6DDD5D**
7.7pF(**7R7**)	±0.5pF(**D**)	**GRM1535C1H7R7DDD5D**
7.8pF(**7R8**)	±0.5pF(**D**)	**GRM1535C1H7R8DDD5D**
7.9pF(**7R9**)	±0.5pF(**D**)	**GRM1535C1H7R9DDD5D**
8.0pF(**8R0**)	±0.5pF(**D**)	**GRM1535C1H8R0DDD5D**
8.1pF(**8R1**)	±0.5pF(**D**)	**GRM1535C1H8R1DDD5D**
8.2pF(**8R2**)	±0.5pF(**D**)	**GRM1535C1H8R2DDD5D**
8.3pF(**8R3**)	±0.5pF(**D**)	**GRM1535C1H8R3DDD5D**
8.4pF(**8R4**)	±0.5pF(**D**)	**GRM1535C1H8R4DDD5D**
8.5pF(**8R5**)	±0.5pF(**D**)	**GRM1535C1H8R5DDD5D**
8.6pF(**8R6**)	±0.5pF(**D**)	**GRM1535C1H8R6DDD5D**
8.7pF(**8R7**)	±0.5pF(**D**)	**GRM1535C1H8R7DDD5D**
8.8pF(**8R8**)	±0.5pF(**D**)	**GRM1535C1H8R8DDD5D**
8.9pF(**8R9**)	±0.5pF(**D**)	**GRM1535C1H8R9DDD5D**
9.0pF(**9R0**)	±0.5pF(**D**)	**GRM1535C1H9R0DDD5D**
9.1pF(**9R1**)	±0.5pF(**D**)	**GRM1535C1H9R1DDD5D**
9.2pF(**9R2**)	±0.5pF(**D**)	**GRM1535C1H9R2DDD5D**
9.3pF(**9R3**)	±0.5pF(**D**)	**GRM1535C1H9R3DDD5D**
9.4pF(**9R4**)	±0.5pF(**D**)	**GRM1535C1H9R4DDD5D**
9.5pF(**9R5**)	±0.5pF(**D**)	**GRM1535C1H9R5DDD5D**
9.6pF(**9R6**)	±0.5pF(**D**)	**GRM1535C1H9R6DDD5D**

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code

(Part Number) **GR** | **M** | **15** | **3** | **5C** | **1H** | **R10** | **B** | **DD5** | **D**
❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿

❶Product ID ❷Series ❸Dimensions (LxW) ❹Dimension (T)
❺Temperature Characteristics ❻Rated Voltage ❼Capacitance
❽Capacitance Tolerance ❾Individual Specification Code ❿Packaging

Packaging Code in Part Number shows STD 180mm Reel Taping.

Temperature Compensating Type C0G(5C) Characteristics-Low Profile

LxW [mm]		1.0x0.5(**15**)<0402>
Rated Volt. [Vdc]		50(**1H**)
Capacitance	Tolerance	Part Number
9.7pF(**9R7**)	±0.5pF(**D**)	**GRM1535C1H9R7DDD5D**
9.8pF(**9R8**)	±0.5pF(**D**)	**GRM1535C1H9R8DDD5D**
9.9pF(**9R9**)	±0.5pF(**D**)	**GRM1535C1H9R9DDD5D**
10pF(**100**)	±5%(**J**)	**GRM1535C1H100JDD5D**
12pF(**120**)	±5%(**J**)	**GRM1535C1H120JDD5D**
15pF(**150**)	±5%(**J**)	**GRM1535C1H150JDD5D**
18pF(**180**)	±5%(**J**)	**GRM1535C1H180JDD5D**
22pF(**220**)	±5%(**J**)	**GRM1535C1H220JDD5D**
27pF(**270**)	±5%(**J**)	**GRM1535C1H270JDD5D**
33pF(**330**)	±5%(**J**)	**GRM1535C1H330JDD5D**
39pF(**390**)	±5%(**J**)	**GRM1535C1H390JDD5D**
47pF(**470**)	±5%(**J**)	**GRM1535C1H470JDD5D**
56pF(**560**)	±5%(**J**)	**GRM1535C1H560JDD5D**
68pF(**680**)	±5%(**J**)	**GRM1535C1H680JDD5D**
82pF(**820**)	±5%(**J**)	**GRM1535C1H820JDD5D**
100pF(**101**)	±5%(**J**)	**GRM1535C1H101JDD5D**
120pF(**121**)	±5%(**J**)	**GRM1535C1H121JDD5D**
150pF(**151**)	±5%(**J**)	**GRM1535C1H151JDD5D**
180pF(**181**)	±5%(**J**)	**GRM1535C1H181JDD5D**
220pF(**221**)	±5%(**J**)	**GRM1535C1H221JDD5D**
270pF(**271**)	±5%(**J**)	**GRM1535C1H271JDD5D**
330pF(**331**)	±5%(**J**)	**GRM1535C1H331JDD5D**
390pF(**391**)	±5%(**J**)	**GRM1535C1H391JDD5D**
470pF(**471**)	±5%(**J**)	**GRM1535C1H471JDD5D**
560pF(**561**)	±5%(**J**)	**GRM1535C1H561JDD5D**
680pF(**681**)	±5%(**J**)	**GRM1535C1H681JDD5D**

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code

Temperature Compensating Type C0G(5C) Characteristics-Low Profile

LxW [mm]		2.0x1.25(**21**)<0805>		3.2x1.6(**31**)<1206>	
Rated Volt. [Vdc]		100(**2A**)	50(**1H**)	100(**2A**)	50(**1H**)
Capacitance	Tolerance	Part Number			
100pF(**101**)	±5%(**J**)	**GRM2165C2A101JA01D**			
120pF(**121**)	±5%(**J**)	**GRM2165C2A121JA01D**			
150pF(**151**)	±5%(**J**)	**GRM2165C2A151JA01D**			
180pF(**181**)	±5%(**J**)	**GRM2165C2A181JA01D**			
220pF(**221**)	±5%(**J**)	**GRM2165C2A221JA01D**			
270pF(**271**)	±5%(**J**)	**GRM2165C2A271JA01D**			
330pF(**331**)	±5%(**J**)	**GRM2165C2A331JA01D**			
390pF(**391**)	±5%(**J**)	**GRM2165C2A391JA01D**			
470pF(**471**)	±5%(**J**)	**GRM2165C2A471JA01D**			
560pF(**561**)	±5%(**J**)	**GRM2165C2A561JA01D**			
680pF(**681**)	±5%(**J**)	**GRM2165C2A681JA01D**			
820pF(**821**)	±5%(**J**)	**GRM2165C2A821JA01D**			
1000pF(**102**)	±5%(**J**)	**GRM2165C2A102JA01D**			
1200pF(**122**)	±5%(**J**)	**GRM2165C2A122JA01D**	**GRM2165C1H122JA01D**		
1500pF(**152**)	±5%(**J**)	**GRM2165C2A152JA01D**	**GRM2165C1H152JA01D**		
1800pF(**182**)	±5%(**J**)	**GRM2165C2A182JA01D**	**GRM2165C1H182JA01D**	**GRM3195C2A182JA01D**	
2200pF(**222**)	±5%(**J**)	**GRM2165C2A222JA01D**	**GRM2165C1H222JA01D**	**GRM3195C2A222JA01D**	
2700pF(**272**)	±5%(**J**)	**GRM2165C2A272JA01D**	**GRM2165C1H272JA01D**	**GRM3195C2A272JA01D**	
3300pF(**332**)	±5%(**J**)	**GRM2165C2A332JA01D**	**GRM2165C1H332JA01D**	**GRM3195C2A332JA01D**	
3900pF(**392**)	±5%(**J**)		**GRM2165C1H392JA01D**	**GRM3195C2A392JA01D**	
4700pF(**472**)	±5%(**J**)		**GRM2165C1H472JA01D**	**GRM3195C2A472JA01D**	**GRM3195C1H472JA01D**
5600pF(**562**)	±5%(**J**)		**GRM2195C1H562JA01D**	**GRM3195C2A562JA01D**	**GRM3195C1H562JA01D**
6800pF(**682**)	±5%(**J**)		**GRM2195C1H682JA01D**	**GRM3195C2A682JA01D**	**GRM3195C1H682JA01D**
8200pF(**822**)	±5%(**J**)		**GRM2195C1H822JA01D**	**GRM3195C2A822JA01D**	**GRM3195C1H822JA01D**
10000pF(**103**)	±5%(**J**)		**GRM2195C1H103JA01D**	**GRM3195C2A103JA01D**	**GRM3195C1H103JA01D**
12000pF(**123**)	±5%(**J**)		**GRM2195C1H123JA01D**		**GRM3195C1H123JA01D**
15000pF(**153**)	±5%(**J**)		**GRM2195C1H153JA01D**		**GRM3195C1H153JA01D**
18000pF(**183**)	±5%(**J**)				**GRM3195C1H183JA01D**
22000pF(**223**)	±5%(**J**)				**GRM3195C1H223JA01D**
27000pF(**273**)	±5%(**J**)				**GRM3195C1H273JA01D**
33000pF(**333**)	±5%(**J**)				**GRM3195C1H333JA01D**
39000pF(**393**)	±5%(**J**)				**GRM3195C1H393JA01D**
47000pF(**473**)	±5%(**J**)				**GRM31M5C1H473JA01L**
56000pF(**563**)	±5%(**J**)				**GRM31M5C1H563JA01L**

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code

(Part Number) **GR** | **M** | **21** | **6** | **5C** | **2A** | **101** | **J** | **A01** | **D**
❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿

❶Product ID ❷Series ❸Dimensions (LxW) ❹Dimension (T)
❺Temperature Characteristics ❻Rated Voltage ❼Capacitance
❽Capacitance Tolerance ❾Individual Specification Code ❿Packaging

Packaging Code in Part Number shows STD 180mm Reel Taping.

Temperature Compensating Type U2J(7U) Characteristics

LxW [mm]		0.6x0.3(**03**)<0201>		1.0x0.5(**15**)<0402>	
Rated Volt. [Vdc]		50(**1H**)	25(**1E**)	50(**1H**)	10(**1A**)
Capacitance	Tolerance	Part Number			
1.0pF(**1R0**)	±0.25pF(**C**)	**GRM0337U1H1R0CD01D**		**GRM1557U1H1R0CZ01D**	
2.0pF(**2R0**)	±0.25pF(**C**)	**GRM0337U1H2R0CD01D**		**GRM1557U1H2R0CZ01D**	
3.0pF(**3R0**)	±0.25pF(**C**)	**GRM0337U1H3R0CD01D**		**GRM1557U1H3R0CZ01D**	
4.0pF(**4R0**)	±0.25pF(**C**)	**GRM0337U1H4R0CD01D**		**GRM1557U1H4R0CZ01D**	
5.0pF(**5R0**)	±0.25pF(**C**)	**GRM0337U1H5R0CD01D**		**GRM1557U1H5R0CZ01D**	
6.0pF(**6R0**)	±0.5pF(**D**)	**GRM0337U1H6R0DD01D**		**GRM1557U1H6R0DZ01D**	
7.0pF(**7R0**)	±0.5pF(**D**)	**GRM0337U1H7R0DD01D**		**GRM1557U1H7R0DZ01D**	
8.0pF(**8R0**)	±0.5pF(**D**)	**GRM0337U1H8R0DD01D**		**GRM1557U1H8R0DZ01D**	
9.0pF(**9R0**)	±0.5pF(**D**)	**GRM0337U1H9R0DD01D**		**GRM1557U1H9R0DZ01D**	
10pF(**100**)	±5%(**J**)	**GRM0337U1H100JD01D**		**GRM1557U1H100JZ01D**	
12pF(**120**)	±5%(**J**)	**GRM0337U1H120JD01D**		**GRM1557U1H120JZ01D**	
15pF(**150**)	±5%(**J**)	**GRM0337U1H150JD01D**		**GRM1557U1H150JZ01D**	
18pF(**180**)	±5%(**J**)		**GRM0337U1E180JD01D**	**GRM1557U1H180JZ01D**	
22pF(**220**)	±5%(**J**)		**GRM0337U1E220JD01D**	**GRM1557U1H220JZ01D**	
27pF(**270**)	±5%(**J**)		**GRM0337U1E270JD01D**	**GRM1557U1H270JZ01D**	
33pF(**330**)	±5%(**J**)		**GRM0337U1E330JD01D**	**GRM1557U1H330JZ01D**	
39pF(**390**)	±5%(**J**)		**GRM0337U1E390JD01D**	**GRM1557U1H390JZ01D**	
47pF(**470**)	±5%(**J**)		**GRM0337U1E470JD01D**	**GRM1557U1H470JZ01D**	
56pF(**560**)	±5%(**J**)		**GRM0337U1E560JD01D**	**GRM1557U1H560JZ01D**	
68pF(**680**)	±5%(**J**)		**GRM0337U1E680JD01D**	**GRM1557U1H680JZ01D**	
82pF(**820**)	±5%(**J**)		**GRM0337U1E820JD01D**	**GRM1557U1H820JZ01D**	
100pF(**101**)	±5%(**J**)		**GRM0337U1E101JD01D**	**GRM1557U1H101JZ01D**	
120pF(**121**)	±5%(**J**)			**GRM1557U1H121JZ01D**	
150pF(**151**)	±5%(**J**)			**GRM1557U1H151JZ01D**	
180pF(**181**)	±5%(**J**)			**GRM1557U1H181JZ01D**	
1200pF(**122**)	±5%(**J**)				**GRM1557U1A122JA01D**
1500pF(**152**)	±5%(**J**)				**GRM1557U1A152JA01D**
1800pF(**182**)	±5%(**J**)				**GRM1557U1A182JA01D**
2200pF(**222**)	±5%(**J**)				**GRM1557U1A222JA01D**
2700pF(**272**)	±5%(**J**)				**GRM1557U1A272JA01D**
3300pF(**332**)	±5%(**J**)				**GRM1557U1A332JA01D**
3900pF(**392**)	±5%(**J**)				**GRM1557U1A392JA01D**
4700pF(**472**)	±5%(**J**)				**GRM1557U1A472JA01D**

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code

Temperature Compensating Type U2J(7U) Characteristics

LxW [mm]		1.6x0.8(**18**)<0603>	
Rated Volt. [Vdc]		50(**1H**)	10(**1A**)
Capacitance	Tolerance	Part Number	
1000pF(**102**)	±5%(**J**)	**GRM1887U1H102JA01D**	
1200pF(**122**)	±5%(**J**)	**GRM1887U1H122JA01D**	
1500pF(**152**)	±5%(**J**)	**GRM1887U1H152JA01D**	
1800pF(**182**)	±5%(**J**)	**GRM1887U1H182JA01D**	
2200pF(**222**)	±5%(**J**)	**GRM1887U1H222JA01D**	
2700pF(**272**)	±5%(**J**)	**GRM1887U1H272JA01D**	
3300pF(**332**)	±5%(**J**)	**GRM1887U1H332JA01D**	
3900pF(**392**)	±5%(**J**)	**GRM1887U1H392JA01D**	
4700pF(**472**)	±5%(**J**)	**GRM1887U1H472JA01D**	
5600pF(**562**)	±5%(**J**)	**GRM1887U1H562JA01D**	
6800pF(**682**)	±5%(**J**)	**GRM1887U1H682JA01D**	
8200pF(**822**)	±5%(**J**)	**GRM1887U1H822JA01D**	
10000pF(**103**)	±5%(**J**)	**GRM1887U1H103JA01D**	
12000pF(**123**)	±5%(**J**)		**GRM1887U1A123JA01D**
15000pF(**153**)	±5%(**J**)		**GRM1887U1A153JA01D**
18000pF(**183**)	±5%(**J**)		**GRM1887U1A183JA01D**
22000pF(**223**)	±5%(**J**)		**GRM1887U1A223JA01D**

LxW [mm]		2.0x1.25(**21**)<0805>		3.2x1.6(**31**)<1206>
Rated Volt. [Vdc]		50(**1H**)	10(**1A**)	50(**1H**)
Capacitance	Tolerance	Part Number		
10000pF(**103**)	±5%(**J**)	**GRM2167U1H103JA01D**		
12000pF(**123**)	±5%(**J**)	**GRM2167U1H123JA01D**		
15000pF(**153**)	±5%(**J**)	**GRM2167U1H153JA01D**		
18000pF(**183**)	±5%(**J**)	**GRM2167U1H183JA01D**		
22000pF(**223**)	±5%(**J**)	**GRM2197U1H223JA01D**		
27000pF(**273**)	±5%(**J**)	**GRM2197U1H273JA01D**		
33000pF(**333**)	±5%(**J**)	**GRM21A7U1H333JA39L**		
39000pF(**393**)	±5%(**J**)	**GRM21B7U1H393JA01L**		
47000pF(**473**)	±5%(**J**)	**GRM21B7U1H473JA01L**		
56000pF(**563**)	±5%(**J**)		**GRM2197U1A563JA01D**	**GRM3197U1H563JA01D**
68000pF(**683**)	±5%(**J**)		**GRM21B7U1A683JA01L**	**GRM31M7U1H683JA01L**
82000pF(**823**)	±5%(**J**)		**GRM21B7U1A823JA01L**	**GRM31M7U1H823JA01L**
100000pF(**104**)	±5%(**J**)		**GRM21B7U1A104JA01L**	**GRM31M7U1H104JA01L**

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code

(Part Number) **GR** **M** **18** **8** **7U** **1H** **102** **J** **A01** **D**
❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿

❶Product ID ❷Series ❸Dimensions (LxW) ❹Dimension (T)
❺Temperature Characteristics ❻Rated Voltage ❼Capacitance
❽Capacitance Tolerance ❾Individual Specification Code ❿Packaging

Packaging Code in Part Number shows STD 180mm Reel Taping.

Temperature Compensating Type U2J(7U) Characteristics-Low Profile

LxW [mm]		1.6x0.8(**18**)<0603>	
Rated Volt. [Vdc]		50(**1H**)	10(**1A**)
Capacitance	Tolerance	Part Number	
2200pF(**222**)	±5%(**J**)	**GRM1857U1H222JA44D**	
2700pF(**272**)	±5%(**J**)	**GRM1857U1H272JA44D**	
3300pF(**332**)	±5%(**J**)	**GRM1857U1H332JA44D**	
3900pF(**392**)	±5%(**J**)	**GRM1857U1H392JA44D**	
4700pF(**472**)	±5%(**J**)	**GRM1857U1H472JA44D**	
5600pF(**562**)	±5%(**J**)		**GRM1857U1A562JA44D**
6800pF(**682**)	±5%(**J**)		**GRM1857U1A682JA44D**
8200pF(**822**)	±5%(**J**)		**GRM1857U1A822JA44D**
10000pF(**103**)	±5%(**J**)		**GRM1857U1A103JA44D**

LxW [mm]		2.0x1.25(**21**)<0805>		3.2x1.6(**31**)<1206>
Rated Volt. [Vdc]		50(**1H**)	10(**1A**)	50(**1H**)
Capacitance	Tolerance	Part Number		
10000pF(**103**)	±5%(**J**)	**GRM2167U1H103JA01D**		
12000pF(**123**)	±5%(**J**)	**GRM2167U1H123JA01D**		
15000pF(**153**)	±5%(**J**)	**GRM2167U1H153JA01D**		
18000pF(**183**)	±5%(**J**)	**GRM2167U1H183JA01D**		
22000pF(**223**)	±5%(**J**)	**GRM2197U1H223JA01D**		
27000pF(**273**)	±5%(**J**)	**GRM2197U1H273JA01D**		
33000pF(**333**)	±5%(**J**)	**GRM21A7U1H333JA39L**		
56000pF(**563**)	±5%(**J**)		**GRM2197U1A563JA01D**	**GRM3197U1H563JA01D**
68000pF(**683**)	±5%(**J**)			**GRM31M7U1H683JA01L**
82000pF(**823**)	±5%(**J**)			**GRM31M7U1H823JA01L**
100000pF(**104**)	±5%(**J**)			**GRM31M7U1H104JA01L**

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code

Temperature Compensating Type P2H(6P), R2H(6R) Characteristics

TC		P2H	R2H	
LxW [mm]		1.0x0.5(**15**)<0402>	0.6x0.3(**03**)<0201>	1.0x0.5(**15**)<0402>
Rated Volt. [Vdc]		50(**1H**)	25(**1E**)	50(**1H**)
Capacitance	Tolerance	Part Number		
1.0pF(**1R0**)	±0.25pF(**C**)	**GRM1556P1H1R0CZ01D**	**GRM0336R1E1R0CD01D**	**GRM1556R1H1R0CD01D**
2.0pF(**2R0**)	±0.25pF(**C**)	**GRM1556P1H2R0CZ01D**	**GRM0336R1E2R0CD01D**	**GRM1556R1H2R0CZ01D**
3.0pF(**3R0**)	±0.25pF(**C**)	**GRM1556P1H3R0CZ01D**	**GRM0336R1E3R0CD01D**	**GRM1556R1H3R0CZ01D**
4.0pF(**4R0**)	±0.25pF(**C**)	**GRM1556P1H4R0CZ01D**	**GRM0336R1E4R0CD01D**	**GRM1556R1H4R0CZ01D**
5.0pF(**5R0**)	±0.25pF(**C**)	**GRM1556P1H5R0CZ01D**	**GRM0336R1E5R0CD01D**	**GRM1556R1H5R0CZ01D**
6.0pF(**6R0**)	±0.5pF(**D**)	**GRM1556P1H6R0DZ01D**	**GRM0336R1E6R0DD01D**	**GRM1556R1H6R0DZ01D**
7.0pF(**7R0**)	±0.5pF(**D**)	**GRM1556P1H7R0DZ01D**	**GRM0336R1E7R0DD01D**	**GRM1556R1H7R0DZ01D**
8.0pF(**8R0**)	±0.5pF(**D**)	**GRM1556P1H8R0DZ01D**	**GRM0336R1E8R0DD01D**	**GRM1556R1H8R0DZ01D**
9.0pF(**9R0**)	±0.5pF(**D**)	**GRM1556P1H9R0DZ01D**	**GRM0336R1E9R0DD01D**	**GRM1556R1H9R0DZ01D**
10pF(**100**)	±5%(**J**)	**GRM1556P1H100JZ01D**	**GRM0336R1E100JD01D**	**GRM1556R1H100JZ01D**
12pF(**120**)	±5%(**J**)	**GRM1556P1H120JZ01D**	**GRM0336R1E120JD01D**	**GRM1556R1H120JZ01D**
15pF(**150**)	±5%(**J**)	**GRM1556P1H150JZ01D**	**GRM0336R1E150JD01D**	**GRM1556R1H150JZ01D**
18pF(**180**)	±5%(**J**)	**GRM1556P1H180JZ01D**	**GRM0336R1E180JD01D**	**GRM1556R1H180JZ01D**
22pF(**220**)	±5%(**J**)	**GRM1556P1H220JZ01D**	**GRM0336R1E220JD01D**	**GRM1556R1H220JZ01D**
27pF(**270**)	±5%(**J**)	**GRM1556P1H270JZ01D**	**GRM0336R1E270JD01D**	**GRM1556R1H270JZ01D**
33pF(**330**)	±5%(**J**)		**GRM0336R1E330JD01D**	**GRM1556R1H330JZ01D**
39pF(**390**)	±5%(**J**)		**GRM0336R1E390JD01D**	
47pF(**470**)	±5%(**J**)		**GRM0336R1E470JD01D**	
56pF(**560**)	±5%(**J**)		**GRM0336R1E560JD01D**	
68pF(**680**)	±5%(**J**)		**GRM0336R1E680JD01D**	
82pF(**820**)	±5%(**J**)		**GRM0336R1E820JD01D**	
100pF(**101**)	±5%(**J**)		**GRM0336R1E101JD01D**	

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code

(Part Number) **GR** ❶ | **M** ❷ | **15** ❸ | **5** ❹ | **6P** ❺ | **1H** ❻ | **1R0** ❼ | **C** ❽ | **Z01** ❾ | **D** ❿

❶Product ID ❷Series ❸Dimensions (LxW) ❹Dimension (T)
❺Temperature Characteristics ❻Rated Voltage ❼Capacitance
❽Capacitance Tolerance ❾Individual Specification Code ❿Packaging

Packaging Code in Part Number shows STD 180mm Reel Taping.

Temperature Compensating Type S2H(6S), T2H(6T) Characteristics

TC		S2H		T2H	
LxW [mm]		0.6x0.3(**03**)<0201>	1.0x0.5(**15**)<0402>	0.6x0.3(**03**)<0201>	1.0x0.5(**15**)<0402>
Rated Volt. [Vdc]		25(**1E**)	50(**1H**)	25(**1E**)	50(**1H**)
Capacitance	Tolerance	Part Number			
1.0pF(**1R0**)	±0.25pF(**C**)	**GRM0336S1E1R0CD01D**	**GRM1556S1H1R0CD01D**	**GRM0336T1E1R0CD01D**	**GRM1556T1H1R0CD01D**
2.0pF(**2R0**)	±0.25pF(**C**)	**GRM0336S1E2R0CD01D**	**GRM1556S1H2R0CZ01D**	**GRM0336T1E2R0CD01D**	**GRM1556T1H2R0CD01D**
3.0pF(**3R0**)	±0.25pF(**C**)	**GRM0336S1E3R0CD01D**	**GRM1556S1H3R0CZ01D**	**GRM0336T1E3R0CD01D**	**GRM1556T1H3R0CD01D**
4.0pF(**4R0**)	±0.25pF(**C**)	**GRM0336S1E4R0CD01D**	**GRM1556S1H4R0CZ01D**	**GRM0336T1E4R0CD01D**	**GRM1556T1H4R0CD01D**
5.0pF(**5R0**)	±0.25pF(**C**)	**GRM0336S1E5R0CD01D**	**GRM1556S1H5R0CZ01D**	**GRM0336T1E5R0CD01D**	**GRM1556T1H5R0CD01D**
6.0pF(**6R0**)	±0.5pF(**D**)	**GRM0336S1E6R0DD01D**	**GRM1556S1H6R0DZ01D**	**GRM0336T1E6R0DD01D**	**GRM1556T1H6R0DD01D**
7.0pF(**7R0**)	±0.5pF(**D**)	**GRM0336S1E7R0DD01D**	**GRM1556S1H7R0DZ01D**	**GRM0336T1E7R0DD01D**	**GRM1556T1H7R0DD01D**
8.0pF(**8R0**)	±0.5pF(**D**)	**GRM0336S1E8R0DD01D**	**GRM1556S1H8R0DZ01D**	**GRM0336T1E8R0DD01D**	**GRM1556T1H8R0DD01D**
9.0pF(**9R0**)	±0.5pF(**D**)	**GRM0336S1E9R0DD01D**	**GRM1556S1H9R0DZ01D**	**GRM0336T1E9R0DD01D**	**GRM1556T1H9R0DD01D**
10pF(**100**)	±5%(**J**)	**GRM0336S1E100JD01D**	**GRM1556S1H100JZ01D**	**GRM0336T1E100JD01D**	**GRM1556T1H100JD01D**
12pF(**120**)	±5%(**J**)	**GRM0336S1E120JD01D**	**GRM1556S1H120JZ01D**	**GRM0336T1E120JD01D**	**GRM1556T1H120JD01D**
15pF(**150**)	±5%(**J**)	**GRM0336S1E150JD01D**	**GRM1556S1H150JZ01D**	**GRM0336T1E150JD01D**	**GRM1556T1H150JD01D**
18pF(**180**)	±5%(**J**)	**GRM0336S1E180JD01D**	**GRM1556S1H180JZ01D**	**GRM0336T1E180JD01D**	**GRM1556T1H180JD01D**
22pF(**220**)	±5%(**J**)	**GRM0336S1E220JD01D**	**GRM1556S1H220JZ01D**	**GRM0336T1E220JD01D**	**GRM1556T1H220JD01D**
27pF(**270**)	±5%(**J**)	**GRM0336S1E270JD01D**	**GRM1556S1H270JZ01D**	**GRM0336T1E270JD01D**	**GRM1556T1H270JD01D**
33pF(**330**)	±5%(**J**)	**GRM0336S1E330JD01D**	**GRM1556S1H330JZ01D**	**GRM0336T1E330JD01D**	**GRM1556T1H330JD01D**
39pF(**390**)	±5%(**J**)	**GRM0336S1E390JD01D**	**GRM1556S1H390JZ01D**	**GRM0336T1E390JD01D**	**GRM1556T1H390JD01D**
47pF(**470**)	±5%(**J**)	**GRM0336S1E470JD01D**		**GRM0336T1E470JD01D**	**GRM1556T1H470JD01D**
56pF(**560**)	±5%(**J**)	**GRM0336S1E560JD01D**		**GRM0336T1E560JD01D**	**GRM1556T1H560JD01D**
68pF(**680**)	±5%(**J**)	**GRM0336S1E680JD01D**		**GRM0336T1E680JD01D**	**GRM1556T1H680JD01D**
82pF(**820**)	±5%(**J**)	**GRM0336S1E820JD01D**		**GRM0336T1E820JD01D**	**GRM1556T1H820JD01D**
100pF(**101**)	±5%(**J**)	**GRM0336S1E101JD01D**		**GRM0336T1E101JD01D**	**GRM1556T1H101JD01D**

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code

High Dielectric Constant Type X7R(R7) Characteristics

LxW [mm]		0.4x0.2(**02**)<01005>
Rated Volt. [Vdc]		10(**1A**)
Capacitance	Tolerance	Part Number
68pF(**680**)	±10%(**K**)	**GRM022R71A680KA01L**
100pF(**101**)	±10%(**K**)	**GRM022R71A101KA01L**
150pF(**151**)	±10%(**K**)	**GRM022R71A151KA01L**
220pF(**221**)	±10%(**K**)	**GRM022R71A221KA01L**
330pF(**331**)	±10%(**K**)	**GRM022R71A331KA01L**
470pF(**471**)	±10%(**K**)	**GRM022R71A471KA01L**

LxW [mm]		0.6x0.3(**03**)<0201>			
Rated Volt. [Vdc]		25(**1E**)	16(**1C**)	10(**1A**)	6.3(**0J**)
Capacitance	Tolerance	Part Number			
100pF(**101**)	±10%(**K**)	**GRM033R71E101KA01D**	**GRM033R71C101KA01D**		
150pF(**151**)	±10%(**K**)	**GRM033R71E151KA01D**	**GRM033R71C151KA01D**		
220pF(**221**)	±10%(**K**)	**GRM033R71E221KA01D**	**GRM033R71C221KA01D**		
330pF(**331**)	±10%(**K**)	**GRM033R71E331KA01D**	**GRM033R71C331KA01D**		
470pF(**471**)	±10%(**K**)	**GRM033R71E471KA01D**	**GRM033R71C471KA01D**		
680pF(**681**)	±10%(**K**)	**GRM033R71E681KA01D**	**GRM033R71C681KA01D**		
1000pF(**102**)	±10%(**K**)	**GRM033R71E102KA01D**	**GRM033R71C102KA01D**		
1500pF(**152**)	±10%(**K**)	**GRM033R71E152KA01D**	**GRM033R71C152KA01D**		
2200pF(**222**)	±10%(**K**)		**GRM033R71C222KA88D**	**GRM033R71A222KA01D**	
3300pF(**332**)	±10%(**K**)		**GRM033R71C332KA88D**	**GRM033R71A332KA01D**	
4700pF(**472**)	±10%(**K**)			**GRM033R71A472KA01D**	**GRM033R70J472KA01D**
6800pF(**682**)	±10%(**K**)			**GRM033R71A682KA01D**	**GRM033R70J682KA01D**
10000pF(**103**)	±10%(**K**)			**GRM033R71A103KA01D**	**GRM033R70J103KA01D**

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code

(Part Number) **GR** **M** **02** **2** **R7** **1A** **680** **K** **A01** **L**
❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿

❶Product ID ❷Series ❸Dimensions (LxW) ❹Dimension (T)
❺Temperature Characteristics ❻Rated Voltage ❼Capacitance
❽Capacitance Tolerance ❾Individual Specification Code ❿Packaging

Packaging Code in Part Number shows STD 180mm Reel Taping.

High Dielectric Constant Type X7R(R7) Characteristics

LxW [mm]		1.0x0.5(**15**)<0402>			
Rated Volt. [Vdc]		100(**2A**)	50(**1H**)	25(**1E**)	16(**1C**)
Capacitance	Tolerance	Part Number			
220pF(**221**)	±10%(**K**)	**GRM155R72A221KA01D**	**GRM155R71H221KA01D**		
330pF(**331**)	±10%(**K**)	**GRM155R72A331KA01D**	**GRM155R71H331KA01D**		
470pF(**471**)	±10%(**K**)	**GRM155R72A471KA01D**	**GRM155R71H471KA01D**		
680pF(**681**)	±10%(**K**)	**GRM155R72A681KA01D**	**GRM155R71H681KA01D**		
1000pF(**102**)	±10%(**K**)	**GRM155R72A102KA01D**	**GRM155R71H102KA01D**		
1500pF(**152**)	±10%(**K**)	**GRM155R72A152KA01D**	**GRM155R71H152KA01D**		
2200pF(**222**)	±10%(**K**)	**GRM155R72A222KA01D**	**GRM155R71H222KA01D**		
3300pF(**332**)	±10%(**K**)	**GRM155R72A332KA01D**	**GRM155R71H332KA01D**		
4700pF(**472**)	±10%(**K**)	**GRM155R72A472KA01D**	**GRM155R71H472KA01D**	**GRM155R71E472KA01D**	
6800pF(**682**)	±10%(**K**)		**GRM155R71H682KA88D**	**GRM155R71E682KA01D**	
10000pF(**103**)	±10%(**K**)		**GRM155R71H103KA88D**	**GRM155R71E103KA01D**	
15000pF(**153**)	±10%(**K**)		**GRM155R71H153KA12D**	**GRM155R71E153KA61D**	**GRM155R71C153KA01D**
22000pF(**223**)	±10%(**K**)		**GRM155R71H223KA12D**	**GRM155R71E223KA61D**	**GRM155R71C223KA01D**
33000pF(**333**)	±10%(**K**)			**GRM155R71E333KA88D**	**GRM155R71C333KA01D**
47000pF(**473**)	±10%(**K**)			**GRM155R71E473KA88D**	**GRM155R71C473KA01D**
68000pF(**683**)	±10%(**K**)				**GRM155R71C683KA88D**
0.10µF(**104**)	±10%(**K**)				**GRM155R71C104KA88D**
0.15µF(**154**)	±10%(**K**)				**GRM155R71C154KA12D***
0.22µF(**224**)	±10%(**K**)				**GRM155R71C224KA12D***

LxW [mm]		1.0x0.5(**15**)<0402>
Rated Volt. [Vdc]		10(**1A**)
Capacitance	Tolerance	Part Number
68000pF(**683**)	±10%(**K**)	**GRM155R71A683KA01D**
0.10µF(**104**)	±10%(**K**)	**GRM155R71A104KA01D**

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code
* Please refer to GRM Series Specifications and Test Method (2).

High Dielectric Constant Type X7R(R7)/X7S(C7) Characteristics

LxW [mm]		1.6x0.8(**18**)<0603>			
Rated Volt. [Vdc]		100(**2A**)	50(**1H**)	25(**1E**)	16(**1C**)
Capacitance	Tolerance	Part Number			
220pF(**221**)	±10%(**K**)	**GRM188R72A221KA01D**	**GRM188R71H221KA01D**		
330pF(**331**)	±10%(**K**)	**GRM188R72A331KA01D**	**GRM188R71H331KA01D**		
470pF(**471**)	±10%(**K**)	**GRM188R72A471KA01D**	**GRM188R71H471KA01D**		
680pF(**681**)	±10%(**K**)	**GRM188R72A681KA01D**	**GRM188R71H681KA01D**		
1000pF(**102**)	±10%(**K**)	**GRM188R72A102KA01D**	**GRM188R71H102KA01D**		
1500pF(**152**)	±10%(**K**)	**GRM188R72A152KA01D**	**GRM188R71H152KA01D**		
2200pF(**222**)	±10%(**K**)	**GRM188R72A222KA01D**	**GRM188R71H222KA01D**	**GRM188R71E222KA01D**	
3300pF(**332**)	±10%(**K**)	**GRM188R72A332KA01D**	**GRM188R71H332KA01D**	**GRM188R71E332KA01D**	
4700pF(**472**)	±10%(**K**)	**GRM188R72A472KA01D**	**GRM188R71H472KA01D**	**GRM188R71E472KA01D**	
6800pF(**682**)	±10%(**K**)	**GRM188R72A682KA01D**	**GRM188R71H682KA01D**	**GRM188R71E682KA01D**	
10000pF(**103**)	±10%(**K**)	**GRM188R72A103KA01D**	**GRM188R71H103KA01D**	**GRM188R71E103KA01D**	
15000pF(**153**)	±10%(**K**)		**GRM188R71H153KA01D**	**GRM188R71E153KA01D**	
22000pF(**223**)	±10%(**K**)		**GRM188R71H223KA01D**	**GRM188R71E223KA01D**	
33000pF(**333**)	±10%(**K**)		**GRM188R71H333KA61D**	**GRM188R71E333KA01D**	
47000pF(**473**)	±10%(**K**)		**GRM188R71H473KA61D**	**GRM188R71E473KA01D**	
68000pF(**683**)	±10%(**K**)		**GRM188R71H683KA93D**	**GRM188R71E683KA01D**	
0.10µF(**104**)	±10%(**K**)	**GRM188R72A104KA35D**	**GRM188R71H104KA93D**	**GRM188R71E104KA01D**	
0.15µF(**154**)	±10%(**K**)			**GRM188R71E154KA01D**	**GRM188R71C154KA01D**
0.22µF(**224**)	±10%(**K**)			**GRM188R71E224KA88D**	**GRM188R71C224KA01D**
0.33µF(**334**)	±10%(**K**)				**GRM188R71C334KA01D**
0.47µF(**474**)	±10%(**K**)			**GRM188R71E474KA12D***	**GRM188R71C474KA88D**
0.68µF(**684**)	±10%(**K**)				**GRM188C71C684KA12D***
1.0µF(**105**)	±10%(**K**)			**GRM188R71E105KA12D***	**GRM188R71C105KA12D***

LxW [mm]		1.6x0.8(**18**)<0603>		
Rated Volt. [Vdc]		10(**1A**)	6.3(**0J**)	4(**0G**)
Capacitance	Tolerance	Part Number		
0.33µF(**334**)	±10%(**K**)	**GRM188R71A334KA61D**		
0.47µF(**474**)	±10%(**K**)	**GRM188R71A474KA61D**		
0.68µF(**684**)	±10%(**K**)	**GRM188R71A684KA61D**		
1.0µF(**105**)	±10%(**K**)	**GRM188R71A105KA61D***		
2.2µF(**225**)	±10%(**K**)	**GRM188R71A225KE15D***	**GRM188C70J225KE20D***	**GRM188C70G225KE20D***

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code
* Please refer to GRM Series Specifications and Test Method (2).

(Part Number) GR ❶ | M ❷ | 18 ❸ | 8 ❹ | R7 ❺ | 2A ❻ | 221 ❼ | K ❽ | A01 ❾ | D ❿

❶Product ID ❷Series ❸Dimensions (LxW) ❹Dimension (T)
❺Temperature Characteristics ❻Rated Voltage ❼Capacitance
❽Capacitance Tolerance ❾Individual Specification Code ❿Packaging

Packaging Code in Part Number shows STD 180mm Reel Taping.

High Dielectric Constant Type X7R(R7)/X7U(E7) Characteristics

LxW [mm]		2.0x1.25(**21**)<0805>			
Rated Volt. [Vdc]		100(**2A**)	50(**1H**)	25(**1E**)	16(**1C**)
Capacitance	Tolerance	Part Number			
6800pF(**682**)	±10%(**K**)	**GRM219R72A682KA01D**			
10000pF(**103**)	±10%(**K**)	**GRM21BR72A103KA01L**			
15000pF(**153**)	±10%(**K**)	**GRM21BR72A153KA01L**			
22000pF(**223**)	±10%(**K**)	**GRM21BR72A223KA01L**			
33000pF(**333**)	±10%(**K**)	**GRM21BR72A333KA01L**	**GRM219R71H333KA01D**		
47000pF(**473**)	±10%(**K**)	**GRM21BR72A473KA01L**	**GRM21BR71H473KA01L**		
68000pF(**683**)	±10%(**K**)		**GRM21BR71H683KA01L**	**GRM219R71E683KA01D**	
0.10μF(**104**)	±10%(**K**)		**GRM21BR71H104KA01L**	**GRM21BR71E104KA01L**	
0.15μF(**154**)	±10%(**K**)		**GRM21BR71H154KA01L**	**GRM21BR71E154KA01L**	
0.22μF(**224**)	±10%(**K**)	**GRM21AR72A224KAC5L**	**GRM21BR71H224KA01L**	**GRM21BR71E224KA01L**	
0.33μF(**334**)	±10%(**K**)	**GRM21AR72A334KAC5L**	**GRM219R71H334KA88D**	**GRM21BR71E334KA01L**	
0.47μF(**474**)	±10%(**K**)	**GRM21BR72A474KA73L**	**GRM21BR71H474KA88L**	**GRM219R71E474KA88D**	
0.68μF(**684**)	±10%(**K**)			**GRM219R71E684KA88D**	**GRM219R71C684KA01D**
1.0μF(**105**)	±10%(**K**)		**GRM21BR71H105KA12L**	**GRM21BR71E105KA99L**	**GRM21BR71C105KA01L**
				GRM219R71E105KA88D	
2.2μF(**225**)	±10%(**K**)			**GRM21BR71E225KA73L***	**GRM21BR71C225KA12L**
4.7μF(**475**)	±10%(**K**)				**GRM21BR71C475KA73L***

LxW [mm]		2.0x1.25(**21**)<0805>		
Rated Volt. [Vdc]		10(**1A**)	6.3(**0J**)	4(**0G**)
Capacitance	Tolerance	Part Number		
2.2μF(**225**)	±10%(**K**)	**GRM21BR71A225KA01L**		
4.7μF(**475**)	±10%(**K**)	**GRM21BR71A475KA73L***		
10μF(**106**)	±10%(**K**)	**GRM21BR71A106KE51L***	**GRM21BR70J106KE76L***	
22μF(**226**)	±20%(**M**)			**GRM21BE70G226ME51L***

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code

* Please refer to GRM Series Specifications and Test Method (2).

High Dielectric Constant Type X7R(R7)/X7U(E7) Characteristics

LxW [mm]		3.2x1.6(**31**)<1206>			
Rated Volt. [Vdc]		100(**2A**)	50(**1H**)	25(**1E**)	16(**1C**)
Capacitance	Tolerance	Part Number			
15000pF(**153**)	±10%(**K**)	**GRM319R72A153KA01L**			
22000pF(**223**)	±10%(**K**)	**GRM31MR72A223KA01L**			
33000pF(**333**)	±10%(**K**)	**GRM31MR72A333KA01L**			
47000pF(**473**)	±10%(**K**)	**GRM31MR72A473KA01L**			
68000pF(**683**)	±10%(**K**)	**GRM31MR72A683KA01L**			
0.10μF(**104**)	±10%(**K**)	**GRM319R72A104KA01D**			
0.15μF(**154**)	±10%(**K**)	**GRM31MR72A154KA01L**	**GRM31MR71H154KA01L**		
0.22μF(**224**)	±10%(**K**)	**GRM31MR72A224KA01L**	**GRM31MR71H224KA01L**		
0.33μF(**334**)	±10%(**K**)		**GRM319R71H334KA01D**	**GRM319R71E334KA01D**	
0.47μF(**474**)	±10%(**K**)	**GRM31MR72A474KA35L**	**GRM31MR71H474KA01L**	**GRM319R71E474KA01D**	
0.68μF(**684**)	±10%(**K**)	**GRM31MR72A684KA35L**	**GRM31MR71H684KA88L**	**GRM319R71E684KA01D**	
1.0μF(**105**)	±10%(**K**)	**GRM31CR72A105KA01L**	**GRM31MR71H105KA88L**		
2.2μF(**225**)	±10%(**K**)		**GRM31CR71H225KA88L**	**GRM31MR71E225KA93L**	**GRM31MR71C225KA35L**
4.7μF(**475**)	±10%(**K**)		**GRM31CR71H475KA12L**	**GRM31CR71E475KA88L**	**GRM31CR71C475KA01L**
10μF(**106**)	±10%(**K**)			**GRM31CR71E106KA12L***	**GRM31CR71C106KAC7L***

LxW [mm]		3.2x1.6(**31**)<1206>		
Rated Volt. [Vdc]		10(**1A**)	6.3(**0J**)	4(**0G**)
Capacitance	Tolerance	Part Number		
10μF(**106**)	±10%(**K**)	**GRM31CR71A106KA01L**		
22μF(**226**)	±20%(**M**)	**GRM31CR71A226ME15L***	**GRM31CR70J226ME19L***	
47μF(**476**)	±20%(**M**)			**GRM31CE70G476ME15L***

LxW [mm]		3.2x2.5(**32**)<1210>			
Rated Volt. [Vdc]		100(**2A**)	50(**1H**)	35(**YA**)	25(**1E**)
Capacitance	Tolerance	Part Number			
0.68μF(**684**)	±10%(**K**)	**GRM32CR72A684KA01L**			
1.0μF(**105**)	±10%(**K**)	**GRM32CR72A105KA35L**			
2.2μF(**225**)	±10%(**K**)	**GRM32ER72A225KA35L**			
4.7μF(**475**)	±10%(**K**)		**GRM32ER71H475KA88L**		
10μF(**106**)	±10%(**K**)			**GRM32ER7YA106KA12L**	**GRM32DR71E106KA12L**
22μF(**226**)	±20%(**M**)				**GRM32ER71E226ME15L***

LxW [mm]		3.2x2.5(**32**)<1210>			
Rated Volt. [Vdc]		16(**1C**)	10(**1A**)	6.3(**0J**)	4(**0G**)
Capacitance	Tolerance	Part Number			
22μF(**226**)	±20%(**M**)	**GRM32ER71C226MEA8L***	**GRM32ER71A226ME20L***		
47μF(**476**)	±20%(**M**)		**GRM32ER71A476ME15L***	**GRM32ER70J476ME20L***	
100μF(**107**)	±20%(**M**)				**GRM32EE70G107ME19L***

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code
* Please refer to GRM Series Specifications and Test Method (2).

(Part Number) **GR** | **M** | **31** | **9** | **R7** | **2A** | **153** | **K** | **A01** | **L**
❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿

❶Product ID ❷Series ❸Dimensions (LxW) ❹Dimension (T)
❺Temperature Characteristics ❻Rated Voltage ❼Capacitance
❽Capacitance Tolerance ❾Individual Specification Code ❿Packaging

Packaging Code in Part Number shows STD 180mm Reel Taping.

High Dielectric Constant Type X7R(R7)/X7T(D7) Characteristics-Low Profile

LxW [mm]		1.0x0.5(**15**)<0402>			1.6x0.8(**18**)<0603>
Rated Volt. [Vdc]		50(**1H**)	25(**1E**)	16(**1C**)	10(**1A**)
Capacitance	Tolerance	Part Number			
220pF(**221**)	±10%(**K**)	**GRM15XR71H221KA86D**			
330pF(**331**)	±10%(**K**)	**GRM15XR71H331KA86D**			
470pF(**471**)	±10%(**K**)	**GRM15XR71H471KA86D**			
680pF(**681**)	±10%(**K**)	**GRM15XR71H681KA86D**			
1000pF(**102**)	±10%(**K**)	**GRM15XR71H102KA86D**			
1500pF(**152**)	±10%(**K**)	**GRM15XR71H152KA86D**			
2200pF(**222**)	±10%(**K**)		**GRM15XR71E222KA86D**		
3300pF(**332**)	±10%(**K**)			**GRM15XR71C332KA86D**	
4700pF(**472**)	±10%(**K**)			**GRM15XR71C472KA86D**	
6800pF(**682**)	±10%(**K**)			**GRM15XR71C682KA86D**	
10000pF(**103**)	±10%(**K**)			**GRM15XR71C103KA86D**	
1.0µF(**105**)	±10%(**K**)				**GRM185D71A105KE36D***

LxW [mm]		2.0x1.25(**21**)<0805>			
Rated Volt. [Vdc]		100(**2A**)	50(**1H**)	25(**1E**)	16(**1C**)
Capacitance	Tolerance	Part Number			
6800pF(**682**)	±10%(**K**)	**GRM219R72A682KA01D**			
33000pF(**333**)	±10%(**K**)		**GRM219R71H333KA01D**		
68000pF(**683**)	±10%(**K**)			**GRM219R71E683KA01D**	
0.22µF(**224**)	±10%(**K**)	**GRM21AR72A224KAC5L**			
0.33µF(**334**)	±10%(**K**)	**GRM21AR72A334KAC5L**	**GRM219R71H334KA88D**		
0.47µF(**474**)	±10%(**K**)			**GRM219R71E474KA88D**	
0.68µF(**684**)	±10%(**K**)			**GRM219R71E684KA88D**	**GRM219R71C684KA01D**
1.0µF(**105**)	±10%(**K**)			**GRM219R71E105KA88D**	

LxW [mm]		3.2x1.6(**31**)<1206>			
Rated Volt. [Vdc]		100(**2A**)	50(**1H**)	25(**1E**)	16(**1C**)
Capacitance	Tolerance	Part Number			
15000pF(**153**)	±10%(**K**)	**GRM319R72A153KA01L**			
22000pF(**223**)	±10%(**K**)	**GRM31MR72A223KA01L**			
33000pF(**333**)	±10%(**K**)	**GRM31MR72A333KA01L**			
47000pF(**473**)	±10%(**K**)	**GRM31MR72A473KA01L**			
68000pF(**683**)	±10%(**K**)	**GRM31MR72A683KA01L**			
0.10µF(**104**)	±10%(**K**)	**GRM319R72A104KA01D**			
0.15µF(**154**)	±10%(**K**)	**GRM31MR72A154KA01L**	**GRM31MR71H154KA01L**		
0.22µF(**224**)	±10%(**K**)	**GRM31MR72A224KA01L**	**GRM31MR71H224KA01L**		
0.33µF(**334**)	±10%(**K**)		**GRM319R71H334KA01D**		
0.47µF(**474**)	±10%(**K**)	**GRM31MR72A474KA35L**	**GRM31MR71H474KA01L**		
0.68µF(**684**)	±10%(**K**)	**GRM31MR72A684KA35L**	**GRM31MR71H684KA88L**		
1.0µF(**105**)	±10%(**K**)		**GRM31MR71H105KA88L**		
2.2µF(**225**)	±10%(**K**)			**GRM31MR71E225KA93L**	**GRM31MR71C225KA35L**
4.7µF(**475**)	±10%(**K**)				**GRM319D71C475KA12D*#**

LxW [mm]		3.2x2.5(**32**)<1210>	
Rated Volt. [Vdc]		100(**2A**)	50(**1H**)
Capacitance	Tolerance	Part Number	
0.68µF(**684**)	±10%(**K**)	**GRM32CR72A684KA01L**	**GRM32NR71H684KA01L**
1.0µF(**105**)	±10%(**K**)	**GRM32CR72A105KA35L**	

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code

* Please refer to GRM Series Specifications and Test Method (2).

These Part Numbers have individual testing conditions on Durability of GRM Series Specifications and Test Methods (2). Please refer to P60.

High Dielectric Constant Type X6S(C8) Characteristics

LxW [mm]		0.6x0.3(**03**)<0201>	
Rated Volt. [Vdc]		6.3(**0J**)	4(**0G**)
Capacitance	Tolerance	Part Number	
15000pF(**153**)	±10%(**K**)	**GRM033C80J153KE01D***	**GRM033C80G153KE01D***
22000pF(**223**)	±10%(**K**)	**GRM033C80J223KE01D***	**GRM033C80G223KE01D***
33000pF(**333**)	±10%(**K**)	**GRM033C80J333KE01D***	**GRM033C80G333KE01D***
47000pF(**473**)	±10%(**K**)	**GRM033C80J473KE19D***	**GRM033C80G473KE01D***

LxW [mm]		1.0x0.5(**15**)<0402>		
Rated Volt. [Vdc]		25(**1E**)	6.3(**0J**)	4(**0G**)
Capacitance	Tolerance	Part Number		
68000pF(**683**)	±10%(**K**)	**GRM155C81E683KA12D**		
0.10µF(**104**)	±10%(**K**)	**GRM155C81E104KA12D**		
0.15µF(**154**)	±10%(**K**)		**GRM155C80J154KE01D***	**GRM155C80G154KE01D***
0.22µF(**224**)	±10%(**K**)		**GRM155C80J224KE01D***	**GRM155C80G224KE01D***
0.33µF(**334**)	±10%(**K**)		**GRM155C80J334KE01D***	**GRM155C80G334KE01D***
0.47µF(**474**)	±10%(**K**)		**GRM155C80J474KE19D***	**GRM155C80G474KE01D***
0.68µF(**684**)	±10%(**K**)		**GRM155C80J684KE15D*#**	**GRM155C80G684KE19D***

LxW [mm]		1.6x0.8(**18**)<0603>			
Rated Volt. [Vdc]		25(**1E**)	10(**1A**)	6.3(**0J**)	4(**0G**)
Capacitance	Tolerance	Part Number			
1.0µF(**105**)	±10%(**K**)	**GRM188C81E105KAADD**			
2.2µF(**225**)	±10%(**K**)		**GRM188C81A225KE34D***	**GRM188C80J225KE19D***	
4.7µF(**475**)	±10%(**K**)				**GRM188C80G475KE19D***
10µF(**106**)	±20%(**M**)				**GRM188C80G106ME47D*#**

LxW [mm]		1.6x0.8(**18**)<0603>
Rated Volt. [Vdc]		2.5(**0E**)
Capacitance	Tolerance	Part Number
10µF(**106**)	±20%(**M**)	**GRM188C80E106ME47D***

LxW [mm]		2.0x1.25(**21**)<0805>			
Rated Volt. [Vdc]		25(**1E**)	16(**1C**)	10(**1A**)	6.3(**0J**)
Capacitance	Tolerance	Part Number			
1.0µF(**105**)	±10%(**K**)		**GRM216C81C105KA12D***		
2.2µF(**225**)	±10%(**K**)		**GRM219C81C225KA12D***		
4.7µF(**475**)	±10%(**K**)	**GRM21BC81E475KA12L***	**GRM21BC81C475KA88L***	**GRM219C81A475KE34D***	**GRM219C80J475KE19D***
10µF(**106**)	±10%(**K**)			**GRM21BC81A106KE18L***	**GRM21BC80J106KE19L***
					GRM219C80J106KE39D*
22µF(**226**)	±20%(**M**)				**GRM21BC80J226ME51L*#**

LxW [mm]		2.0x1.25(**21**)<0805>
Rated Volt. [Vdc]		4(**0G**)
Capacitance	Tolerance	Part Number
22µF(**226**)	±20%(**M**)	**GRM21BC80G226ME39L***

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code

* Please refer to GRM Series Specifications and Test Method (2).

These Part Numbers have individual testing conditions on Durability of GRM Series Specifications and Test Methods (2). Please refer to P60.

(Part Number) GR ❶ | M ❷ | 03 ❸ | 3 ❹ | C8 ❺ | 0J ❻ | 153 ❼ | K ❽ | E01 ❾ | D ❿

❶Product ID ❷Series ❸Dimensions (LxW) ❹Dimension (T)
❺Temperature Characteristics ❻Rated Voltage ❼Capacitance
❽Capacitance Tolerance ❾Individual Specification Code ❿Packaging

Packaging Code in Part Number shows STD 180mm Reel Taping.

High Dielectric Constant Type X6S(C8)/X6T(D8) Characteristics

LxW [mm]		3.2x1.6(**31**)<1206>			
Rated Volt. [Vdc]		25(**1E**)	16(**1C**)	10(**1A**)	6.3(**0J**)
Capacitance	Tolerance	Part Number			
2.2µF(**225**)	±10%(**K**)		**GRM316C81C225KA12D***		
4.7µF(**475**)	±10%(**K**)		**GRM319C81C475KA12D***		
10µF(**106**)	±10%(**K**)	**GRM31CC81E106KE15L***	**GRM31MC81C106KA12L**	**GRM319C81A106KA12D**	**GRM319C80J106KE19D***
22µF(**226**)	±20%(**M**)			**GRM31CC81A226ME19L***	**GRM31CC80J226ME19L***
47µF(**476**)	±20%(**M**)				**GRM31CC80J476ME18L***

LxW [mm]		3.2x1.6(**31**)<1206>
Rated Volt. [Vdc]		4(**0G**)
Capacitance	Tolerance	Part Number
47µF(**476**)	±20%(**M**)	**GRM31CC80G476ME19L***
100µF(**107**)	±20%(**M**)	**GRM31CD80G107ME39L***

LxW [mm]		3.2x2.5(**32**)<1210>			
Rated Volt. [Vdc]		25(**1E**)	10(**1A**)	6.3(**0J**)	4(**0G**)
Capacitance	Tolerance	Part Number			
10µF(**106**)	±10%(**K**)	**GRM32DC81E106KA12L**			
22µF(**226**)	±20%(**M**)	**GRM32EC81E226ME15L***	**GRM32NC81A226ME19L***		
47µF(**476**)	±20%(**M**)		**GRM32EC81A476ME19L***	**GRM32EC80J476ME64L***	
100µF(**107**)	±20%(**M**)			**GRM32EC80J107ME20L***	**GRM32EC80G107ME20L***

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code
*: Please refer to GRM Series Specifications and Test Method(2).

High Dielectric Constant Type X6S(C8) Characteristics-Low Profile

LxW [mm]		1.6x0.8(**18**)<0603>	
Rated Volt. [Vdc]		10(**1A**)	6.3(**0J**)
Capacitance	Tolerance	Part Number	
1.0µF(**105**)	±10%(**K**)	**GRM185C81A105KE36D***	**GRM185C80J105KE26D***

LxW [mm]		2.0x1.25(**21**)<0805>		
Rated Volt. [Vdc]		16(**1C**)	10(**1A**)	6.3(**0J**)
Capacitance	Tolerance	Part Number		
1.0µF(**105**)	±10%(**K**)	**GRM216C81C105KA12D***		
2.2µF(**225**)	±10%(**K**)	**GRM219C81C225KA12D***		
4.7µF(**475**)	±10%(**K**)		**GRM219C81A475KE34D***	**GRM219C80J475KE19D***
10µF(**106**)	±10%(**K**)			**GRM219C80J106KE39D***

LxW [mm]		3.2x1.6(**31**)<1206>
Rated Volt. [Vdc]		16(**1C**)
Capacitance	Tolerance	Part Number
2.2µF(**225**)	±10%(**K**)	**GRM316C81C225KA12D***
4.7µF(**475**)	±10%(**K**)	**GRM319C81C475KA12D***

LxW [mm]		3.2x2.5(**32**)<1210>
Rated Volt. [Vdc]		25(**1E**)
Capacitance	Tolerance	Part Number
10µF(**106**)	±10%(**K**)	**GRM32DC81E106KA12L**

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code
* Please refer to GRM Series Specifications and Test Method (2).

High Dielectric Constant Type X5R(R6) Characteristics

LxW [mm]		0.4x0.2(**02**)<01005>	
Rated Volt. [Vdc]		10(**1A**)	6.3(**0J**)
Capacitance	Tolerance	Part Number	
68pF(**680**)	±10%(**K**)	**GRM022R61A680KA01L**	
100pF(**101**)	±10%(**K**)	**GRM022R61A101KA01L**	
150pF(**151**)	±10%(**K**)	**GRM022R61A151KA01L**	
220pF(**221**)	±10%(**K**)	**GRM022R61A221KA01L**	
330pF(**331**)	±10%(**K**)	**GRM022R61A331KA01L**	
470pF(**471**)	±10%(**K**)	**GRM022R61A471KA01L**	
680pF(**681**)	±10%(**K**)	**GRM022R61A681KE19L***	**GRM022R60J681KE19L***
1000pF(**102**)	±10%(**K**)	**GRM022R61A102KE19L***	**GRM022R60J102KE19L***
1500pF(**152**)	±10%(**K**)	**GRM022R61A152KE19L***	**GRM022R60J152KE19L***
2200pF(**222**)	±10%(**K**)	**GRM022R61A222KE19L***	**GRM022R60J222KE19L***
3300pF(**332**)	±10%(**K**)	**GRM022R61A332KE19L***	**GRM022R60J332KE19L***
4700pF(**472**)	±10%(**K**)	**GRM022R61A472KE19L***	**GRM022R60J472KE19L***
6800pF(**682**)	±10%(**K**)	**GRM022R61A682KE19L***	**GRM022R60J682KE19L***
10000pF(**103**)	±10%(**K**)	**GRM022R61A103KE19L***	**GRM022R60J103KE19L***

LxW [mm]		0.6x0.3(**03**)<0201>			
Rated Volt. [Vdc]		25(**1E**)	16(**1C**)	10(**1A**)	6.3(**0J**)
Capacitance	Tolerance	Part Number			
100pF(**101**)	±10%(**K**)				
150pF(**151**)	±10%(**K**)				
220pF(**221**)	±10%(**K**)				
330pF(**331**)	±10%(**K**)				
470pF(**471**)	±10%(**K**)				
680pF(**681**)	±10%(**K**)				
1000pF(**102**)	±10%(**K**)				
1500pF(**152**)	±10%(**K**)			**GRM033R61A152KA01D**	
2200pF(**222**)	±10%(**K**)			**GRM033R61A222KA01D**	
3300pF(**332**)	±10%(**K**)			**GRM033R61A332KA01D**	
4700pF(**472**)	±10%(**K**)			**GRM033R61A472KA01D**	
6800pF(**682**)	±10%(**K**)			**GRM033R61A682KA01D**	
10000pF(**103**)	±10%(**K**)			**GRM033R61A103KA01D**	**GRM033R60J103KA01D**
15000pF(**153**)	±10%(**K**)				**GRM033R60J153KE01D***
22000pF(**223**)	±10%(**K**)				**GRM033R60J223KE01D***
33000pF(**333**)	±10%(**K**)				**GRM033R60J333KE01D***
47000pF(**473**)	±10%(**K**)				**GRM033R60J473KE19D***

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code
: Please refer to X7R(R7) etc. Characteristics.
* Please refer to GRM Series Specifications and Test Method (2).

(Part Number) GR ❶ | M ❷ | 02 ❸ | 2 ❹ | R6 ❺ | 1A ❻ | 680 ❼ | K ❽ | A01 ❾ | L ❿

❶Product ID ❷Series ❸Dimensions (LxW) ❹Dimension (T)
❺Temperature Characteristics ❻Rated Voltage ❼Capacitance
❽Capacitance Tolerance ❾Individual Specification Code ❿Packaging*

Packaging Code in Part Number shows STD 180mm Reel Taping.

*GRM022: **D** is applicable.

High Dielectric Constant Type X5R(R6) Characteristics

LxW [mm]		1.0x0.5(**15**)<0402>			
Rated Volt. [Vdc]		100(**2A**)	50(**1H**)	25(**1E**)	16(**1C**)
Capacitance	Tolerance	Part Number			
220pF(**221**)	±10%(**K**)				
330pF(**331**)	±10%(**K**)				
470pF(**471**)	±10%(**K**)				
680pF(**681**)	±10%(**K**)				
1000pF(**102**)	±10%(**K**)		**GRM155R61H102KA01D**		
1500pF(**152**)	±10%(**K**)				
2200pF(**222**)	±10%(**K**)		**GRM155R61H222KA01D**		
3300pF(**332**)	±10%(**K**)				
4700pF(**472**)	±10%(**K**)		**GRM155R61H472KA01D**		
6800pF(**682**)	±10%(**K**)				
10000pF(**103**)	±10%(**K**)				
15000pF(**153**)	±10%(**K**)				
22000pF(**223**)	±10%(**K**)				**GRM155R61C223KA01D**
33000pF(**333**)	±10%(**K**)				**GRM155R61C333KA01D**
47000pF(**473**)	±10%(**K**)				**GRM155R61C473KA01D**
68000pF(**683**)	±10%(**K**)			**GRM155R61E683KA87D**	**GRM155R61C683KA88D**
0.10μF(**104**)	±10%(**K**)			**GRM155R61E104KA87D**	**GRM155R61C104KA88D**

LxW [mm]		1.0x0.5(**15**)<0402>	
Rated Volt. [Vdc]		10(**1A**)	6.3(**0J**)
Capacitance	Tolerance	Part Number	
33000pF(**333**)	±10%(**K**)	**GRM155R61A333KA01D**	
47000pF(**473**)	±10%(**K**)	**GRM155R61A473KA01D**	
68000pF(**683**)	±10%(**K**)	**GRM155R61A683KA01D**	
0.10μF(**104**)	±10%(**K**)	**GRM155R61A104KA01D**	
0.15μF(**154**)	±10%(**K**)	**GRM155R61A154KE19D***	**GRM155R60J154KE01D***
0.22μF(**224**)	±10%(**K**)	**GRM155R61A224KE19D***	**GRM155R60J224KE01D***
0.33μF(**334**)	±10%(**K**)	**GRM155R61A334KE15D***	**GRM155R60J334KE01D***
0.47μF(**474**)	±10%(**K**)	**GRM155R61A474KE15D***	**GRM155R60J474KE19D***
0.68μF(**684**)	±10%(**K**)	**GRM155R61A684KE15D***	**GRM155R60J684KE19D***
1.0μF(**105**)	±10%(**K**)	**GRM155R61A105KE15D***	

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code
: Please refer to X7R(R7) etc. Characteristics.
* Please refer to GRM Series Specifications and Test Method (2).

High Dielectric Constant Type X5R(R6) Characteristics

LxW [mm]		1.6x0.8(**18**)<0603>			
Rated Volt. [Vdc]		100(**2A**)	50(**1H**)	25(**1E**)	16(**1C**)
Capacitance	Tolerance	Part Number			
220pF(**221**)	±10%(**K**)				
330pF(**331**)	±10%(**K**)				
470pF(**471**)	±10%(**K**)				
680pF(**681**)	±10%(**K**)				
1000pF(**102**)	±10%(**K**)		**GRM188R61H102KA01D**		
1500pF(**152**)	±10%(**K**)				
2200pF(**222**)	±10%(**K**)		**GRM188R61H222KA01D**		
3300pF(**332**)	±10%(**K**)				
4700pF(**472**)	±10%(**K**)		**GRM188R61H472KA01D**		
6800pF(**682**)	±10%(**K**)				
10000pF(**103**)	±10%(**K**)		**GRM188R61H103KA01D**		
15000pF(**153**)	±10%(**K**)				
22000pF(**223**)	±10%(**K**)		**GRM188R61H223KA01D**		
33000pF(**333**)	±10%(**K**)				
47000pF(**473**)	±10%(**K**)				
68000pF(**683**)	±10%(**K**)				
0.10μF(**104**)	±10%(**K**)			**GRM188R61E104KA01D**	
0.15μF(**154**)	±10%(**K**)				
0.22μF(**224**)	±10%(**K**)			**GRM188R61E224KA88D**	**GRM188R61C224KA88D**
0.33μF(**334**)	±10%(**K**)				
0.47μF(**474**)	±10%(**K**)			**GRM188R61E474KA12D***	**GRM188R61C474KA93D***
1.0μF(**105**)	±10%(**K**)			**GRM188R61E105KA12D***	**GRM188R61C105KA93D***
2.2μF(**225**)	±10%(**K**)				**GRM188R61C225KE15D***

LxW [mm]		1.6x0.8(**18**)<0603>		
Rated Volt. [Vdc]		10(**1A**)	6.3(**0J**)	4(**0G**)
Capacitance	Tolerance	Part Number		
0.68μF(**684**)	±10%(**K**)	**GRM188R61A684KA61D**		
2.2μF(**225**)	±10%(**K**)	**GRM188R61A225KE34D***		
4.7μF(**475**)	±10%(**K**)		**GRM188R60J475KE19D***	
10μF(**106**)	±20%(**M**)		**GRM188R60J106ME47D***	**GRM188R60G106ME47D***
22μF(**226**)	±20%(**M**)			**GRM188R60G226MEA0L***

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code
: Please refer to X7R(R7) etc. Characteristics.
* Please refer to GRM Series Specifications and Test Method (2).

(Part Number) GR M 18 8 R6 1H 102 K A01 D
❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿

❶Product ID ❷Series ❸Dimensions (LxW) ❹Dimension (T)
❺Temperature Characteristics ❻Rated Voltage ❼Capacitance
❽Capacitance Tolerance ❾Individual Specification Code ❿Packaging

Packaging Code in Part Number shows STD 180mm Reel Taping.

High Dielectric Constant Type X5R(R6) Characteristics

LxW [mm]		2.0x1.25(**21**)<0805>			
Rated Volt. [Vdc]		100(**2A**)	50(**1H**)	25(**1E**)	16(**1C**)
Capacitance	Tolerance	Part Number			
6800pF(**682**)	±10%(**K**)				
10000pF(**103**)	±10%(**K**)				
15000pF(**153**)	±10%(**K**)				
22000pF(**223**)	±10%(**K**)				
33000pF(**333**)	±10%(**K**)				
47000pF(**473**)	±10%(**K**)				
68000pF(**683**)	±10%(**K**)				
0.10μF(**104**)	±10%(**K**)				
0.15μF(**154**)	±10%(**K**)				
0.22μF(**224**)	±10%(**K**)				
0.33μF(**334**)	±10%(**K**)				
0.47μF(**474**)	±10%(**K**)				
0.68μF(**684**)	±10%(**K**)				
1.0μF(**105**)	±10%(**K**)			**GRM216R61E105KA12D**	**GRM21BR61C105KA01L**
					GRM216R61C105KA88D*
2.2μF(**225**)	±10%(**K**)			**GRM21BR61E225KA12L**	**GRM21BR61C225KA88L***
				GRM219R61E225KA12D*	**GRM219R61C225KA88D***
4.7μF(**475**)	±10%(**K**)			**GRM21BR61E475KA12L***	**GRM21BR61C475KA88L***
					GRM219R61C475KE15D*
10μF(**106**)	±10%(**K**)				**GRM21BR61C106KE15L***

LxW [mm]		2.0x1.25(**21**)<0805>		
Rated Volt. [Vdc]		10(**1A**)	6.3(**0J**)	4(**0G**)
Capacitance	Tolerance	Part Number		
2.2μF(**225**)	±10%(**K**)	**GRM21BR61A225KA01L**		
4.7μF(**475**)	±10%(**K**)	**GRM21BR61A475KA73L***	**GRM21BR60J475KA11L***	
		GRM219R61A475KE34D*		
10μF(**106**)	±10%(**K**)	**GRM21BR61A106KE19L***	**GRM21BR60J106KE19L***	
		GRM219R61A106KE44D*	**GRM219R60J106KE19D***	
22μF(**226**)	±20%(**M**)		**GRM21BR60J226ME39L***	**GRM219R60G226ME66D***

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code
: Please refer to X7R(R7) etc. Characteristics.
* Please refer to GRM Series Specifications and Test Method (2).

High Dielectric Constant Type X5R(R6) Characteristics

LxW [mm]		3.2x1.6(**31**)<1206>			
Rated Volt. [Vdc]		100(**2A**)	50(**1H**)	25(**1E**)	16(**1C**)
Capacitance	Tolerance	Part Number			
15000pF(**153**)	±10%(**K**)				
22000pF(**223**)	±10%(**K**)				
33000pF(**333**)	±10%(**K**)				
47000pF(**473**)	±10%(**K**)				
68000pF(**683**)	±10%(**K**)				
0.10µF(**104**)	±10%(**K**)				
0.15µF(**154**)	±10%(**K**)				
0.22µF(**224**)	±10%(**K**)				
0.33µF(**334**)	±10%(**K**)				
0.47µF(**474**)	±10%(**K**)				
0.68µF(**684**)	±10%(**K**)				
1.0µF(**105**)	±10%(**K**)				
2.2µF(**225**)	±10%(**K**)		**GRM31CR61H225KA88L**	**GRM316R61E225KA12D***	
4.7µF(**475**)	±10%(**K**)			**GRM31CR61E475KA88L**	**GRM31CR61C475KA01L**
				GRM319R61E475KA12D*	**GRM319R61C475KA88D***
10µF(**106**)	±10%(**K**)			**GRM31CR61E106KA12L***	**GRM31CR61C106KA88L**
					GRM319R61C106KE15D*
22µF(**226**)	±20%(**M**)				**GRM31CR61C226ME15L***

LxW [mm]		3.2x1.6(**31**)<1206>		
Rated Volt. [Vdc]		10(**1A**)	6.3(**0J**)	4(**0G**)
Capacitance	Tolerance	Part Number		
10µF(**106**)	±10%(**K**)	**GRM319R61A106KE19L***		
22µF(**226**)	±20%(**M**)	**GRM31CR61A226ME19L***	**GRM31CR60J226ME19L***	
47µF(**476**)	±20%(**M**)	**GRM31CR61A476ME15L***	**GRM31CR60J476ME19L***	
100µF(**107**)	±20%(**M**)		**GRM31CR60J107ME39L***	**GRM31CR60G107ME39L***

LxW [mm]		3.2x2.5(**32**)<1210>			
Rated Volt. [Vdc]		100(**2A**)	50(**1H**)	35(**YA**)	25(**1E**)
Capacitance	Tolerance	Part Number			
0.68µF(**684**)	±10%(**K**)				
1.0µF(**105**)	±10%(**K**)				
2.2µF(**225**)	±10%(**K**)				
4.7µF(**475**)	±10%(**K**)				
10µF(**106**)	±10%(**K**)			**GRM32ER6YA106KA12L**	**GRM32DR61E106KA12L**
22µF(**226**)	±20%(**M**)				**GRM32ER61E226ME15L***

LxW [mm]		3.2x2.5(**32**)<1210>		
Rated Volt. [Vdc]		16(**1C**)	10(**1A**)	6.3(**0J**)
Capacitance	Tolerance	Part Number		
22µF(**226**)	±20%(**M**)			
47µF(**476**)	±20%(**M**)	**GRM32ER61C476ME15L***	**GRM32ER61A476ME20L***	
100µF(**107**)	±20%(**M**)			**GRM32ER60J107ME20L***

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code
: Please refer to X7R(R7) etc. Characteristics.
* Please refer to GRM Series Specifications and Test Method (2).

(Part Number) GR ❶ | M ❷ | 31 ❸ | C ❹ | R6 ❺ | 1H ❻ | 225 ❼ | K ❽ | A88 ❾ | L ❿

❶Product ID ❷Series ❸Dimensions (LxW) ❹Dimension (T)
❺Temperature Characteristics ❻Rated Voltage ❼Capacitance
❽Capacitance Tolerance ❾Individual Specification Code ❿Packaging

Packaging Code in Part Number shows STD 180mm Reel Taping.

High Dielectric Constant Type X5R(R6) Characteristics-Low Profile

LxW [mm]		1.0x0.5(**15**)<0402>		
Rated Volt. [Vdc]		16(**1C**)	25(**1E**)	16(**1C**)
Capacitance	Tolerance	Part Number		
220pF(**221**)	±10%(**K**)			
330pF(**331**)	±10%(**K**)			
470pF(**471**)	±10%(**K**)			
680pF(**681**)	±10%(**K**)			
1000pF(**102**)	±10%(**K**)			
1500pF(**152**)	±10%(**K**)			
2200pF(**222**)	±10%(**K**)			
3300pF(**332**)	±10%(**K**)			
4700pF(**472**)	±10%(**K**)			
6800pF(**682**)	±10%(**K**)			
10000pF(**103**)	±10%(**K**)			

LxW [mm]		1.6x0.8(**18**)<0603>	
Rated Volt. [Vdc]		16(**1C**)	10(**1A**)
Capacitance	Tolerance	Part Number	
1.0μF(**105**)	±10%(**K**)	**GRM185R61C105KE44D***	**GRM185R61A105KE36D***

LxW [mm]		2.0x1.25(**21**)<0805>			
Rated Volt. [Vdc]		100(**2A**)	50(**1H**)	25(**1E**)	16(**1C**)
Capacitance	Tolerance	Part Number			
6800pF(**682**)	±10%(**K**)				
33000pF(**333**)	±10%(**K**)				
68000pF(**683**)	±10%(**K**)				
0.22μF(**224**)	±10%(**K**)				
0.33μF(**334**)	±10%(**K**)				
0.47μF(**474**)	±10%(**K**)				
0.68μF(**684**)	±10%(**K**)				
1.0μF(**105**)	±10%(**K**)			**GRM216R61E105KA12D**	**GRM216R61C105KA88D**
2.2μF(**225**)	±10%(**K**)			**GRM219R61E225KA12D***	**GRM219R61C225KA88D***
4.7μF(**475**)	±10%(**K**)				**GRM219R61C475KE15D***

LxW [mm]		2.0x1.25(**21**)<0805>		
Rated Volt. [Vdc]		10(**1A**)	6.3(**0J**)	4(**0G**)
Capacitance	Tolerance	Part Number		
4.7μF(**475**)	±10%(**K**)	**GRM219R61A475KE34D***		
10μF(**106**)	±10%(**K**)	**GRM219R61A106KE44D***	**GRM219R60J106KE19D***	
22μF(**226**)	±20%(**M**)			**GRM219R60G226ME66D***

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code
: Please refer to X7R(R7) etc. Characteristics.
* Please refer to GRM Series Specifications and Test Method (2).

High Dielectric Constant Type X5R(R6) Characteristics-Low Profile

LxW [mm]		3.2x1.6(**31**)<1206>			
Rated Volt. [Vdc]		100(**2A**)	50(**1H**)	25(**1E**)	16(**1C**)
Capacitance	Tolerance	Part Number			
15000pF(**153**)	±10%(**K**)				
22000pF(**223**)	±10%(**K**)				
33000pF(**333**)	±10%(**K**)				
47000pF(**473**)	±10%(**K**)				
68000pF(**683**)	±10%(**K**)				
0.10μF(**104**)	±10%(**K**)				
0.15μF(**154**)	±10%(**K**)				
0.22μF(**224**)	±10%(**K**)				
0.33μF(**334**)	±10%(**K**)				
0.47μF(**474**)	±10%(**K**)				
0.68μF(**684**)	±10%(**K**)				
1.0μF(**105**)	±10%(**K**)				
2.2μF(**225**)	±10%(**K**)			**GRM316R61E225KA12D***	
4.7μF(**475**)	±10%(**K**)			**GRM319R61E475KA12D***	**GRM319R61C475KA88D***
10μF(**106**)	±10%(**K**)				**GRM319R61C106KE15D***

LxW [mm]		3.2x1.6(**31**)<1206>
Rated Volt. [Vdc]		10(**1A**)
Capacitance	Tolerance	Part Number
10μF(**106**)	±10%(**K**)	**GRM319R61A106KE19D***

LxW [mm]		3.2x2.5(**32**)<1210>		
Rated Volt. [Vdc]		100(**2A**)	50(**1H**)	25(**1E**)
Capacitance	Tolerance	Part Number		
0.68μF(**684**)	±10%(**K**)			
1.0μF(**105**)	±10%(**K**)			
10μF(**106**)	±10%(**K**)			**GRM32DR61E106KA12L**

The part number code is shown in ( ) and Unit is shown in [ ]. < >: EIA [inch] Code
□ : Please refer to X7R(R7) etc. Characteristics.
* Please refer to GRM Series Specifications and Test Method (2).

(Part Number) GR ❶ | M ❷ | 31 ❸ | 6 ❹ | R6 ❺ | 1E ❻ | 225 ❼ | K ❽ | A12 ❾ | D ❿

❶Product ID ❷Series ❸Dimensions (LxW) ❹Dimension (T)
❺Temperature Characteristics ❻Rated Voltage ❼Capacitance
❽Capacitance Tolerance ❾Individual Specification Code ❿Packaging

Packaging Code in Part Number shows STD 180mm Reel Taping.

GRM Series Specifications and Test Methods (1) (Note 1)-Typical Inspection

(Note 1) These Specifications and Test Methods indicate typical inspection.
Please refer to individual specifications (our product specifications or the approval sheet).
When no "*" is added in PNs table, please refer to GRM Series Specifications and Test Methods (1).
When "*" is added in PNs table, please refer to GRM Series Specifications and Test Methods (2).

No.	Item	Specifications		Test Method
		Temperature Compensating Type	High Dielectric Type	
1	Operating Temperature Range	–55 to +125°C (2P/R/S/T, 3P/R/S/T/U, 4P/R/S/T/U: –25 to +85°C)	B1, B3, F1: –25 to +85°C R1, R7: –55 to +125°C R6: –55 to +85°C C8: –55 to +105°C E4: +10 to +85°C F5: –30 to +85°C	Reference temperature: 25°C (2Δ, 3Δ, 4Δ, B1, B3, F1, R1: 20°C)
2	Rated Voltage	See the previous pages.		The rated voltage is defined as the maximum voltage that may be applied continuously to the capacitor. When AC voltage is superimposed on DC voltage, V^{P-P} or V^{O-P}, whichever is larger, should be maintained within the rated voltage range.
3	Appearance	No defects or abnormalities		Visual inspection
4	Dimensions	Within the specified dimensions		Using calipers (GRM02 size is based on Microscope)
5	Dielectric Strength	No defects or abnormalities		No failure should be observed when 300%* of the rated voltage (temperature compensating type) or 250% of the rated voltage (high dielectric constant type) is applied between the terminations for 1 to 5 seconds, provided the charge/discharge current is less than 50mA. *200% for 500V
6	Insulation Resistance	C≦0.047μF: More than 10,000MΩ C>0.047μF: More than 500Ω · F C: Nominal Capacitance		The insulation resistance should be measured with a DC voltage not exceeding the rated voltage at 20/25°C and 75%RH max. and within 2 minutes of charging, provided the charge/discharge current is less than 50mA.
7	Capacitance	Within the specified tolerance		The capacitance/Q/D.F. should be measured at 20/25°C at the frequency and voltage shown in the table.
8	Q/ Dissipation Factor (D.F.)	30pF and over: Q≧1000 30pF and below: Q≧400+20C C: Nominal Capacitance (pF)	[R6, R7, C8] W.V.: 100V : 0.025 max. (C<0.068μF) : 0.05 max. (C≧0.068μF) W.V.: 50/35/25V: : 0.025 max.* *GRM32D R7/R6/C8 1E106: 0.035 max. W.V.: 16/10V: 0.035 max. W.V.: 6.3/4V : 0.05 max. (C<3.3μF) : 0.1 max. (C≧3.3μF) [E4] W.V.: 25Vmin: 0.025 max. [F1, F5] W.V.: 25V min. : 0.05 max. (C<0.1μF) : 0.09 max. (C≧0.1μF) W.V.: 16/10V: 0.125 max. W.V.: 6.3V: 0.15 max.	

Char. / Item	ΔC to 7U, 1X (1000pF and below)	ΔC to 7U, 1X (more than 1000pF) R6,R7,C8, F5,B1,B3,F1	R6, R7, F5 (C>10μF)	E4
Frequency	1±0.1MHz	1±0.1kHz	120±24Hz	1±0.1kHz
Voltage	0.5 to 5Vrms	1±0.2Vrms	0.5± 0.1Vrms	0.5± 0.05Vrms

Continued on the following page.

GRM Series Specifications and Test Methods (1) (Note 1)-Typical Inspection

(Note 1) These Specifications and Test Methods indicate typical inspection.
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Continued from the preceding page.

No.	Item		Specifications: Temperature Compensating Type	Specifications: High Dielectric Type	Test Method
9	Capacitance Temperature Characteristics	No bias	Within the specified tolerance (Table A-1)	B1, B3: Within ±10% (–25 to +85°C) R1, R7: Within ±15% (–55 to +125°C) R6: Within ±15% (–55 to +85°C) E4: Within +22/–56% (+10 to +85°C) F1: Within +30/–80% (–25 to +85°C) F5: Within +22/–82% (–30 to +85°C) C8: Within ±22% (–55 to +105°C)	The capacitance change should be measured after 5 min. at each specified temp. stage. (1)Temperature Compensating Type The temperature coefficient is determined using the capacitance measured in step 3 as a reference. When cycling the temperature sequentially from steps 1 through 5 (5C: +25 to +125°C/ΔC: +20 to +125°C: other temp. coeffs.: +25 to +85°C/+20 to +85°C) the capacitance should be within the specified tolerance for the temperature coefficient and capacitance change as in Table A-1. The capacitance drift is calculated by dividing the differences between the maximum and minimum measured values in the steps 1, 3 and 5 by the cap. value in step 3.
		50% of the Rated Voltage		B1: Within +10/–30% R1: Within +15/–40% F1: Within +30/–95%	
		Capacitance Drift	Within ±0.2% or ±0.05pF (whichever is larger.) *Do not apply to 1X/25V	*Initial measurement for high dielectric constant type Perform a heat treatment at 150+0/–10°C for one hour and then set for 24±2 hours at room temperature. Perform the initial measurement.	(2) High Dielectric Constant Type The ranges of capacitance change compared with the Reference Temperature value over the temperature ranges shown in the table should be within the specified ranges.* When applying voltage, the capacitance change should be measured after 1 more min. with applying voltage in equilibration of each temp. stage.
10	Adhesive Strength of Termination		No removal of the terminations or other defect should occur.		Solder the capacitor to the test jig (glass epoxy board) shown in Fig. 1a using a eutectic solder. Then apply 10N* force in parallel with the test jig for 10±1 sec. The soldering should be done either with an iron or using the reflow method and should be conducted with care so that the soldering is uniform and free of defects such as heat shock. *1N (GRM02), 2N (GRM03), 5N (GRM15, GRM18)

Step	Temperature (°C)
1	Reference Temperature ±2
2	–55±3 (for ΔC to 7U/R6/R7/C8) –30±3 (for F5), 10±3 (for E4) –25±3 (for other TC)
3	Reference Temperature ±2
4	125±3 (for ΔC/R7), 105±3 (for C8) 85±3 (for other TC)
5	Reference Temperature ±2

Step	Temperature (°C)	Applying Voltage (V)
1	Reference Temperature ±2	No bias
2	–55±3 (for C8, R1, R7, R6) –25±3 (for B1, B3, F1) –30±3 (for F5)/10±3 (for E4)	
3	Reference Temperature ±2	
4	125±3 (for R1, R7)/ 85±3 (for B1, B3, R6 F1, F5, E4)/105±3 (for C8)	
5	Reference Temperature ±2	50% of the rated voltage
6	–55±3 (for R1)/ –25±3 (for B1, F1)	
7	Reference Temperature ±2	
8	125±3 (for R1)/ 85±3 (for B1, F1)	

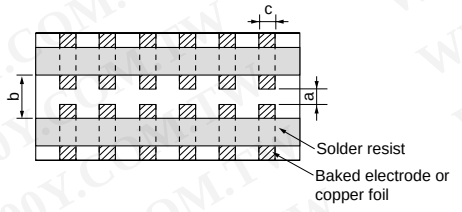

Fig. 1a

(in mm)

Type	a	b	c
GRM02	0.2	0.56	0.23
GRM03	0.3	0.9	0.3
GRM15	0.4	1.5	0.5
GRM18	1.0	3.0	1.2
GRM21	1.2	4.0	1.65
GRM31	2.2	5.0	2.0
GRM32	2.2	5.0	2.9
GRM43	3.5	7.0	3.7
GRM55	4.5	8.0	5.6

Continued on the following page.

GRM Series Specifications and Test Methods (1) (Note 1)-Typical Inspection

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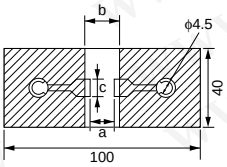
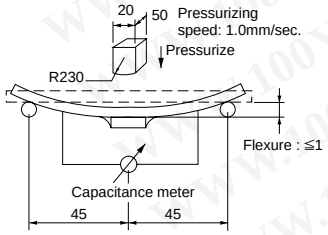
Continued from the preceding page.

No.	Item		Specifications: Temperature Compensating Type	Specifications: High Dielectric Type	Test Method
11	Vibration Resistance	Appearance	No defects or abnormalities		Solder the capacitor on the test jig (glass epoxy board) in the same manner and under the same conditions as (10). The capacitor should be subjected to a simple harmonic motion having a total amplitude of 1.5mm, the frequency being varied uniformly between the approximate limits of 10 and 55Hz. The frequency range, from 10 to 55Hz and return to 10Hz, should be traversed in approximately 1 minute. This motion should be applied for a period of 2 hours in each of 3 mutually perpendicular directions (total of 6 hours).
		Capacitance	Within the specified tolerance		
		Q/D.F.	30pF and over: Q≧1000 30pF and below: Q≧400+20C C: Nominal Capacitance (pF)	[B1, B3, R6, R7, C8] W.V.: 100V : 0.025 max. (C<0.068μF) : 0.05 max. (C≧0.068μF) W.V.: 50/35/25V: : 0.025 max.* *GRM32D R7/R6/C8 1E106: 0.035 max. W.V.: 16/10V: 0.035 max. W.V.: 6.3/4V : 0.05 max. (C<3.3μF) : 0.1 max. (C≧3.3μF) [E4] W.V.: 25Vmin: 0.025 max. [F1, F5] W.V.: 25V min. : 0.05 max. (C<0.1μF) : 0.09 max. (C≧0.1μF) W.V.: 16/10V: 0.125 max. W.V.: 6.3V: 0.15 max.	
12	Deflection	Appearance	No marking defects		Solder the capacitor on the test jig (glass epoxy board) shown in Fig. 2a using a eutectic solder. Then apply a force in the direction shown in Fig. 3a for 5±1 sec. The soldering should be done by the reflow method and should be conducted with care so that the soldering is uniform and free of defects such as heat shock.  Fig. 2a t: 1.6mm (GRM02/03/15: t: 0.8mm) (in mm)
		Capacitance Change	Within ±5% or ±0.5pF (whichever is larger)	Within ±10%	
			 Fig. 3a		
13	Solderability of Termination		75% of the terminations are to be soldered evenly and continuously.		Immerse the capacitor in a solution of ethanol (JIS-K-8101) and rosin (JIS-K-5902) (25% rosin in weight proportion). Preheat at 80 to 120°C for 10 to 30 seconds. After preheating, immerse in a eutectic solder solution for 2±0.5 seconds at 230±5°C or Sn-3.0Ag-0.5Cu solder solution for 2±0.5 seconds at 245±5°C.

Type	a	b	c
GRM02	0.2	0.56	0.23
GRM03	0.3	0.9	0.3
GRM15	0.4	1.5	0.5
GRM18	1.0	3.0	1.2
GRM21	1.2	4.0	1.65
GRM31	2.2	5.0	2.0
GRM32	2.2	5.0	2.9
GRM43	3.5	7.0	3.7
GRM55	4.5	8.0	5.6

Continued on the following page.

GRM Series Specifications and Test Methods (1) (Note 1)-Typical Inspection

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Continued from the preceding page.

No.	Item		Specifications: Temperature Compensating Type	Specifications: High Dielectric Type	Test Method
14	Resistance to Soldering Heat		The measured and observed characteristics should satisfy the specifications in the following table.		Preheat the capacitor at 120 to 150°C for 1 minute. Immerse the capacitor in a eutectic solder or Sn-3.0Ag-0.5Cu solder solution at 270±5°C for 10±0.5 seconds. Set at room temperature for 24±2 hours, then measure. •Initial measurement for high dielectric constant type Perform a heat treatment at 150+0/–10°C for one hour and then set at room temperature for 24±2 hours. Perform the initial measurement. •Preheating for GRM32/43/55
		Appearance	No defects or abnormalities		
		Capacitance Change	Within ±2.5% or ±0.25pF (whichever is larger)	B1, B3, R1, R6, R7, C8: Within ±7.5% F1, F5, E4: Within ±20%	
		Q/D.F.	30pF and over: Q≧1000 30pF and below: Q≧400+20C C: Nominal Capacitance (pF)	[B1, B3, R6, R7, C8] W.V.: 100V : 0.025 max. (C<0.068μF) : 0.05 max. (C≧0.068μF) W.V.: 50/35/25V: : 0.025 max.* *GRM32D R7/R6/C8 1E106: 0.035 max. W.V.: 16/10V: 0.035 max. W.V.: 6.3/4V : 0.05 max. (C<3.3μF) : 0.1 max. (C≧3.3μF) [E4] W.V.: 25Vmin: 0.025 max. [F1, F5] W.V.: 25V min. : 0.05 max. (C<0.1μF) : 0.09 max. (C≧0.1μF) W.V.: 16/10V: 0.125 max. W.V.: 6.3V: 0.15 max.	
		I.R.	More than 10,000MΩ or 500Ω · F (whichever is smaller)		
		Dielectric Strength	No defects		
15	Temperature Cycle		The measured and observed characteristics should satisfy the specifications in the following table.		Fix the capacitor to the supporting jig in the same manner and under the same conditions as (10). Perform the five cycles according to the four heat treatments shown in the following table. Set for 24±2 hours at room temperature, then measure.
		Appearance	No defects or abnormalities		
		Capacitance Change	Within ±2.5% or ±0.25pF (whichever is larger)	B1, B3, R1, R6, R7, C8: Within ±7.5% F1, F5, E4: Within ±20%	
		Q/D.F.	30pF and over: Q≧1000 30pF and below: Q≧400+20C C: Nominal Capacitance (pF)	[B1, B3, R6, R7, C8] W.V.: 100V : 0.025 max. (C<0.068μF) : 0.05 max. (C≧0.068μF) W.V.: 50/35/25V: : 0.025 max.* *GRM32D R7/R6/C8 1E106: 0.035 max. W.V.: 16/10V: 0.035 max. W.V.: 6.3/4V : 0.05 max. (C<3.3μF) : 0.1 max. (C≧3.3μF) [E4] W.V.: 25Vmin: 0.05 max. [F1, F5] W.V.: 25V min. : 0.05 max. (C<0.1μF) : 0.09 max. (C≧0.1μF) W.V.: 16/10V: 0.125 max. W.V.: 6.3V: 0.15 max.	
		I.R.	More than 10,000MΩ or 500Ω · F (whichever is smaller)		
		Dielectric Strength	No defects		

Step	Temperature	Time
1	100 to 120°C	1 min.
2	170 to 200°C	1 min.

Step	1	2	3	4
Temp. (°C)	Min. Operating Temp. +0/–3	Room Temp.	Max. Operating Temp. +3/–0	Room Temp.
Time (min.)	30±3	2 to 3	30±3	2 to 3

•Initial measurement for high dielectric constant type
Perform a heat treatment at 150+0/–10°C for one hour and then set at room temperature for 24±2 hours.
Perform the initial measurement.

Continued on the following page.

GRM Series Specifications and Test Methods (1) (Note 1)-Typical Inspection

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Continued from the preceding page.

No.	Item		Specifications: Temperature Compensating Type	Specifications: High Dielectric Type	Test Method
16	Humidity (Steady State)		The measured and observed characteristics should satisfy the specifications in the following table.		Set the capacitor at 40±2°C and in 90 to 95% humidity for 500±12 hours. Remove and set for 24±2 hours at room temperature, then measure.
		Appearance	No defects or abnormalities		
		Capacitance Change	Within ±5% or ±0.5pF (whichever is larger)	B1, B3, R1, R6, R7, C8: Within ±12.5% F1, F5, E4: Within ±30%	
		Q/D.F.	30pF and over: Q≧350 10pF and over 30pF and below: Q≧275+2.5C 10pF and below: Q≧200+10C C: Nominal Capacitance (pF)	[R6, R7, C8] W.V.: 100V : 0.05 max. (C<0.068μF) : 0.075 max. (C≧0.068μF) W.V.: 50/35/25/16/10V : 0.05 max. W.V.: 6.3/4V : 0.075 max. (C<3.3μF) : 0.125 max. (C≧3.3μF) [E4] W.V.: 25Vmin: 0.05 max. [F1, F5] W.V.: 25V min. : 0.075 max. (C<0.1μF) : 0.125 max. (C≧0.1μF) W.V.: 16/10V: 0.15 max. W.V.: 6.3V: 0.2 max.	
		I.R.	More than 1,000MΩ or 50Ω · F (whichever is smaller)		
17	Humidity Load		The measured and observed characteristics should satisfy the specifications in the following table.		Apply the rated voltage at 40±2°C and 90 to 95% humidity for 500±12 hours. Remove and set for 24±2 hours at room temperature, then measure. The charge/discharge current is less than 50mA. •Initial measurement for F1, F5/10V max. Apply the rated DC voltage for 1 hour at 40±2°C. Remove and set for 24±2 hours at room temperature. Perform initial measurement.
		Appearance	No defects or abnormalities		
		Capacitance Change	Within ±7.5% or ±0.75pF (whichever is larger)	B1, B3, R1, R6, R7, C8: Within ±12.5% F1, F5, E4: Within ±30% [W.V.: 10V max.] F1, F5: Within +30/–40%	
		Q/D.F.	30pF and over: Q≧200 30pF and below: Q≧100+10C/3 C: Nominal Capacitance (pF)	[B1, B3, R6, R7, C8] W.V.: 100V : 0.05 max. (C<0.068μF) : 0.075 max. (C≧0.068μF) W.V.: 50/35/25/16/10V : 0.05 max. W.V.: 6.3/4V : 0.075 max. (C<3.3μF) : 0.125 max. (C≧3.3μF) [E4] W.V.: 25Vmin: 0.05 max. [F1, F5] W.V.: 25V min. : 0.075 max. (C<0.1μF) : 0.125 max. (C≧0.1μF) W.V.: 16/10V: 0.15 max. W.V.: 6.3V: 0.2 max.	
		I.R.	More than 500MΩ or 25Ω · F (whichever is smaller)		

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GRM Series Specifications and Test Methods (1) (Note 1)-Typical Inspection

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No.	Item		Specifications: Temperature Compensating Type	Specifications: High Dielectric Type	Test Method
18	High Temperature Load		The measured and observed characteristics should satisfy the specifications in the following table.		Apply 200%* of the rated voltage at the maximum operating temperature ±3°C for 1000±12 hours. Set for 24±2 hours at room temperature, then measure. The charge/discharge current is less than 50mA. •Initial measurement for high dielectric constant type. Apply 200% of the rated voltage* at the maximum operating temperature ±3°C for one hour. Remove and set for 24±2 hours at room temperature. Perform initial measurement. *GRM155C81E 683/104, GRM188C81E105, GRM188C81E105, GRM21BR71H105, GRM21BR72A474, GRM21BR71C225, GRM31CR71H475, GRM32E R6/R7 YA106, GRM32D R7/R6/C8 1E106 : 150% of the rated voltage.
		Appearance	No defects or abnormalities		
		Capacitance Change	Within ±3% or ±0.3pF (whichever is larger)	B1, B3, R1, R6, R7, C8: Within ±12.5% F1, F5, E4: Within ±30% [Except 10V max. and. C≧1.0μF] F1, F5: Within +30/–40% [10V max. and C≧1.0μF]	
		Q/D.F.	30pF and over: Q≧350 10pF and over 30pF and below: Q≧275+2.5C 10pF and below: Q≧200+10C C: Nominal Capacitance (pF)	[B1, B3, R6, R7, C8] W.V.: 100V : 0.05 max. (C<0.068μF) : 0.075 max. (C≧0.068μF) W.V.: 50/35/25/16/10V : 0.05 max. W.V.: 6.3/4V : 0.075 max. (C<3.3μF) : 0.125 max. (C≧3.3μF) [E4] W.V.: 25Vmin: 0.05 max. [F1, F5] W.V.: 25V min. : 0.075 max.(C<0.1μF) : 0.125 max.(C≧0.1μF) W.V.: 16/10V: 0.15 max. W.V.: 6.3V: 0.2 max.	
		I.R.	More than 1,000MΩ or 50Ω · F (whichever is smaller)		

Table A-1

(1)

Char.	Nominal Values (ppm/°C)*1	Capacitance Change from 25°C (%)					
		–55		–30		–10	
		Max.	Min.	Max.	Min.	Max.	Min.
5C	0±30	0.58	–0.24	0.40	–0.17	0.25	–0.11
6C	0±60	0.87	–0.48	0.59	–0.33	0.38	–0.21
6P	–150±60	2.33	0.72	1.61	0.50	1.02	0.32
6R	–220±60	3.02	1.28	2.08	0.88	1.32	0.56
6S	–330±60	4.09	2.16	2.81	1.49	1.79	0.95
6T	–470±60	5.46	3.28	3.75	2.26	2.39	1.44
7U	–750±120	8.78	5.04	6.04	3.47	3.84	2.21
1X	+350 to –1000	–	–	–	–	–	–

*1: Nominal values denote the temperature coefficient within a range of 25°C to 125°C (for ΔC)/85°C (for other TC).

(2)

Char.	Nominal Values (ppm/°C)*2	Capacitance Change from 20°C (%)					
		–55		–25		–10	
		Max.	Min.	Max.	Min.	Max.	Min.
2C	0±60	0.82	–0.45	0.49	–0.27	0.33	–0.18
3C	0±120	1.37	–0.90	0.82	–0.54	0.55	–0.36
4C	0±250	2.56	–1.88	1.54	–1.13	1.02	–0.75
2P	–150±60	–	–	1.32	0.41	0.88	0.27
3P	–150±120	–	–	1.65	0.14	1.10	0.09
4P	–150±250	–	–	2.36	–0.45	1.57	–0.30
2R	–220±60	–	–	1.70	0.72	1.13	0.48
3R	–220±120	–	–	2.03	0.45	1.35	0.30
4R	–220±250	–	–	2.74	–0.14	1.83	–0.09
2S	–330±60	–	–	2.30	1.22	1.54	0.81
3S	–330±120	–	–	2.63	0.95	1.76	0.63
4S	–330±250	–	–	3.35	0.36	2.23	0.24
2T	–470±60	–	–	3.07	1.85	2.05	1.23
3T	–470±120	–	–	3.40	1.58	2.27	1.05
4T	–470±250	–	–	4.12	0.99	2.74	0.66
3U	–750±120	–	–	4.94	2.84	3.29	1.89
4U	–750±250	–	–	5.65	2.25	3.77	1.50

*2: Nominal values denote the temperature coefficient within a range of 20°C to 125°C (for ΔC)/85°C (for other TC).

GRM Series Specifications and Test Methods (2) (Note 1)-Typical Inspection

(Note 1) These Specifications and Test Methods indicate typical inspection.
Please refer to individual specifications (our product specifications or the approval sheet).
When no "*" is added in PNs table, please refer to GRM Series Specifications and Test Methods (1).
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No.	Item	Specifications	Test Method
1	Operating Temperature Range	B1, B3, F1: –25 to +85°C R1, R7, C7, D7, E7: –55 to +125°C C6, R6: –55 to +85°C F5: –30 to +85°C C8, D8: –55 to +105°C,	Reference temperature: 25°C (B1, B3, R1, F1: 20°C)
2	Rated Voltage	See the previous pages.	The rated voltage is defined as the maximum voltage that may be applied continuously to the capacitor. When AC voltage is superimposed on DC voltage, V^{P-P} or V^{O-P}, whichever is larger, should be maintained within the rated voltage range.
3	Appearance	No defects or abnormalities	Visual inspection
4	Dimensions	Within the specified dimensions	Using calipers (GRM02 size is based on Microscope)
5	Dielectric Strength	No defects or abnormalities	No failure should be observed when 250% of the rated voltage is applied between the terminations for 1 to 5 seconds, provided the charge/discharge current is less than 50mA.
6	Insulation Resistance	More than 50Ω · F	The insulation resistance should be measured with a DC voltage not exceeding the rated voltage at reference temperature and 75%RH max. and within 1 minutes of charging, provided the charge/discharge current is less than 50mA.
7	Capacitance	Within the specified tolerance *Table 1	The capacitance/D.F. should be measured at reference temperature at the measuring frequency and voltage shown in the table.
8	Dissipation Factor (D.F.)	B1, B3, R1, *R6, *R7, C7, C8, E7, D7: 0.1 max. C6: 0.125 max. D8: 0.15 max. F1, F5: 0.2 max. *GRM31CR71E106: 0.125 max. GRM31CR6 0J/0G 107: 0.15 max.	GRM188C80E106: Perform a heat treatment at 150+0/-10°C for one hour and then set for 24±2 hours at room temperature.

*Table 1

GRM022	B3/R6	1A	681 to 103
GRM155	B3/R6	1A	124 to 105
GRM185	B3/R6	1C/1A	105
GRM185	C8/D7	1A	105
GRM188	B3/R6	1C/1A	225
GRM188	R7/C8	1A	225
GRM188	B3/R6	1A	335
GRM219	B3/R6	1C/1A	475
GRM219	C8	1A	475
GRM219	B3/R6	1A	106
GRM21B	B3/R6	1C/1A	106
GRM21B	R7/C8	1A	106
GRM319	B3/R6	1C/1A	106

Nominal Capacitance	Measuring Frequency	Measuring Voltage
C≦10μF (10V min.)*	1±0.1kHz	1.0±0.2Vrms
C≦10μF (6.3V max.)	1±0.1kHz	0.5±0.1Vrms
C>10μF	120±24Hz	0.5±0.1Vrms
*For items in Table1	1±0.1kHz	0.5±0.1Vrms

Continued on the following page.

GRM Series Specifications and Test Methods (2) (Note 1)-Typical Inspection

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When "*" is added in PNs table, please refer to GRM Series Specifications and Test Methods (2).

Continued from the preceding page.

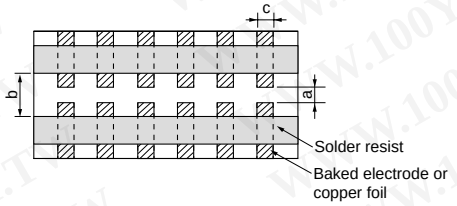
<table>
<tr><th>No.</th><th colspan="2">Item</th><th>Specifications</th><th>Test Method</th></tr>
<tr><td rowspan="2">9</td><td rowspan="2">Capacitance Temperature Characteristics</td><td>No bias</td><td>B1, B3 : Within ±10% (–25 to +85°C)
F1 : Within +30/–80% (–25 to +85°C)
R6 : Within ±15% (–55 to +85°C)
R1, R7 : Within ±15% (–55 to +125°C)
F5 : Within +22/–82% (–30 to +85°C)
C6 : Within ±22% (–55 to +85°C)
C7 : Within ±22% (–55 to +125°C)
C8 : Within ±22% (–55 to +105°C)
D7 : Within +22/–33% (–55 to +125°C)
E7 : Within +22/–56% (–55 to +125°C)
D8 : Within +22/–33% (–55 to +105°C)</td><td rowspan="2">The capacitance change should be measured after 5 min. at each specified temp. stage.
The ranges of capacitance change compared with the reference temperature value over the temperature ranges shown in the table should be within the specified ranges.*
In case of applying voltage, the capacitance change should be measured after 1 more min. with applying voltage in equilibration of each temp. stage.
*GRM32DR60J226, GRM43 B1/B3/R6 0J/1A 336/476: 1.0±0.2Vrms
GRM155B30G475, GRM155B30J 225, GRM21BB30J476, GRM155R60E106, GRM188 B3/R6 0E/0G/0J 226: 0.2±0.05Vrms
<table>
<tr><th>Step</th><th>Temperature (°C)</th><th>Applying Voltage (V)</th></tr>
<tr><td>1</td><td>25±2 (for R6, R7, C6, C7, C8, D7, D8, E7, F5)
20±2 (for B1, B3, F1, R1)</td><td rowspan="4">No bias</td></tr>
<tr><td>2</td><td>–55±3 (for R1, R6, R7, C6, C7, C8, D7, D8, E7)
–30±3 (for F5)
–25±3 (for B1, B3, F1)</td></tr>
<tr><td>3</td><td>25±2 (for R6, R7, C6, C7, C8, D7, D8, E7, F5)
20±2 (for B1, B3, F1, R1)</td></tr>
<tr><td>4</td><td>125±3 (for R1, R7, C7, D7, E7)
105±3 (for C8, D8)
85±3 (for B1, B3, F1, F5, R6, C6)</td></tr>
<tr><td>5</td><td>20±2 (for B1, F1, R1)</td><td rowspan="4">50% of the rated voltage</td></tr>
<tr><td>6</td><td>–55±3 (for R1)
–25±3 (for B1, F1)</td></tr>
<tr><td>7</td><td>20±2 (for B1, F1, R1)</td></tr>
<tr><td>8</td><td>125±3 (for R1)
85±3 (for B1, F1)</td></tr>
</table>
•Initial measurement for high dielectric constant type
Perform a heat treatment at 150 +0/–10°C for one hour and then set for 24±2 hours at room temperature.
Perform the initial measurement.</td></tr>
<tr><td>50% of the Rated Voltage</td><td>B1: Within +10/–30%
R1: Within +15/–40%
F1: Within +30/–95%</td></tr>
<tr><td>10</td><td colspan="2">Adhesive Strength of Termination</td><td>No removal of the terminations or other defects should occur.
 

Fig. 1a</td><td>Solder the capacitor on the test jig (glass epoxy board) shown in Fig. 1a using a eutectic solder. Then apply 10N* force in parallel with the test jig for 10±1sec.
The soldering should be done either with an iron or using the reflow method and should be conducted with care so that the soldering is uniform and free of defects such as heat shock.
*1N: GRM02, 2N: GRM03, 5N: GRM15/GRM18
<table>
<tr><th>Type</th><th>a</th><th>b</th><th>c</th></tr>
<tr><td>GRM02</td><td>0.2</td><td>0.56</td><td>0.23</td></tr>
<tr><td>GRM03</td><td>0.3</td><td>0.9</td><td>0.3</td></tr>
<tr><td>GRM15</td><td>0.4</td><td>1.5</td><td>0.5</td></tr>
<tr><td>GRM18</td><td>1.0</td><td>3.0</td><td>1.2</td></tr>
<tr><td>GRM21</td><td>1.2</td><td>4.0</td><td>1.65</td></tr>
<tr><td>GRM31</td><td>2.2</td><td>5.0</td><td>2.0</td></tr>
<tr><td>GRM32</td><td>2.2</td><td>5.0</td><td>2.9</td></tr>
<tr><td>GRM43</td><td>3.5</td><td>7.0</td><td>3.7</td></tr>
<tr><td>GRM55</td><td>4.5</td><td>8.0</td><td>5.6</td></tr>
</table></td></tr>
<tr><td rowspan="3">11</td><td rowspan="3">Vibration</td><td>Appearance</td><td>No defects or abnormalities</td><td rowspan="3">Solder the capacitor on the test jig (glass epoxy board) in the same manner and under the same conditions as (10).
The capacitor should be subjected to a simple harmonic motion having a total amplitude of 1.5mm, the frequency being varied uniformly between the approximate limits of 10 and 55Hz. The frequency range, from 10 to 55Hz and return to 10Hz, should be traversed in approximately 1 minute. This motion should be applied for a period of 2 hours in each of 3 mutually perpendicular directions (total of 6 hours).</td></tr>
<tr><td>Capacitance</td><td>Within the specified tolerance</td></tr>
<tr><td>D.F.</td><td>B1, B3, R1, *R6, *R7, C7, C8, E7, D7: 0.1 max.
C6: 0.125 max.
D8: 0.15 max.
F1, F5: 0.2 max.
*GRM31CR71E106: 0.125 max.
GRM31CR6 0J/0G 107: 0.15 max.</td></tr>
</table>

Continued on the following page.

GRM Series Specifications and Test Methods (2) (Note 1)-Typical Inspection

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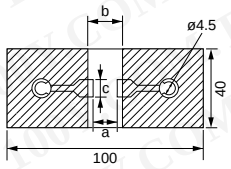
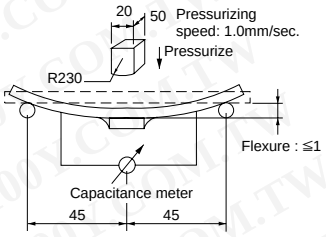
Continued from the preceding page.

No.	Item		Specifications	Test Method
12	Deflection	Appearance	No marking defects	Solder the capacitor on the test jig (glass epoxy board) shown in Fig. 2a using a eutectic solder. Then apply a force in the direction shown in Fig. 3a for 5±1 sec. The soldering should be done by the reflow method and should be conducted with care so that the soldering is uniform and free of defects such as heat shock.  t: 1.6mm Fig. 2a (GRM02/03/15: t: 0.8mm) Type / a / b / c GRM02 0.2 0.56 0.23 GRM03 0.3 0.9 0.3 GRM15 0.4 1.5 0.5 GRM18 1.0 3.0 1.2 GRM21 1.2 4.0 1.65 GRM31 2.2 5.0 2.0 GRM32 2.2 5.0 2.9 GRM43 3.5 7.0 3.7 GRM55 4.5 8.0 5.6 (in mm)
		Capacitance Change	Within ±10%	
			 Fig.3a	
13	Solderability of Termination		75% of the terminations is to be soldered evenly and continuously.	Immerse the capacitor in a solution of ethanol (JIS-K-8101) and rosin (JIS-K-5902) (25% rosin in weight proportion). Preheat at 80 to 120°C for 10 to 30 seconds. After preheating, immerse in a eutectic solder solution for 2±0.5 seconds at 230±5°C or Sn-3.0Ag-0.5Cu solder solution for 2±0.5 seconds at 245±5°C.
14	Resistance to Soldering Heat	Appearance	No defects or abnormalities	Preheat the capacitor at 120 to 150°C for 1 minute. Immerse the capacitor in a eutectic solder* or Sn-3.0Ag-0.5Cu solder solution at 270±5°C for 10±0.5 seconds. Set at room temperature for 24±2 hours, then measure. *Do not apply to GRM02. •Initial measurement for high dielectric constant type Perform a heat treatment at 150+0/–10°C for one hour and then set at room temperature for 24±2 hours. Perform the initial measurement. *Preheating for GRM32/43/55 Step / Temperature / Time 1 100 to 120°C 1 min. 2 170 to 200°C 1 min.
		Capacitance Change	B1, B3, R1, *R6, R7, C6, C7, *C8, E7, D7, D8: Within ±7.5% F1, F5: Within ±20% *GRM188R6 0J/0G 106, GRM188C8 0E/0G 106, GRM219R60G226: Within ±12.5% GRM155R60G475, GRM155R60E106, GRM188R60G226: Within ±15%	
		D.F.	B1, B3, R1, *R6, *R7, C7, C8, E7, D7: 0.1 max. C6: 0.125 max. D8: 0.15 max. F1, F5: 0.2 max. *GRM31CR71E106: 0.125 max. GRM31CR6 0J/0G 107: 0.15 max.	
		I.R.	More than 50Ω · F	
		Dielectric Strength	No defects	
15	Temperature Sudden Change	Appearance	No defects or abnormalities	Fix the capacitor to the supporting jig in the same manner and under the same conditions as (10). Perform the five cycles according to the four heat treatments shown in the following table. Set for 24±2 hours at room temperature, then measure. Step / 1 / 2 / 3 / 4 Temp. (°C) / Min. Operating Temp. +0/–3 / Room Temp. / Max. Operating Temp. +3/–0 / Room Temp. Time (min.) / 30±3 / 2 to 3 / 30±3 / 2 to 3 •Initial measurement for high dielectric constant type Perform a heat treatment at 150+0/–10°C for one hour and then set at room temperature for 24±2 hours. Perform the initial measurement. GRM188R60J106 only Measurement after test Perform a heat treatment and then let sit for 24±2 hours at room temperature, then measure.
		Capacitance Change	B1, B3, R1, R6, R7, C6, C7, C8, D7, D8: Within ±7.5% E7: Within ±30% F1, F5: Within ±20%	
		D.F.	B1, B3, R1, *R6, *R7, C7, C8, E7, D7: 0.1 max. C6: 0.125 max. D8: 0.15 max. F1, F5: 0.2 max. *GRM31CR71E106: 0.125 max. GRM31CR6 0J/0G 107: 0.15 max.	
		I.R.	More than 50Ω · F	
		Dielectric Strength	No defects	

Continued on the following page.

GRM Series Specifications and Test Methods (2) (Note 1)-Typical Inspection

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Continued from the preceding page.

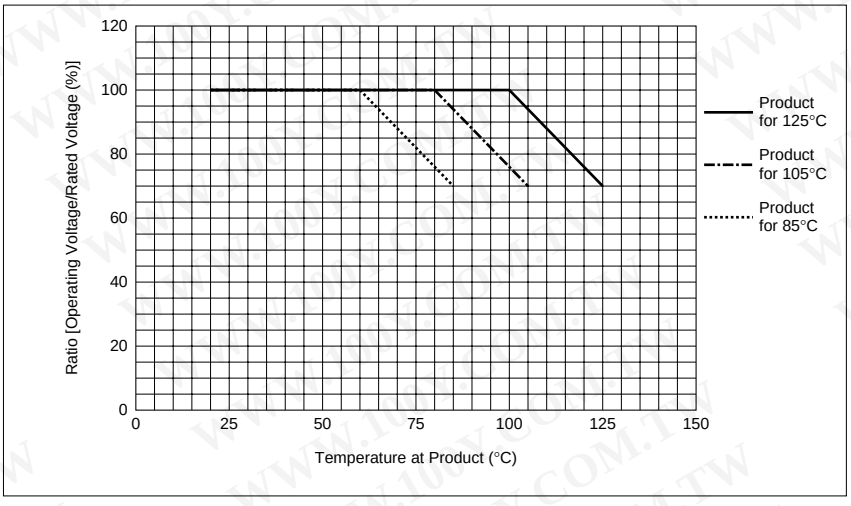
No.	Item		Specifications	Test Method
16	High Temperature High Humidity (Steady)	Appearance	No defects or abnormalities	Apply the rated voltage at 40±2°C and 90 to 95% humidity for 500±12 hours. The charge/discharge current is less than 50mA. •Initial measurement Perform a heat treatment at 150+0/–10°C for one hour and then let sit for 24±2 hours at room temperature. Perform the initial measurement. •Measurement after test Perform a heat treatment at 150+0/–10°C for one hour and then let sit for 24±2 hours at room temperature, then measure.
		Capacitance Change	B1, B3, R1, R6, R7, C6, C7, C8, E7, D7, D8: Within ±12.5% F1, F5: Within ±30%	
		D.F.	B1, B3, R1, R6, R7, C6, C7, *C8, E7, D7, D8: 0.2 max. F1, F5: 0.4 max. *GRM319C81A106, GRM31MC81A106: 0.125 max.	
		I.R.	More than 12.5Ω · F	
17	Durability	Appearance	No defects or abnormalities	Apply 150%* of the rated voltage for 1000±12 hours at the maximum operating temperature ±3°C. Let sit for 24±2 hours at room temperature, then measure. The charge/discharge current is less than 50mA. * Part Numbers with # have individual specification. As for these Part Numbers, please refer to table A. •Initial measurement Perform a heat treatment at 150+0/–10°C for one hour and then let sit for 24±2 hours at room temperature. Perform the initial measurement. •Measurement after test Perform a heat treatment at 150+0/–10°C for one hour and then let sit for 24±2 hours at room temperature, then measure.
		Capacitance Change	B1, B3, R1, *R6, R7, C6, C7, *C8, E7, D7, D8: Within ±12.5% F1, F5: Within ±30% *GRM188C8 0E/0G 106, GRM219R60G226: within ±15%	
		D.F.	B1, B3, R1, R6, R7, C6, C7, *C8, E7, D7, D8: 0.2 max. F1, F5: 0.4 max. *GRM319C81A106, GRM31MC81A106: 0.125 max.	
		I.R.	More than 25Ω · F	

Table A

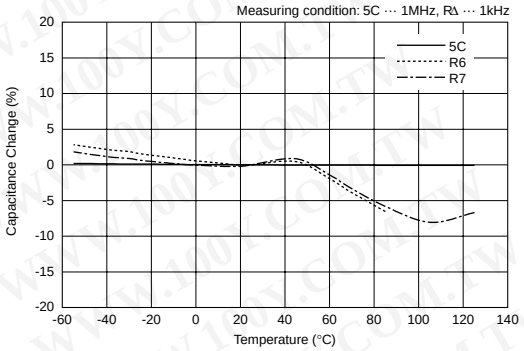
Part Number	Dimension L×W (mm)	Temp. Char.	Rated Volt. (Vdc)	Capacitance (F)	Cap. Tol (%)	Spec. Test Methods	Applied Testing Voltage at Durability
GRM155C80J684KE15D	1.0×0.5	X6S	6.3	0.68μ	±10%	(2)	Rated Volt. ×100%
GRM155C80J684ME15D	1.0×0.5	X6S	6.3	0.68μ	±20%	(2)	Rated Volt. ×100%
GRM188C80G106ME47D	1.6×0.8	X6S	4	10μ	±20%	(2)	Rated Volt. ×100%
GRM21BC80J226ME51L	2.0×1.25	X6S	6.3	22μ	±20%	(2)	Rated Volt. ×100%
GRM319D71C475KA12D	3.2×1.6	X7T	16	4.7μ	±10%	(2)	Rated Volt. ×100%
GRM319D71C475MA12D	3.2×1.6	X7T	16	4.7μ	±20%	(2)	Rated Volt. ×100%

Part Numbers of table A are designed for use in the circuits where continuous applied voltage to the capacitor is derated than rated voltage.
These Part Numbers guarantee Durability Test with 100% x rated voltage as testing voltage at the maximum operating temperature.
The following voltage and temperature derating conditions are recommended for use to ensure the same reliability level as normal specification.

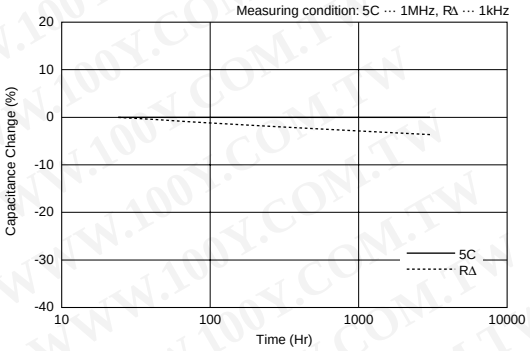
• Recommended Derating Conditions on Voltage and Temperature



■ Capacitance - Temperature Characteristics

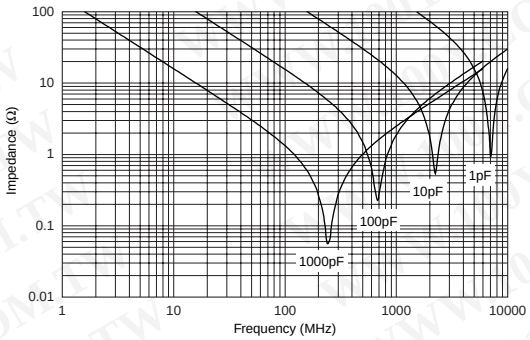


■ Capacitance Change - Aging

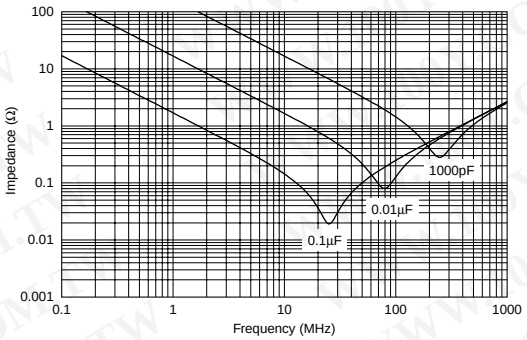


■ Impedance - Frequency Characteristics

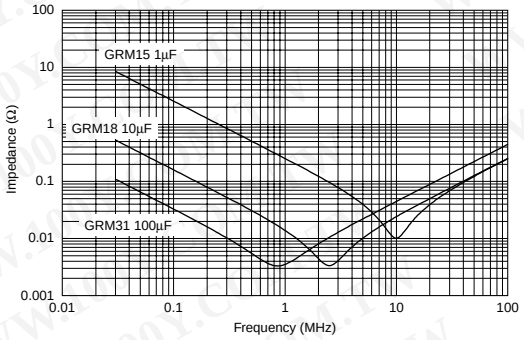
5C: GRM15



RΔ: GRM15



RΔ



The data herein are given in typical values, not guaranteed ratings.
Please refer to our Web site or contact our sales representatives for individual Part Number's data.
Our Web Site: http://www.murata.com/products/capacitor/tech_data/

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GRM Series Data

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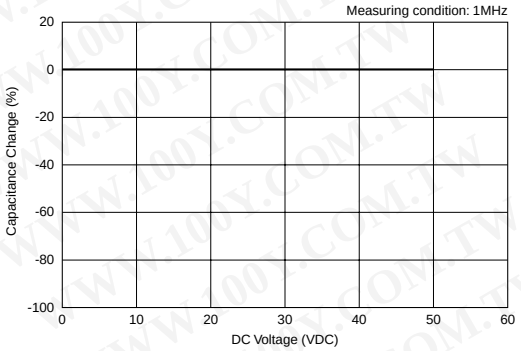
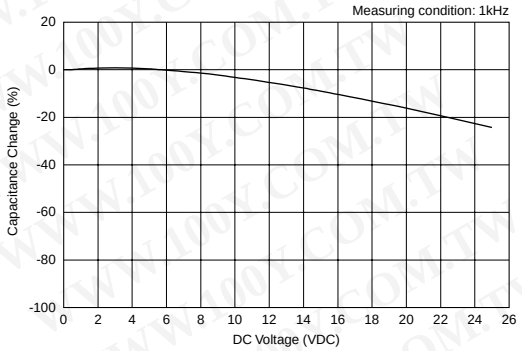
■ Capacitance - DC Voltage Characteristics

Temperature Compensating Type: GRM1555C1H102JA01



High Dielectric Constant Type: GRM155R71E103KA01



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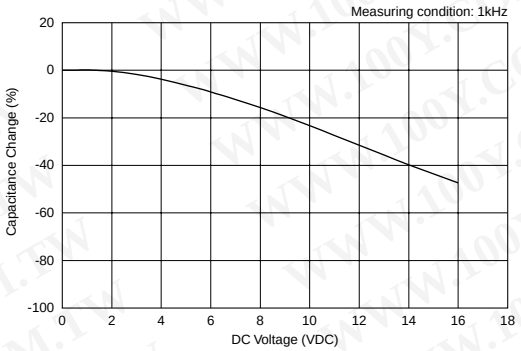
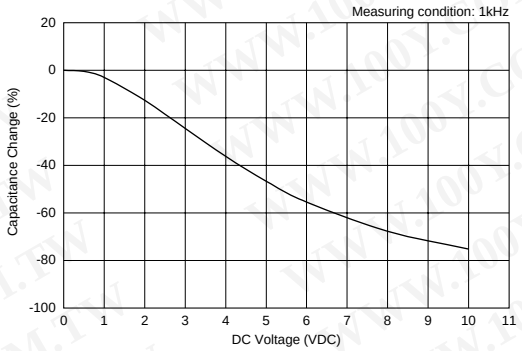
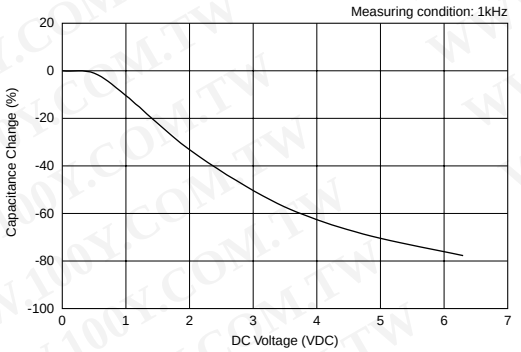


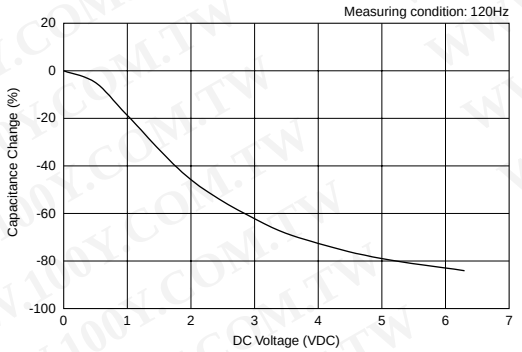
High Dielectric Constant Type: GRM155R61A105KE15



High Dielectric Constant Type: GRM188R60J106ME47



High Dielectric Constant Type: GRM31CR60J107ME39



The data herein are given in typical values, not guaranteed ratings.
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Our Web Site: http://www.murata.com/products/capacitor/tech_data/

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