

Chip Monolithic Ceramic Capacitors

muRata

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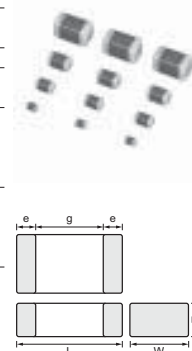
for General Purpose GRM Series (Temperature Compensating Type)

■ 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 lead free product.
3. Smaller size and higher capacitance value.
4. High reliability and no polarity.
5. Excellent pulse responsibility 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.

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			0.25 ±0.05	0.1 to 0.3	0.4
GRM153	1.0 ±0.05	0.5 ±0.05	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 ±0.07	0.2 to 0.5	0.5
GRM188*			0.8 ±0.1		
GRM216			0.6 ±0.1		
GRM219	2.0 ±0.1	1.25 ±0.1	0.85 ±0.1	0.2 to 0.7	0.7
GRM21A			1.0 ±0.07		
GRM21B			1.25 ±0.1		
GRM316			0.6 ±0.1		
GRM319	3.2 ±0.15	1.6 ±0.15	0.85 ±0.1	0.3 to 0.8	1.5
GRM31M			1.15 ±0.1		
GRM31C	3.2 ±0.2	1.6 ±0.2	1.6 ±0.2		
GRM329			0.85 ±0.1		
GRM32A			1.0 ±0.07		
GRM32M			1.15 ±0.1		
GRM32N	3.2 ±0.3	2.5 ±0.2	1.35 ±0.15	0.3 min.	1.0
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)



■ Applications

General electronic equipment

Temperature Compensating Type C0G(5C) Characteristics

Part Number	GRM02		GRM03	GRM15
L x W [EIA]	0.4x0.2 [01005]		0.6x0.3 [0201]	1.0x0.5 [0402]
Rated Volt.	16 (1C)	6.3 (0J)	50 (1H)	50 (1H)
TC	C0G (5C)	C0G (5C)	C0G (5C)	C0G (5C)
Capacitance, Capacitance Tolerance and T Dimension				
0.10pF(R10)	W, B		0.3(3)	0.5(5)
0.20pF(R20)	W, B	0.2(2)	0.3(3)	0.5(5)
0.30pF(R30)	W, B	0.2(2)	0.3(3)	0.5(5)
0.40pF(R40)	W, B	0.2(2)	0.3(3)	0.5(5)
0.50pF(R50)	W, B	0.2(2)	0.3(3)	0.5(5)
0.60pF(R60)	W, B	0.2(2)	0.3(3)	0.5(5)
0.70pF(R70)	W, B	0.2(2)	0.3(3)	0.5(5)
0.80pF(R80)	W, B	0.2(2)	0.3(3)	0.5(5)
0.90pF(R90)	W, B	0.2(2)	0.3(3)	0.5(5)
1.0pF(1R0)	W, B, C	0.2(2)	0.3(3)	0.5(5)
1.1pF(1R1)	W, B, C	0.2(2)	0.3(3)	0.5(5)
1.2pF(1R2)	W, B, C	0.2(2)	0.3(3)	0.5(5)
1.3pF(1R3)	W, B, C	0.2(2)	0.3(3)	0.5(5)
1.4pF(1R4)	W, B, C	0.2(2)	0.3(3)	0.5(5)
1.5pF(1R5)	W, B, C	0.2(2)	0.3(3)	0.5(5)
1.6pF(1R6)	W, B, C	0.2(2)	0.3(3)	0.5(5)
1.7pF(1R7)	W, B, C	0.2(2)	0.3(3)	0.5(5)
1.8pF(1R8)	W, B, C	0.2(2)	0.3(3)	0.5(5)
1.9pF(1R9)	W, B, C	0.2(2)	0.3(3)	0.5(5)
2.0pF(2R0)	W, B, C	0.2(2)	0.3(3)	0.5(5)
2.1pF(2R1)	W, B, C	0.2(2)	0.3(3)	0.5(5)
2.2pF(2R2)	W, B, C	0.2(2)	0.3(3)	0.5(5)

The part numbering code is shown in ().
Dimensions are shown in mm and Rated Voltage in Vdc.

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Part Number	GRM02		GRM03	GRM15
L x W [EIA]	0.4x0.2 [01005]		0.6x0.3 [0201]	1.0x0.5 [0402]
Rated Volt.	16 (1C)	6.3 (0J)	50 (1H)	50 (1H)
TC	C0G (5C)	C0G (5C)	C0G (5C)	C0G (5C)
Capacitance, Capacitance Tolerance and T Dimension				
2.3pF(2R3)	W, B, C	0.2(2)	0.3(3)	0.5(5)
2.4pF(2R4)	W, B, C	0.2(2)	0.3(3)	0.5(5)
2.5pF(2R5)	W, B, C	0.2(2)	0.3(3)	0.5(5)
2.6pF(2R6)	W, B, C	0.2(2)	0.3(3)	0.5(5)
2.7pF(2R7)	W, B, C	0.2(2)	0.3(3)	0.5(5)
2.8pF(2R8)	W, B, C	0.2(2)	0.3(3)	0.5(5)
2.9pF(2R9)	W, B, C	0.2(2)	0.3(3)	0.5(5)
3.0pF(3R0)	W, B, C	0.2(2)	0.3(3)	0.5(5)
3.1pF(3R1)	W, B, C	0.2(2)	0.3(3)	0.5(5)
3.2pF(3R2)	W, B, C	0.2(2)	0.3(3)	0.5(5)
3.3pF(3R3)	W, B, C	0.2(2)	0.3(3)	0.5(5)
3.4pF(3R4)	W, B, C	0.2(2)	0.3(3)	0.5(5)
3.5pF(3R5)	W, B, C	0.2(2)	0.3(3)	0.5(5)
3.6pF(3R6)	W, B, C	0.2(2)	0.3(3)	0.5(5)
3.7pF(3R7)	W, B, C	0.2(2)	0.3(3)	0.5(5)
3.8pF(3R8)	W, B, C	0.2(2)	0.3(3)	0.5(5)
3.9pF(3R9)	W, B, C	0.2(2)	0.3(3)	0.5(5)
4.0pF(4R0)	W, B, C	0.2(2)	0.3(3)	0.5(5)
4.1pF(4R1)	W, B, C	0.2(2)	0.3(3)	0.5(5)
4.2pF(4R2)	W, B, C	0.2(2)	0.3(3)	0.5(5)
4.3pF(4R3)	W, B, C	0.2(2)	0.3(3)	0.5(5)
4.4pF(4R4)	W, B, C	0.2(2)	0.3(3)	0.5(5)
4.5pF(4R5)	W, B, C	0.2(2)	0.3(3)	0.5(5)
4.6pF(4R6)	W, B, C	0.2(2)	0.3(3)	0.5(5)
4.7pF(4R7)	W, B, C	0.2(2)	0.3(3)	0.5(5)
4.8pF(4R8)	W, B, C	0.2(2)	0.3(3)	0.5(5)
4.9pF(4R9)	W, B, C	0.2(2)	0.3(3)	0.5(5)
5.0pF(5R0)	W, B, C	0.2(2)	0.3(3)	0.5(5)
5.1pF(5R1)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
5.2pF(5R2)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
5.3pF(5R3)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
5.4pF(5R4)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
5.5pF(5R5)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
5.6pF(5R6)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
5.7pF(5R7)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
5.8pF(5R8)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
5.9pF(5R9)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
6.0pF(6R0)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
6.1pF(6R1)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
6.2pF(6R2)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
6.3pF(6R3)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
6.4pF(6R4)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
6.5pF(6R5)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
6.6pF(6R6)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
6.7pF(6R7)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
6.8pF(6R8)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
6.9pF(6R9)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
7.0pF(7R0)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
7.1pF(7R1)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
7.2pF(7R2)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)

The part numbering code is shown in ().
 Dimensions are shown in mm and Rated Voltage in Vdc.

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Part Number	GRM02		GRM03	GRM15
L x W [EIA]	0.4x0.2 [01005]		0.6x0.3 [0201]	1.0x0.5 [0402]
Rated Volt.	16 (1C)	6.3 (0J)	50 (1H)	50 (1H)
TC	C0G (5C)	C0G (5C)	C0G (5C)	C0G (5C)
Capacitance, Capacitance Tolerance and T Dimension				
7.3pF(7R3)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
7.4pF(7R4)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
7.5pF(7R5)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
7.6pF(7R6)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
7.7pF(7R7)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
7.8pF(7R8)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
7.9pF(7R9)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
8.0pF(8R0)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
8.1pF(8R1)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
8.2pF(8R2)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
8.3pF(8R3)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
8.4pF(8R4)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
8.5pF(8R5)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
8.6pF(8R6)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
8.7pF(8R7)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
8.8pF(8R8)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
8.9pF(8R9)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
9.0pF(9R0)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
9.1pF(9R1)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
9.2pF(9R2)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
9.3pF(9R3)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
9.4pF(9R4)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
9.5pF(9R5)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
9.6pF(9R6)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
9.7pF(9R7)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
9.8pF(9R8)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
9.9pF(9R9)	W, B, C, D	0.2(2)	0.3(3)	0.5(5)
10pF(100)	J	0.2(2)	0.3(3)	0.5(5)
12pF(120)	J	0.2(2)	0.3(3)	0.5(5)
15pF(150)	J	0.2(2)	0.3(3)	0.5(5)
18pF(180)	J	0.2(2)	0.3(3)	0.5(5)
22pF(220)	J	0.2(2)	0.3(3)	0.5(5)
27pF(270)	J	0.2(2)	0.3(3)	0.5(5)
33pF(330)	J	0.2(2)	0.3(3)	0.5(5)
39pF(390)	J	0.2(2)	0.3(3)	0.5(5)
47pF(470)	J	0.2(2)	0.3(3)	0.5(5)
56pF(560)	J	0.2(2)	0.3(3)	0.5(5)
68pF(680)	J	0.2(2)	0.3(3)	0.5(5)
82pF(820)	J	0.2(2)	0.3(3)	0.5(5)
100pF(101)	J	0.2(2)	0.3(3)	0.5(5)
120pF(121)	J			0.5(5)
150pF(151)	J			0.5(5)
180pF(181)	J			0.5(5)
220pF(221)	J			0.5(5)
270pF(271)	J			0.5(5)
330pF(331)	J			0.5(5)
390pF(391)	J			0.5(5)
470pF(471)	J			0.5(5)
560pF(561)	J			0.5(5)
680pF(681)	J			0.5(5)

The part numbering code is shown in ().
 Dimensions are shown in mm and Rated Voltage in Vdc.

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Part Number	GRM02		GRM03	GRM15
L x W [EIA]	0.4x0.2 [01005]		0.6x0.3 [0201]	1.0x0.5 [0402]
Rated Volt.	16 (1C)	6.3 (0J)	50 (1H)	50 (1H)
TC	C0G (5C)	C0G (5C)	C0G (5C)	C0G (5C)
Capacitance, Capacitance Tolerance and T Dimension				
820pF(821)	J			0.5(5)
1000pF(102)	J			0.5(5)

The part numbering code is shown in ().
 Dimensions are shown in mm and Rated Voltage in Vdc.

Part Number	GRM18		GRM21		GRM31	
L x W [EIA]	1.6x0.8 [0603]		2.0 x1.25 [0805]		3.2x1.6 [1206]	
Rated Volt.	100 (2A)	50 (1H)	100 (2A)	50 (1H)	100 (2A)	50 (1H)
TC	C0G (5C)	C0G (5C)	C0G (5C)	C0G (5C)	C0G (5C)	C0G (5C)
Capacitance, Capacitance Tolerance and T Dimension						
0.10pF(R10)	B	0.8(8)				
0.20pF(R20)	B	0.8(8)				
0.30pF(R30)	C	0.8(8)				
0.40pF(R40)	C	0.8(8)				
0.50pF(R50)	C	0.8(8)				
0.60pF(R60)	C	0.8(8)				
0.70pF(R70)	C	0.8(8)				
0.80pF(R80)	C	0.8(8)				
0.90pF(R90)	C	0.8(8)				
1.0pF(1R0)	C	0.8(8)				
2.0pF(2R0)	C	0.8(8)				
3.0pF(3R0)	C	0.8(8)				
4.0pF(4R0)	C	0.8(8)				
5.0pF(5R0)	C	0.8(8)				
6.0pF(6R0)	D	0.8(8)				
7.0pF(7R0)	D	0.8(8)				
8.0pF(8R0)	D	0.8(8)				
9.0pF(9R0)	D	0.8(8)				
10pF(100)	J	0.8(8)				
12pF(120)	J	0.8(8)				
15pF(150)	J	0.8(8)				
18pF(180)	J	0.8(8)				
22pF(220)	J	0.8(8)				
27pF(270)	J	0.8(8)				
33pF(330)	J	0.8(8)				
39pF(390)	J	0.8(8)				
47pF(470)	J	0.8(8)				
56pF(560)	J	0.8(8)				
68pF(680)	J	0.8(8)				
82pF(820)	J	0.8(8)				
100pF(101)	J	0.8(8)				
120pF(121)	J	0.8(8)				
150pF(151)	J	0.8(8)				
180pF(181)	J	0.8(8)				
220pF(221)	J	0.8(8)				
270pF(271)	J	0.8(8)				
330pF(331)	J	0.8(8)				

The part numbering code is shown in ().
 Dimensions are shown in mm and Rated Voltage in Vdc.

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Part Number	GRM18		GRM21		GRM31	
L x W [EIA]	1.6x0.8 [0603]		2.0 x1.25 [0805]		3.2x1.6 [1206]	
Rated Volt.	100 (2A)	50 (1H)	100 (2A)	50 (1H)	100 (2A)	50 (1H)
TC	C0G (5C)	C0G (5C)	C0G (5C)	C0G (5C)	C0G (5C)	C0G (5C)
Capacitance, Capacitance Tolerance and T Dimension						
390pF(391)	J	0.8(8)	0.8(8)			
470pF(471)	J	0.8(8)	0.8(8)			
560pF(561)	J	0.8(8)	0.8(8)			
680pF(681)	J	0.8(8)	0.8(8)			
820pF(821)	J	0.8(8)	0.8(8)			
1000pF(102)	J	0.8(8)	0.8(8)			
1200pF(122)	J	0.8(8)	0.8(8)			
1500pF(152)	J	0.8(8)	0.8(8)			
1800pF(182)	J		0.8(8)	0.6(6)		
2200pF(222)	J		0.8(8)	0.6(6)		
2700pF(272)	J		0.8(8)	0.6(6)		
3300pF(332)	J		0.8(8)	0.6(6)		
3900pF(392)	J		0.8(8)		0.85(9)	
4700pF(472)	J			0.6(6)	0.85(9)	
5600pF(562)	J			0.85(9)	0.85(9)	
6800pF(682)	J			0.85(9)	0.85(9)	
8200pF(822)	J			0.85(9)	0.85(9)	
10000pF(103)	J			0.85(9)	0.85(9)	
12000pF(123)	J			0.85(9)		
15000pF(153)	J			0.85(9)		
18000pF(183)	J			1.25(B)		
22000pF(223)	J			1.25(B)		
27000pF(273)	J					0.85(9)
33000pF(333)	J					0.85(9)
39000pF(393)	J					0.85(9)
47000pF(473)	J					1.15(M)
56000pF(563)	J					1.15(M)
68000pF(683)	J					1.6(C)
82000pF(823)	J					1.6(C)
0.10μF(104)	J					1.6(C)

The part numbering code is shown in ().
 Dimensions are shown in mm and Rated Voltage in Vdc.

Temperature Compensating Type C0G(5C) Characteristics Low Profile

Part Number		GRM15
L x W [EIA]		1.0x0.5 [0402]
Rated Volt.		50 (1H)
TC		C0G (5C)
Capacitance, Capacitance Tolerance and T Dimension		
120pF(121)	J	0.3(3)
150pF(151)	J	0.3(3)
180pF(181)	J	0.3(3)
220pF(221)	J	0.3(3)
270pF(271)	J	0.3(3)
330pF(331)	J	0.3(3)
390pF(391)	J	0.3(3)

The part numbering code is shown in ().
 Dimensions are shown in mm and Rated Voltage in Vdc.

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Part Number		GRM15
L x W [EIA]		1.0x0.5 [0402]
Rated Volt.		50 (1H)
TC		C0G (5C)
Capacitance, Capacitance Tolerance and T Dimension		
470pF(471)	J	0.3(3)

The part numbering code is shown in ().
 Dimensions are shown in mm and Rated Voltage in Vdc.

Temperature Compensating Type U2J(7U) Characteristics

Part Number	GRM03		GRM15		GRM18		GRM21		GRM31
L x W [EIA]	0.6x0.3 [0201]		1.0x0.5 [0402]		1.6x0.8 [0603]		2.0x1.25 [0805]		3.2x1.6 [1206]
Rated Volt.	50 (1H)	25 (1E)	50 (1H)	10 (1A)	50 (1H)	10 (1A)	50 (1H)	10 (1A)	50 (1H)
TC	U2J (7U)	U2J (7U)	U2J (7U)	U2J (7U)	U2J (7U)	U2J (7U)	U2J (7U)	U2J (7U)	U2J (7U)
Capacitance, Capacitance Tolerance and T Dimension									
1.0pF(1R0)	C	0.3(3)		0.5(5)		0.8(8)			
2.0pF(2R0)	C	0.3(3)		0.5(5)		0.8(8)			
3.0pF(3R0)	C	0.3(3)		0.5(5)		0.8(8)			
4.0pF(4R0)	C	0.3(3)		0.5(5)		0.8(8)			
5.0pF(5R0)	C	0.3(3)		0.5(5)		0.8(8)			
6.0pF(6R0)	D	0.3(3)		0.5(5)		0.8(8)			
7.0pF(7R0)	D	0.3(3)		0.5(5)		0.8(8)			
8.0pF(8R0)	D	0.3(3)		0.5(5)		0.8(8)			
9.0pF(9R0)	D	0.3(3)		0.5(5)		0.8(8)			
10pF(100)	J	0.3(3)		0.5(5)		0.8(8)			
12pF(120)	J	0.3(3)		0.5(5)		0.8(8)			
15pF(150)	J	0.3(3)		0.5(5)		0.8(8)			
18pF(180)	J		0.3(3)	0.5(5)		0.8(8)			
22pF(220)	J		0.3(3)	0.5(5)		0.8(8)			
27pF(270)	J		0.3(3)	0.5(5)		0.8(8)			
33pF(330)	J		0.3(3)	0.5(5)		0.8(8)			
39pF(390)	J		0.3(3)	0.5(5)		0.8(8)			
47pF(470)	J		0.3(3)	0.5(5)		0.8(8)			
56pF(560)	J		0.3(3)	0.5(5)		0.8(8)			
68pF(680)	J		0.3(3)	0.5(5)		0.8(8)			
82pF(820)	J		0.3(3)	0.5(5)		0.8(8)			
100pF(101)	J		0.3(3)	0.5(5)		0.8(8)			
120pF(121)	J			0.5(5)		0.8(8)			
150pF(151)	J			0.5(5)		0.8(8)			
180pF(181)	J			0.5(5)		0.8(8)			
220pF(221)	J					0.8(8)			
270pF(271)	J					0.8(8)			
330pF(331)	J					0.8(8)			
390pF(391)	J					0.8(8)			
470pF(471)	J					0.8(8)			
560pF(561)	J					0.8(8)			
680pF(681)	J					0.8(8)			
1000pF(102)	J					0.8(8)			
1200pF(122)	J				0.5(5)	0.8(8)			
1500pF(152)	J				0.5(5)	0.8(8)			
1800pF(182)	J				0.5(5)	0.8(8)			

The part numbering code is shown in ().
 Dimensions are shown in mm and Rated Voltage in Vdc.

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Part Number	GRM03		GRM15		GRM18		GRM21		GRM31
L x W [EIA]	0.6x0.3 [0201]		1.0x0.5 [0402]		1.6x0.8 [0603]		2.0x1.25 [0805]		3.2x1.6 [1206]
Rated Volt.	50 (1H)	25 (1E)	50 (1H)	10 (1A)	50 (1H)	10 (1A)	50 (1H)	10 (1A)	50 (1H)
TC	U2J (7U)	U2J (7U)	U2J (7U)	U2J (7U)	U2J (7U)	U2J (7U)	U2J (7U)	U2J (7U)	U2J (7U)
Capacitance, Capacitance Tolerance and T Dimension									
2200pF(222)	J			0.5(5)	0.8(8)				
2700pF(272)	J			0.5(5)	0.8(8)				
3300pF(332)	J			0.5(5)	0.8(8)				
3900pF(392)	J			0.5(5)	0.8(8)				
4700pF(472)	J			0.5(5)	0.8(8)				
5600pF(562)	J				0.8(8)				
6800pF(682)	J				0.8(8)				
8200pF(822)	J				0.8(8)				
10000pF(103)	J				0.8(8)				
12000pF(123)	J					0.8(8)	0.6(6)		
15000pF(153)	J					0.8(8)	0.6(6)		
18000pF(183)	J					0.8(8)	0.6(6)		
22000pF(223)	J					0.8(8)	0.85(9)		
27000pF(273)	J						0.85(9)		
33000pF(333)	J						1.0(A)		
39000pF(393)	J						1.25(B)		
47000pF(473)	J						1.25(B)		
56000pF(563)	J							0.85(9)	0.85(9)
68000pF(683)	J							1.25(B)	1.15(M)
82000pF(823)	J							1.25(B)	1.15(M)
0.10μF(104)	J							1.25(B)	1.15(M)

The part numbering code is shown in ().
 Dimensions are shown in mm and Rated Voltage in Vdc.

Temperature Compensating Type P2H(6P) Characteristics

Part Number		GRM15	GRM18
L x W [EIA]		1.0x0.5 [0402]	1.6x0.8 [0603]
Rated Volt.		50 (1H)	50 (1H)
TC		P2H (6P)	P2H (6P)
Capacitance, Capacitance Tolerance and T Dimension			
1.0pF(1R0)	C	0.5(5)	0.8(8)
2.0pF(2R0)	C	0.5(5)	0.8(8)
3.0pF(3R0)	C	0.5(5)	0.8(8)
4.0pF(4R0)	C	0.5(5)	0.8(8)
5.0pF(5R0)	C	0.5(5)	0.8(8)
6.0pF(6R0)	D	0.5(5)	0.8(8)
7.0pF(7R0)	D	0.5(5)	0.8(8)
8.0pF(8R0)	D	0.5(5)	0.8(8)
9.0pF(9R0)	D	0.5(5)	0.8(8)
10pF(100)	J	0.5(5)	0.8(8)
12pF(120)	J	0.5(5)	0.8(8)
15pF(150)	J	0.5(5)	0.8(8)
18pF(180)	J	0.5(5)	0.8(8)
22pF(220)	J	0.5(5)	0.8(8)
27pF(270)	J	0.5(5)	0.8(8)
33pF(330)	J		0.8(8)

The part numbering code is shown in ().
 Dimensions are shown in mm and Rated Voltage in Vdc.

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Part Number		GRM15	GRM18
L x W [EIA]		1.0x0.5 [0402]	1.6x0.8 [0603]
Rated Volt.		50 (1H)	50 (1H)
TC		P2H (6P)	P2H (6P)
Capacitance, Capacitance Tolerance and T Dimension			
39pF(390)	J		0.8(8)
47pF(470)	J		0.8(8)
56pF(560)	J		0.8(8)
68pF(680)	J		0.8(8)
82pF(820)	J		0.8(8)
100pF(101)	J		0.8(8)
120pF(121)	J		0.8(8)
150pF(151)	J		0.8(8)

The part numbering code is shown in ().
 Dimensions are shown in mm and Rated Voltage in Vdc.

Temperature Compensating Type R2H(6R) Characteristics

Part Number		GRM03		GRM15		GRM18	
L x W [EIA]		0.6x0.3 [0201]		1.0x0.5 [0402]		1.6x0.8 [0603]	
Rated Volt.		25 (1E)		50 (1H)		50 (1H)	
TC		R2H (6R)		R2H (6R)		R2H (6R)	
Capacitance, Capacitance Tolerance and T Dimension							
1.0pF(1R0)	C	0.3(3)		0.5(5)		0.8(8)	
2.0pF(2R0)	C	0.3(3)		0.5(5)		0.8(8)	
3.0pF(3R0)	C	0.3(3)		0.5(5)		0.8(8)	
4.0pF(4R0)	C	0.3(3)		0.5(5)		0.8(8)	
5.0pF(5R0)	C	0.3(3)		0.5(5)		0.8(8)	
6.0pF(6R0)	D	0.3(3)		0.5(5)		0.8(8)	
7.0pF(7R0)	D	0.3(3)		0.5(5)		0.8(8)	
8.0pF(8R0)	D	0.3(3)		0.5(5)		0.8(8)	
9.0pF(9R0)	D	0.3(3)		0.5(5)		0.8(8)	
10pF(100)	J	0.3(3)		0.5(5)		0.8(8)	
12pF(120)	J	0.3(3)		0.5(5)		0.8(8)	
15pF(150)	J	0.3(3)		0.5(5)		0.8(8)	
18pF(180)	J	0.3(3)		0.5(5)		0.8(8)	
22pF(220)	J	0.3(3)		0.5(5)		0.8(8)	
27pF(270)	J	0.3(3)		0.5(5)		0.8(8)	
33pF(330)	J	0.3(3)		0.5(5)		0.8(8)	
39pF(390)	J	0.3(3)				0.8(8)	
47pF(470)	J	0.3(3)				0.8(8)	
56pF(560)	J	0.3(3)				0.8(8)	
68pF(680)	J	0.3(3)				0.8(8)	
82pF(820)	J	0.3(3)				0.8(8)	
100pF(101)	J	0.3(3)				0.8(8)	
120pF(121)	J					0.8(8)	
150pF(151)	J					0.8(8)	
180pF(181)	J					0.8(8)	

The part numbering code is shown in ().
 Dimensions are shown in mm and Rated Voltage in Vdc.

Temperature Compensating Type S2H(6S) Characteristics


Part Number		GRM03	GRM15	GRM18
L x W [EIA]		0.6x0.3 [0201]	1.0x0.5 [0402]	1.6x0.8 [0603]
Rated Volt.		25 (1E)	50 (1H)	50 (1H)
TC		S2H (6S)	S2H (6S)	S2H (6S)
Capacitance, Capacitance Tolerance and T Dimension				
1.0pF(1R0)	C	0.3(3)	0.5(5)	0.8(8)
2.0pF(2R0)	C	0.3(3)	0.5(5)	0.8(8)
3.0pF(3R0)	C	0.3(3)	0.5(5)	0.8(8)
4.0pF(4R0)	C	0.3(3)	0.5(5)	0.8(8)
5.0pF(5R0)	C	0.3(3)	0.5(5)	0.8(8)
6.0pF(6R0)	D	0.3(3)	0.5(5)	0.8(8)
7.0pF(7R0)	D	0.3(3)	0.5(5)	0.8(8)
8.0pF(8R0)	D	0.3(3)	0.5(5)	0.8(8)
9.0pF(9R0)	D	0.3(3)	0.5(5)	0.8(8)
10pF(100)	J	0.3(3)	0.5(5)	0.8(8)
12pF(120)	J	0.3(3)	0.5(5)	0.8(8)
15pF(150)	J	0.3(3)	0.5(5)	0.8(8)
18pF(180)	J	0.3(3)	0.5(5)	0.8(8)
22pF(220)	J	0.3(3)	0.5(5)	0.8(8)
27pF(270)	J	0.3(3)	0.5(5)	0.8(8)
33pF(330)	J	0.3(3)	0.5(5)	0.8(8)
39pF(390)	J	0.3(3)	0.5(5)	0.8(8)
47pF(470)	J	0.3(3)		0.8(8)
56pF(560)	J	0.3(3)		0.8(8)
68pF(680)	J	0.3(3)		0.8(8)
82pF(820)	J	0.3(3)		0.8(8)
100pF(101)	J	0.3(3)		0.8(8)
120pF(121)	J			0.8(8)
150pF(151)	J			0.8(8)
180pF(181)	J			0.8(8)
220pF(221)	J			0.8(8)


The part numbering code is shown in ().
Dimensions are shown in mm and Rated Voltage in Vdc.

Temperature Compensating Type T2H(6T) Characteristics

Part Number		GRM03	GRM15	GRM18
L x W [EIA]		0.6x0.3 [0201]	1.0x0.5 [0402]	1.6x0.8 [0603]
Rated Volt.		25 (1E)	50 (1H)	50 (1H)
TC		T2H (6T)	T2H (6T)	T2H (6T)
Capacitance, Capacitance Tolerance and T Dimension				
1.0pF(1R0)	C	0.3(3)	0.5(5)	0.8(8)
2.0pF(2R0)	C	0.3(3)	0.5(5)	0.8(8)
3.0pF(3R0)	C	0.3(3)	0.5(5)	0.8(8)
4.0pF(4R0)	C	0.3(3)	0.5(5)	0.8(8)
5.0pF(5R0)	C	0.3(3)	0.5(5)	0.8(8)
6.0pF(6R0)	D	0.3(3)	0.5(5)	0.8(8)
7.0pF(7R0)	D	0.3(3)	0.5(5)	0.8(8)
8.0pF(8R0)	D	0.3(3)	0.5(5)	0.8(8)

The part numbering code is shown in ().
Dimensions are shown in mm and Rated Voltage in Vdc.

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Part Number		GRM03	GRM15	GRM18
L x W [EIA]		0.6x0.3 [0201]	1.0x0.5 [0402]	1.6x0.8 [0603]
Rated Volt.		25 (1E)	50 (1H)	50 (1H)
TC		T2H (6T)	T2H (6T)	T2H (6T)
Capacitance, Capacitance Tolerance and T Dimension				
9.0pF(9R0)	D	0.3(3)	0.5(5)	0.8(8)
10pF(100)	J	0.3(3)	0.5(5)	0.8(8)
12pF(120)	J	0.3(3)	0.5(5)	0.8(8)
15pF(150)	J	0.3(3)	0.5(5)	0.8(8)
18pF(180)	J	0.3(3)	0.5(5)	0.8(8)
22pF(220)	J	0.3(3)	0.5(5)	0.8(8)
27pF(270)	J	0.3(3)	0.5(5)	0.8(8)
33pF(330)	J	0.3(3)	0.5(5)	0.8(8)
39pF(390)	J	0.3(3)	0.5(5)	0.8(8)
47pF(470)	J	0.3(3)	0.5(5)	0.8(8)
56pF(560)	J	0.3(3)	0.5(5)	0.8(8)
68pF(680)	J	0.3(3)	0.5(5)	0.8(8)
82pF(820)	J	0.3(3)	0.5(5)	0.8(8)
100pF(101)	J	0.3(3)	0.5(5)	0.8(8)
120pF(121)	J			0.8(8)
150pF(151)	J			0.8(8)
180pF(181)	J			0.8(8)
220pF(221)	J			0.8(8)
270pF(271)	J			0.8(8)
330pF(331)	J			0.8(8)
390pF(391)	J			0.8(8)
470pF(471)	J			0.8(8)

The part numbering code is shown in ().
 Dimensions are shown in mm and Rated Voltage in Vdc.