Chip Monolithic Ceramic Capacitors

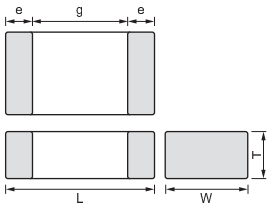
High Frequency GQM Series

■ Features

1. HiQ and low ESR at VHF, UHF, Microwave
2. Feature improvement, low power consumption for mobile telecommunication. (Base station, terminal, etc.)

■ Applications

High frequency circuit (Mobile telecommunication, etc.)



Part Number	Dimensions (mm)				
	L	W	T	e	g min.
GQM187	1.6±0.15	0.8±0.15	0.7±0.1	0.2 to 0.5	0.5
GQM188	1.6±0.1	0.8±0.1	0.8±0.1	0.2 to 0.5	0.5
GQM219 (50,100V)	2.0±0.1	1.25±0.1	0.85±0.1	0.2 to 0.7	0.7
GQM219 (250V)	2.0±0.15	1.25±0.15	0.85±0.15	0.2 to 0.7	0.7
GQM22M	2.8±0.5	2.8±0.4	1.15±0.2	0.3 min.	1.0

Capacitance Table

Temperature Compensating Type C0G (5C) Characteristics

7 ex.7: T Dimension [mm]

Capacitance \ LxW [mm]	1.6x0.8 (18) <0603>			2.0x1.25 (21) <0805>			2.8x2.8 (22) <1111>
Rated Voltage [Vdc]	250 (2E)	100 (2A)	50 (1H)	250 (2E)	100 (2A)	50 (1H)	500 (2H)
0.10pF(R10)	7						
0.20pF(R20)	7						
0.30pF(R30)	7						
0.40pF(R40)	7						
0.50pF(R50)	7	8		9	9		M
0.75pF(R75)	7	8		9	9		M
1.0pF(1R0)	7	8		9	9		M
1.1pF(1R1)	7	8		9	9		M
1.2pF(1R2)	7	8		9	9		M
1.3pF(1R3)	7	8		9	9		M
1.5pF(1R5)	7	8		9	9		M
1.6pF(1R6)	7	8		9	9		M
1.8pF(1R8)	7	8		9	9		M
2.0pF(2R0)	7	8		9	9		M
2.2pF(2R2)	7	8		9	9		M
2.4pF(2R4)	7	8		9	9		M
2.7pF(2R7)	7	8		9	9		M
3.0pF(3R0)	7	8		9	9		M
3.3pF(3R3)	7	8		9	9		M
3.6pF(3R6)	7	8		9	9		M
3.9pF(3R9)	7	8		9	9		M
4.0pF(4R0)	7	8		9	9		M
4.3pF(4R3)	7	8		9	9		M
4.7pF(4R7)	7	8		9	9		M
5.0pF(5R0)	7	8		9	9		M
5.1pF(5R1)	7	8		9	9		M
5.6pF(5R6)	7	8		9	9		M
6.0pF(6R0)	7	8		9	9		M
6.2pF(6R2)	7	8		9	9		M
6.8pF(6R8)	7	8		9	9		M
7.0pF(7R0)	7		8	9	9		M
7.5pF(7R5)	7		8	9	9		M
8.0pF(8R0)	7		8	9	9		M
8.2pF(8R2)	7		8	9	9		M
9.0pF(9R0)	7		8	9	9		M
9.1pF(9R1)	7		8	9	9		M
10pF(100)	7		8	9	9		M
11pF(110)	7		8	9	9		M
12pF(120)	7		8	9	9		M
13pF(130)	7		8	9	9		M
15pF(150)	7		8	9	9		M
16pF(160)	7		8	9	9		M
18pF(180)	7		8	9	9		M
20pF(200)	7		8	9		9	M
22pF(220)	7		8	9		9	M
24pF(240)	7		8	9		9	M
27pF(270)	7		8	9		9	M
30pF(300)	7		8	9		9	M
33pF(330)	7		8	9		9	M

Capacitance \ LxW [mm]	1.6x0.8 (18) <0603>			2.0x1.25 (21) <0805>			2.8x2.8 (22) <1111>
Rated Voltage [Vdc]	250 (2E)	100 (2A)	50 (1H)	250 (2E)	100 (2A)	50 (1H)	500 (2H)
36pF(360)	7		8	9		9	M
39pF(390)	7		8	9		9	M
43pF(430)	7		8	9		9	M
47pF(470)	7		8	9		9	M
51pF(510)			8	9		9	M
56pF(560)			8	9		9	M
62pF(620)			8	9		9	M
68pF(680)			8	9		9	M
75pF(750)			8	9		9	M
82pF(820)			8	9		9	M
91pF(910)			8	9		9	M
100pF(101)			8	9		9	M

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]		250(2E)	100(2A)
Capacitance	Tolerance	Part Number	
0.10pF (R10)	±0.1pF (B)	GQM1875C2ER10BB12D	
0.20pF (R20)	±0.1pF (B)	GQM1875C2ER20BB12D	
0.30pF (R30)	±0.1pF (B)	GQM1875C2ER30BB12D	
	±0.25pF (C)	GQM1875C2ER30CB12D	
0.40pF (R40)	±0.1pF (B)	GQM1875C2ER40BB12D	
	±0.25pF (C)	GQM1875C2ER40CB12D	
0.50pF (R50)	±0.1pF (B)	GQM1875C2ER50BB12D	GQM1885C2AR50BB01D
	±0.25pF (C)	GQM1875C2ER50CB12D	GQM1885C2AR50CB01D
0.75pF (R75)	±0.1pF (B)	GQM1875C2ER75BB12D	GQM1885C2AR75BB01D
	±0.25pF (C)	GQM1875C2ER75CB12D	GQM1885C2AR75CB01D
1.0pF (1R0)	±0.1pF (B)	GQM1875C2E1R0BB12D	GQM1885C2A1R0BB01D
	±0.25pF (C)	GQM1875C2E1R0CB12D	GQM1885C2A1R0CB01D
1.1pF (1R1)	±0.1pF (B)	GQM1875C2E1R1BB12D	GQM1885C2A1R1BB01D
	±0.25pF (C)	GQM1875C2E1R1CB12D	GQM1885C2A1R1CB01D
1.2pF (1R2)	±0.1pF (B)	GQM1875C2E1R2BB12D	GQM1885C2A1R2BB01D
	±0.25pF (C)	GQM1875C2E1R2CB12D	GQM1885C2A1R2CB01D
1.3pF (1R3)	±0.1pF (B)	GQM1875C2E1R3BB12D	GQM1885C2A1R3BB01D
	±0.25pF (C)	GQM1875C2E1R3CB12D	GQM1885C2A1R3CB01D
1.5pF (1R5)	±0.1pF (B)	GQM1875C2E1R5BB12D	GQM1885C2A1R5BB01D
	±0.25pF (C)	GQM1875C2E1R5CB12D	GQM1885C2A1R5CB01D
1.6pF (1R6)	±0.1pF (B)	GQM1875C2E1R6BB12D	GQM1885C2A1R6BB01D
	±0.25pF (C)	GQM1875C2E1R6CB12D	GQM1885C2A1R6CB01D
1.8pF (1R8)	±0.1pF (B)	GQM1875C2E1R8BB12D	GQM1885C2A1R8BB01D
	±0.25pF (C)	GQM1875C2E1R8CB12D	GQM1885C2A1R8CB01D
2.0pF (2R0)	±0.1pF (B)	GQM1875C2E2R0BB12D	GQM1885C2A2R0BB01D
	±0.25pF (C)	GQM1875C2E2R0CB12D	GQM1885C2A2R0CB01D
2.2pF (2R2)	±0.1pF (B)	GQM1875C2E2R2BB12D	GQM1885C2A2R2BB01D
	±0.25pF (C)	GQM1875C2E2R2CB12D	GQM1885C2A2R2CB01D
2.4pF (2R4)	±0.1pF (B)	GQM1875C2E2R4BB12D	GQM1885C2A2R4BB01D
	±0.25pF (C)	GQM1875C2E2R4CB12D	GQM1885C2A2R4CB01D
2.7pF (2R7)	±0.1pF (B)	GQM1875C2E2R7BB12D	GQM1885C2A2R7BB01D
	±0.25pF (C)	GQM1875C2E2R7CB12D	GQM1885C2A2R7CB01D
3.0pF (3R0)	±0.1pF (B)	GQM1875C2E3R0BB12D	GQM1885C2A3R0BB01D
	±0.25pF (C)	GQM1875C2E3R0CB12D	GQM1885C2A3R0CB01D
3.3pF (3R3)	±0.1pF (B)	GQM1875C2E3R3BB12D	GQM1885C2A3R3BB01D
	±0.25pF (C)	GQM1875C2E3R3CB12D	GQM1885C2A3R3CB01D
3.6pF (3R6)	±0.1pF (B)	GQM1875C2E3R6BB12D	GQM1885C2A3R6BB01D
	±0.25pF (C)	GQM1875C2E3R6CB12D	GQM1885C2A3R6CB01D
3.9pF (3R9)	±0.1pF (B)	GQM1875C2E3R9BB12D	GQM1885C2A3R9BB01D
	±0.25pF (C)	GQM1875C2E3R9CB12D	GQM1885C2A3R9CB01D
4.0pF (4R0)	±0.1pF (B)	GQM1875C2E4R0BB12D	GQM1885C2A4R0BB01D
	±0.25pF (C)	GQM1875C2E4R0CB12D	GQM1885C2A4R0CB01D
4.3pF (4R3)	±0.1pF (B)	GQM1875C2E4R3BB12D	GQM1885C2A4R3BB01D
	±0.25pF (C)	GQM1875C2E4R3CB12D	GQM1885C2A4R3CB01D
4.7pF (4R7)	±0.1pF (B)	GQM1875C2E4R7BB12D	GQM1885C2A4R7BB01D
	±0.25pF (C)	GQM1875C2E4R7CB12D	GQM1885C2A4R7CB01D
5.0pF (5R0)	±0.1pF (B)	GQM1875C2E5R0BB12D	GQM1885C2A5R0BB01D
	±0.25pF (C)	GQM1875C2E5R0CB12D	GQM1885C2A5R0CB01D

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

(Part Number) GQ M 18 7 5C 2E R10 B B12 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

LxW [mm]		1.6x0.8(18)<0603>		
Rated Volt. [Vdc]		250(2E)	100(2A)	50(1H)
Capacitance	Tolerance	Part Number		
5.1pF (5R1)	±0.25pF (C)	GQM1875C2E5R1CB12D	GQM1885C2A5R1CB01D	
	±0.5pF (D)	GQM1875C2E5R1DB12D	GQM1885C2A5R1DB01D	
5.6pF (5R6)	±0.25pF (C)	GQM1875C2E5R6CB12D	GQM1885C2A5R6CB01D	
	±0.5pF (D)	GQM1875C2E5R6DB12D	GQM1885C2A5R6DB01D	
6.0pF (6R0)	±0.25pF (C)	GQM1875C2E6R0CB12D	GQM1885C2A6R0CB01D	
	±0.5pF (D)	GQM1875C2E6R0DB12D	GQM1885C2A6R0DB01D	
6.2pF (6R2)	±0.25pF (C)	GQM1875C2E6R2CB12D	GQM1885C2A6R2CB01D	
	±0.5pF (D)	GQM1875C2E6R2DB12D	GQM1885C2A6R2DB01D	
6.8pF (6R8)	±0.25pF (C)	GQM1875C2E6R8CB12D	GQM1885C2A6R8CB01D	
	±0.5pF (D)	GQM1875C2E6R8DB12D	GQM1885C2A6R8DB01D	
7.0pF (7R0)	±0.25pF (C)	GQM1875C2E7R0CB12D		GQM1885C1H7R0CB01D
	±0.5pF (D)	GQM1875C2E7R0DB12D		GQM1885C1H7R0DB01D
7.5pF (7R5)	±0.25pF (C)	GQM1875C2E7R5CB12D		GQM1885C1H7R5CB01D
	±0.5pF (D)	GQM1875C2E7R5DB12D		GQM1885C1H7R5DB01D
8.0pF (8R0)	±0.25pF (C)	GQM1875C2E8R0CB12D		GQM1885C1H8R0CB01D
	±0.5pF (D)	GQM1875C2E8R0DB12D		GQM1885C1H8R0DB01D
8.2pF (8R2)	±0.25pF (C)	GQM1875C2E8R2CB12D		GQM1885C1H8R2CB01D
	±0.5pF (D)	GQM1875C2E8R2DB12D		GQM1885C1H8R2DB01D
9.0pF (9R0)	±0.25pF (C)	GQM1875C2E9R0CB12D		GQM1885C1H9R0CB01D
	±0.5pF (D)	GQM1875C2E9R0DB12D		GQM1885C1H9R0DB01D
9.1pF (9R1)	±0.25pF (C)	GQM1875C2E9R1CB12D		GQM1885C1H9R1CB01D
	±0.5pF (D)	GQM1875C2E9R1DB12D		GQM1885C1H9R1DB01D
10pF (100)	±2% (G)	GQM1875C2E100GB12D		GQM1885C1H100GB01D
	±5% (J)	GQM1875C2E100JB12D		GQM1885C1H100JB01D
11pF (110)	±2% (G)	GQM1875C2E110GB12D		GQM1885C1H110GB01D
	±5% (J)	GQM1875C2E110JB12D		GQM1885C1H110JB01D
12pF (120)	±2% (G)	GQM1875C2E120GB12D		GQM1885C1H120GB01D
	±5% (J)	GQM1875C2E120JB12D		GQM1885C1H120JB01D
13pF (130)	±2% (G)	GQM1875C2E130GB12D		GQM1885C1H130GB01D
	±5% (J)	GQM1875C2E130JB12D		GQM1885C1H130JB01D
15pF (150)	±2% (G)	GQM1875C2E150GB12D		GQM1885C1H150GB01D
	±5% (J)	GQM1875C2E150JB12D		GQM1885C1H150JB01D
16pF (160)	±2% (G)	GQM1875C2E160GB12D		GQM1885C1H160GB01D
	±5% (J)	GQM1875C2E160JB12D		GQM1885C1H160JB01D
18pF (180)	±2% (G)	GQM1875C2E180GB12D		GQM1885C1H180GB01D
	±5% (J)	GQM1875C2E180JB12D		GQM1885C1H180JB01D
20pF (200)	±2% (G)	GQM1875C2E200GB12D		GQM1885C1H200GB01D
	±5% (J)	GQM1875C2E200JB12D		GQM1885C1H200JB01D
22pF (220)	±2% (G)	GQM1875C2E220GB12D		GQM1885C1H220GB01D
	±5% (J)	GQM1875C2E220JB12D		GQM1885C1H220JB01D
24pF (240)	±2% (G)	GQM1875C2E240GB12D		GQM1885C1H240GB01D
	±5% (J)	GQM1875C2E240JB12D		GQM1885C1H240JB01D
27pF (270)	±2% (G)	GQM1875C2E270GB12D		GQM1885C1H270GB01D
	±5% (J)	GQM1875C2E270JB12D		GQM1885C1H270JB01D
30pF (300)	±2% (G)	GQM1875C2E300GB12D		GQM1885C1H300GB01D
	±5% (J)	GQM1875C2E300JB12D		GQM1885C1H300JB01D

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]		250(2E)	50(1H)
Capacitance	Tolerance	Part Number	
33pF (330)	±2% (G)	GQM1875C2E330GB12D	GQM1885C1H330GB01D
	±5% (J)	GQM1875C2E330JB12D	GQM1885C1H330JB01D
36pF (360)	±2% (G)	GQM1875C2E360GB12D	GQM1885C1H360GB01D
	±5% (J)	GQM1875C2E360JB12D	GQM1885C1H360JB01D
39pF (390)	±2% (G)	GQM1875C2E390GB12D	GQM1885C1H390GB01D
	±5% (J)	GQM1875C2E390JB12D	GQM1885C1H390JB01D
43pF (430)	±2% (G)	GQM1875C2E430GB12D	GQM1885C1H430GB01D
	±5% (J)	GQM1875C2E430JB12D	GQM1885C1H430JB01D
47pF (470)	±2% (G)	GQM1875C2E470GB12D	GQM1885C1H470GB01D
	±5% (J)	GQM1875C2E470JB12D	GQM1885C1H470JB01D
51pF (510)	±2% (G)		GQM1885C1H510GB01D
	±5% (J)		GQM1885C1H510JB01D
56pF (560)	±2% (G)		GQM1885C1H560GB01D
	±5% (J)		GQM1885C1H560JB01D
62pF (620)	±2% (G)		GQM1885C1H620GB01D
	±5% (J)		GQM1885C1H620JB01D
68pF (680)	±2% (G)		GQM1885C1H680GB01D
	±5% (J)		GQM1885C1H680JB01D
75pF (750)	±2% (G)		GQM1885C1H750GB01D
	±5% (J)		GQM1885C1H750JB01D
82pF (820)	±2% (G)		GQM1885C1H820GB01D
	±5% (J)		GQM1885C1H820JB01D
91pF (910)	±2% (G)		GQM1885C1H910GB01D
	±5% (J)		GQM1885C1H910JB01D
100pF (101)	±2% (G)		GQM1885C1H101GB01D
	±5% (J)		GQM1885C1H101JB01D

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

(Part Number) GQ M 18 7 5C 2E 330 G B12 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

LxW [mm]		2.0x1.25(21)<0805>		2.8x2.8(22)<1111>
Rated Volt. [Vdc]		250(2E)	100(2A)	500(2H)
Capacitance	Tolerance	Part Number		
0.50pF (R50)	±0.1pF (B)	GQM2195C2ER50BB12D	GQM2195C2AR50BB01D	GQM22M5C2HR50BB01L
	±0.25pF (C)	GQM2195C2ER50CB12D	GQM2195C2AR50CB01D	GQM22M5C2HR50CB01L
0.75pF (R75)	±0.1pF (B)	GQM2195C2ER75BB12D	GQM2195C2AR75BB01D	GQM22M5C2HR75BB01L
	±0.25pF (C)	GQM2195C2ER75CB12D	GQM2195C2AR75CB01D	GQM22M5C2HR75CB01L
1.0pF (1R0)	±0.1pF (B)	GQM2195C2E1R0BB12D	GQM2195C2A1R0BB01D	GQM22M5C2H1R0BB01L
	±0.25pF (C)	GQM2195C2E1R0CB12D	GQM2195C2A1R0CB01D	GQM22M5C2H1R0CB01L
1.1pF (1R1)	±0.1pF (B)	GQM2195C2E1R1BB12D	GQM2195C2A1R1BB01D	GQM22M5C2H1R1BB01L
	±0.25pF (C)	GQM2195C2E1R1CB12D	GQM2195C2A1R1CB01D	GQM22M5C2H1R1CB01L
1.2pF (1R2)	±0.1pF (B)	GQM2195C2E1R2BB12D	GQM2195C2A1R2BB01D	GQM22M5C2H1R2BB01L
	±0.25pF (C)	GQM2195C2E1R2CB12D	GQM2195C2A1R2CB01D	GQM22M5C2H1R2CB01L
1.3pF (1R3)	±0.1pF (B)	GQM2195C2E1R3BB12D	GQM2195C2A1R3BB01D	GQM22M5C2H1R3BB01L
	±0.25pF (C)	GQM2195C2E1R3CB12D	GQM2195C2A1R3CB01D	GQM22M5C2H1R3CB01L
1.5pF (1R5)	±0.1pF (B)	GQM2195C2E1R5BB12D	GQM2195C2A1R5BB01D	GQM22M5C2H1R5BB01L
	±0.25pF (C)	GQM2195C2E1R5CB12D	GQM2195C2A1R5CB01D	GQM22M5C2H1R5CB01L
1.6pF (1R6)	±0.1pF (B)	GQM2195C2E1R6BB12D	GQM2195C2A1R6BB01D	GQM22M5C2H1R6BB01L
	±0.25pF (C)	GQM2195C2E1R6CB12D	GQM2195C2A1R6CB01D	GQM22M5C2H1R6CB01L
1.8pF (1R8)	±0.1pF (B)	GQM2195C2E1R8BB12D	GQM2195C2A1R8BB01D	GQM22M5C2H1R8BB01L
	±0.25pF (C)	GQM2195C2E1R8CB12D	GQM2195C2A1R8CB01D	GQM22M5C2H1R8CB01L
2.0pF (2R0)	±0.1pF (B)	GQM2195C2E2R0BB12D	GQM2195C2A2R0BB01D	GQM22M5C2H2R0BB01L
	±0.25pF (C)	GQM2195C2E2R0CB12D	GQM2195C2A2R0CB01D	GQM22M5C2H2R0CB01L
2.2pF (2R2)	±0.1pF (B)	GQM2195C2E2R2BB12D	GQM2195C2A2R2BB01D	GQM22M5C2H2R2BB01L
	±0.25pF (C)	GQM2195C2E2R2CB12D	GQM2195C2A2R2CB01D	GQM22M5C2H2R2CB01L
2.4pF (2R4)	±0.1pF (B)	GQM2195C2E2R4BB12D	GQM2195C2A2R4BB01D	GQM22M5C2H2R4BB01L
	±0.25pF (C)	GQM2195C2E2R4CB12D	GQM2195C2A2R4CB01D	GQM22M5C2H2R4CB01L
2.7pF (2R7)	±0.1pF (B)	GQM2195C2E2R7BB12D	GQM2195C2A2R7BB01D	GQM22M5C2H2R7BB01L
	±0.25pF (C)	GQM2195C2E2R7CB12D	GQM2195C2A2R7CB01D	GQM22M5C2H2R7CB01L
3.0pF (3R0)	±0.1pF (B)	GQM2195C2E3R0BB12D	GQM2195C2A3R0BB01D	GQM22M5C2H3R0BB01L
	±0.25pF (C)	GQM2195C2E3R0CB12D	GQM2195C2A3R0CB01D	GQM22M5C2H3R0CB01L
3.3pF (3R3)	±0.1pF (B)	GQM2195C2E3R3BB12D	GQM2195C2A3R3BB01D	GQM22M5C2H3R3BB01L
	±0.25pF (C)	GQM2195C2E3R3CB12D	GQM2195C2A3R3CB01D	GQM22M5C2H3R3CB01L
3.6pF (3R6)	±0.1pF (B)	GQM2195C2E3R6BB12D	GQM2195C2A3R6BB01D	GQM22M5C2H3R6BB01L
	±0.25pF (C)	GQM2195C2E3R6CB12D	GQM2195C2A3R6CB01D	GQM22M5C2H3R6CB01L
3.9pF (3R9)	±0.1pF (B)	GQM2195C2E3R9BB12D	GQM2195C2A3R9BB01D	GQM22M5C2H3R9BB01L
	±0.25pF (C)	GQM2195C2E3R9CB12D	GQM2195C2A3R9CB01D	GQM22M5C2H3R9CB01L
4.0pF (4R0)	±0.1pF (B)	GQM2195C2E4R0BB12D	GQM2195C2A4R0BB01D	GQM22M5C2H4R0BB01L
	±0.25pF (C)	GQM2195C2E4R0CB12D	GQM2195C2A4R0CB01D	GQM22M5C2H4R0CB01L
4.3pF (4R3)	±0.1pF (B)	GQM2195C2E4R3BB12D	GQM2195C2A4R3BB01D	GQM22M5C2H4R3BB01L
	±0.25pF (C)	GQM2195C2E4R3CB12D	GQM2195C2A4R3CB01D	GQM22M5C2H4R3CB01L
4.7pF (4R7)	±0.1pF (B)	GQM2195C2E4R7BB12D	GQM2195C2A4R7BB01D	GQM22M5C2H4R7BB01L
	±0.25pF (C)	GQM2195C2E4R7CB12D	GQM2195C2A4R7CB01D	GQM22M5C2H4R7CB01L
5.0pF (5R0)	±0.1pF (B)	GQM2195C2E5R0BB12D	GQM2195C2A5R0BB01D	GQM22M5C2H5R0BB01L
	±0.25pF (C)	GQM2195C2E5R0CB12D	GQM2195C2A5R0CB01D	GQM22M5C2H5R0CB01L
5.1pF (5R1)	±0.25pF (C)	GQM2195C2E5R1CB12D	GQM2195C2A5R1CB01D	GQM22M5C2H5R1CB01L
	±0.5pF (D)	GQM2195C2E5R1DB12D	GQM2195C2A5R1DB01D	GQM22M5C2H5R1DB01L
5.6pF (5R6)	±0.25pF (C)	GQM2195C2E5R6CB12D	GQM2195C2A5R6CB01D	GQM22M5C2H5R6CB01L
	±0.5pF (D)	GQM2195C2E5R6DB12D	GQM2195C2A5R6DB01D	GQM22M5C2H5R6DB01L
6.0pF (6R0)	±0.25pF (C)	GQM2195C2E6R0CB12D	GQM2195C2A6R0CB01D	GQM22M5C2H6R0CB01L
	±0.5pF (D)	GQM2195C2E6R0DB12D	GQM2195C2A6R0DB01D	GQM22M5C2H6R0DB01L

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

Temperature Compensating Type C0G(5C) Characteristics

LxW [mm]		2.0x1.25(21)<0805>			2.8x2.8(22)<1111>
Rated Volt. [Vdc]		250(2E)	100(2A)	50(1H)	500(2H)
Capacitance	Tolerance	Part Number			
6.2pF (6R2)	±0.25pF (C)	GQM2195C2E6R2CB12D	GQM2195C2A6R2CB01D		GQM22M5C2H6R2CB01L
	±0.5pF (D)	GQM2195C2E6R2DB12D	GQM2195C2A6R2DB01D		GQM22M5C2H6R2DB01L
6.8pF (6R8)	±0.25pF (C)	GQM2195C2E6R8CB12D	GQM2195C2A6R8CB01D		GQM22M5C2H6R8CB01L
	±0.5pF (D)	GQM2195C2E6R8DB12D	GQM2195C2A6R8DB01D		GQM22M5C2H6R8DB01L
7.0pF (7R0)	±0.25pF (C)	GQM2195C2E7R0CB12D	GQM2195C2A7R0CB01D		GQM22M5C2H7R0CB01L
	±0.5pF (D)	GQM2195C2E7R0DB12D	GQM2195C2A7R0DB01D		GQM22M5C2H7R0DB01L
7.5pF (7R5)	±0.25pF (C)	GQM2195C2E7R5CB12D	GQM2195C2A7R5CB01D		GQM22M5C2H7R5CB01L
	±0.5pF (D)	GQM2195C2E7R5DB12D	GQM2195C2A7R5DB01D		GQM22M5C2H7R5DB01L
8.0pF (8R0)	±0.25pF (C)	GQM2195C2E8R0CB12D	GQM2195C2A8R0CB01D		GQM22M5C2H8R0CB01L
	±0.5pF (D)	GQM2195C2E8R0DB12D	GQM2195C2A8R0DB01D		GQM22M5C2H8R0DB01L
8.2pF (8R2)	±0.25pF (C)	GQM2195C2E8R2CB12D	GQM2195C2A8R2CB01D		GQM22M5C2H8R2CB01L
	±0.5pF (D)	GQM2195C2E8R2DB12D	GQM2195C2A8R2DB01D		GQM22M5C2H8R2DB01L
9.0pF (9R0)	±0.25pF (C)	GQM2195C2E9R0CB12D	GQM2195C2A9R0CB01D		GQM22M5C2H9R0CB01L
	±0.5pF (D)	GQM2195C2E9R0DB12D	GQM2195C2A9R0DB01D		GQM22M5C2H9R0DB01L
9.1pF (9R1)	±0.25pF (C)	GQM2195C2E9R1CB12D	GQM2195C2A9R1CB01D		GQM22M5C2H9R1CB01L
	±0.5pF (D)	GQM2195C2E9R1DB12D	GQM2195C2A9R1DB01D		GQM22M5C2H9R1DB01L
10pF (100)	±2% (G)	GQM2195C2E100GB12D	GQM2195C2A100GB01D		GQM22M5C2H100GB01L
	±5% (J)	GQM2195C2E100JB12D	GQM2195C2A100JB01D		GQM22M5C2H100JB01L
11pF (110)	±2% (G)	GQM2195C2E110GB12D	GQM2195C2A110GB01D		GQM22M5C2H110GB01L
	±5% (J)	GQM2195C2E110JB12D	GQM2195C2A110JB01D		GQM22M5C2H110JB01L
12pF (120)	±2% (G)	GQM2195C2E120GB12D	GQM2195C2A120GB01D		GQM22M5C2H120GB01L
	±5% (J)	GQM2195C2E120JB12D	GQM2195C2A120JB01D		GQM22M5C2H120JB01L
13pF (130)	±2% (G)	GQM2195C2E130GB12D	GQM2195C2A130GB01D		GQM22M5C2H130GB01L
	±5% (J)	GQM2195C2E130JB12D	GQM2195C2A130JB01D		GQM22M5C2H130JB01L
15pF (150)	±2% (G)	GQM2195C2E150GB12D	GQM2195C2A150GB01D		GQM22M5C2H150GB01L
	±5% (J)	GQM2195C2E150JB12D	GQM2195C2A150JB01D		GQM22M5C2H150JB01L
16pF (160)	±2% (G)	GQM2195C2E160GB12D	GQM2195C2A160GB01D		GQM22M5C2H160GB01L
	±5% (J)	GQM2195C2E160JB12D	GQM2195C2A160JB01D		GQM22M5C2H160JB01L
18pF (180)	±2% (G)	GQM2195C2E180GB12D	GQM2195C2A180GB01D		GQM22M5C2H180GB01L
	±5% (J)	GQM2195C2E180JB12D	GQM2195C2A180JB01D		GQM22M5C2H180JB01L
20pF (200)	±2% (G)	GQM2195C2E200GB12D		GQM2195C1H200GB01D	GQM22M5C2H200GB01L
	±5% (J)	GQM2195C2E200JB12D		GQM2195C1H200JB01D	GQM22M5C2H200JB01L
22pF (220)	±2% (G)	GQM2195C2E220GB12D		GQM2195C1H220GB01D	GQM22M5C2H220GB01L
	±5% (J)	GQM2195C2E220JB12D		GQM2195C1H220JB01D	GQM22M5C2H220JB01L
24pF (240)	±2% (G)	GQM2195C2E240GB12D		GQM2195C1H240GB01D	GQM22M5C2H240GB01L
	±5% (J)	GQM2195C2E240JB12D		GQM2195C1H240JB01D	GQM22M5C2H240JB01L
27pF (270)	±2% (G)	GQM2195C2E270GB12D		GQM2195C1H270GB01D	GQM22M5C2H270GB01L
	±5% (J)	GQM2195C2E270JB12D		GQM2195C1H270JB01D	GQM22M5C2H270JB01L
30pF (300)	±2% (G)	GQM2195C2E300GB12D		GQM2195C1H300GB01D	GQM22M5C2H300GB01L
	±5% (J)	GQM2195C2E300JB12D		GQM2195C1H300JB01D	GQM22M5C2H300JB01L
33pF (330)	±2% (G)	GQM2195C2E330GB12D		GQM2195C1H330GB01D	GQM22M5C2H330GB01L
	±5% (J)	GQM2195C2E330JB12D		GQM2195C1H330JB01D	GQM22M5C2H330JB01L
36pF (360)	±2% (G)	GQM2195C2E360GB12D		GQM2195C1H360GB01D	GQM22M5C2H360GB01L
	±5% (J)	GQM2195C2E360JB12D		GQM2195C1H360JB01D	GQM22M5C2H360JB01L
39pF (390)	±2% (G)	GQM2195C2E390GB12D		GQM2195C1H390GB01D	GQM22M5C2H390GB01L
	±5% (J)	GQM2195C2E390JB12D		GQM2195C1H390JB01D	GQM22M5C2H390JB01L

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

(Part Number) GQ M 21 9 5C 2E 6R2 C B12 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

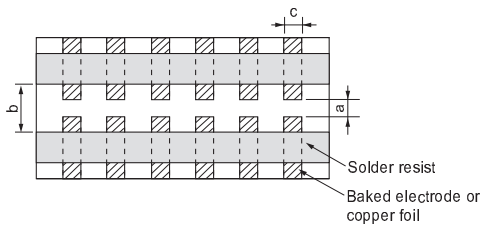
LxW [mm]		2.0x1.25(21)<0805>		2.8x2.8(22)<1111>
Rated Volt. [Vdc]		250(2E)	50(1H)	500(2H)
Capacitance	Tolerance	Part Number		
43pF (430)	±2% (G)	GQM2195C2E430GB12D	GQM2195C1H430GB01D	GQM22M5C2H430GB01L
	±5% (J)	GQM2195C2E430JB12D	GQM2195C1H430JB01D	GQM22M5C2H430JB01L
47pF (470)	±2% (G)	GQM2195C2E470GB12D	GQM2195C1H470GB01D	GQM22M5C2H470GB01L
	±5% (J)	GQM2195C2E470JB12D	GQM2195C1H470JB01D	GQM22M5C2H470JB01L
51pF (510)	±2% (G)	GQM2195C2E510GB12D	GQM2195C1H510GB01D	GQM22M5C2H510GB01L
	±5% (J)	GQM2195C2E510JB12D	GQM2195C1H510JB01D	GQM22M5C2H510JB01L
56pF (560)	±2% (G)	GQM2195C2E560GB12D	GQM2195C1H560GB01D	GQM22M5C2H560GB01L
	±5% (J)	GQM2195C2E560JB12D	GQM2195C1H560JB01D	GQM22M5C2H560JB01L
62pF (620)	±2% (G)	GQM2195C2E620GB12D	GQM2195C1H620GB01D	GQM22M5C2H620GB01L
	±5% (J)	GQM2195C2E620JB12D	GQM2195C1H620JB01D	GQM22M5C2H620JB01L
68pF (680)	±2% (G)	GQM2195C2E680GB12D	GQM2195C1H680GB01D	GQM22M5C2H680GB01L
	±5% (J)	GQM2195C2E680JB12D	GQM2195C1H680JB01D	GQM22M5C2H680JB01L
75pF (750)	±2% (G)	GQM2195C2E750GB12D	GQM2195C1H750GB01D	GQM22M5C2H750GB01L
	±5% (J)	GQM2195C2E750JB12D	GQM2195C1H750JB01D	GQM22M5C2H750JB01L
82pF (820)	±2% (G)	GQM2195C2E820GB12D	GQM2195C1H820GB01D	GQM22M5C2H820GB01L
	±5% (J)	GQM2195C2E820JB12D	GQM2195C1H820JB01D	GQM22M5C2H820JB01L
91pF (910)	±2% (G)	GQM2195C2E910GB12D	GQM2195C1H910GB01D	GQM22M5C2H910GB01L
	±5% (J)	GQM2195C2E910JB12D	GQM2195C1H910JB01D	GQM22M5C2H910JB01L
100pF (101)	±2% (G)	GQM2195C2E101GB12D	GQM2195C1H101GB01D	GQM22M5C2H101GB01L
	±5% (J)	GQM2195C2E101JB12D	GQM2195C1H101JB01D	GQM22M5C2H101JB01L

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

GQM Series Specifications and Test Methods

No.	Item		Specifications	Test Method
1	Operating Temperature		−55 to 125℃	Reference Temperature: 25℃
2	Rated Voltage		See the previous page.	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	Dimension		Within the specified dimensions	Using calipers
5	Dielectric Strength		No defects or abnormalities	No failure should be observed when 300%* of the rated voltage is applied between the terminations for 1 to 5 seconds, provided the charge/discharge current is less than 50mA. *GQM187, GQM219(250V), GQM22: 250% of the rated voltage
6	Insulation Resistance		More than 10,000MΩ	The insulation resistance should be measured with a DC voltage not exceeding the rated voltage at 25℃ 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 should be measured at 25℃ at the frequency and voltage shown in the table. Frequency: 1±0.1MHz Voltage: 0.5 to 5Vrms
8	Q		30pF and over: Q≧1400 30pF and below: Q≧800+20C C: Nominal Capacitance (pF)	
9	Capacitance Temperature Characteristics	Temperature Coefficient	Within the specified tolerance (Table A)	The capacitance change should be measured after 5 min. at each specified temp. stage. 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 the capacitance should be within the specified tolerance for the temperature coefficient and capacitance change as in Table A. 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 capacitance value in step 3.
		Capacitance Drift	Within ±0.2% or ±0.05pF (whichever is larger)	
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. 1 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. *5N (GQM188)
11	Vibration Resistance	Appearance	No defects or abnormalities	Solder the capacitor to 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	30pF and over: Q≧1400 30pF and below: Q≧800+20C C: Nominal Capacitance (pF)	

Step	Temperature (℃)
1	Reference Temp. ±2
2	−55±3
3	Reference Temp. ±2
4	125±3
5	Reference Temp. ±2



Type	a	b	c
GQM18	1.0	3.0	1.2
GQM21	1.2	4.0	1.65
GQM22	2.2	5.0	2.9

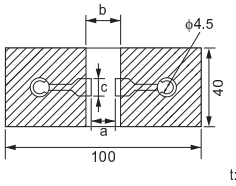
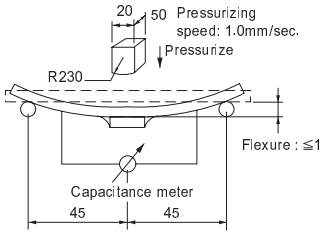
(in mm)

Fig. 1

Continued on the following page.

GQM Series Specifications and Test Methods

Continued from the preceding page.

No.	Item		Specifications	Test Method
12	Deflection	Appearance	No defects or abnormalities.	Solder the capacitor on the test jig (glass epoxy board) shown in Fig. 2 using a eutectic solder. Then apply a force in the direction shown in Fig. 3. 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.
		Capacitance Change	Within ±5% or ±0.5pF (whichever is larger)	
			 Type / a / b / c GQM18 / 1.0 / 3.0 / 1.2 GQM21 / 1.2 / 4.0 / 1.65 GQM22 / 2.2 / 5.0 / 2.9 (in mm) Fig. 2	 Fig. 3
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℃ for 10 to 30 seconds. After preheating, immerse in eutectic solder solution for 2±0.5 seconds at 230±5℃ or Sn-3.0Ag-0.5Cu solder solution for 2±0.5 seconds at 245±5°C.
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℃ for 1 minute. Immerse the capacitor in a eutectic solder or Sn-3.0Ag-0.5Cu solder solution at 270±5℃ for 10±0.5 seconds. Let sit at room temperature for 24±2 hours, then measure.
		Appearance	No defects or abnormalities.	
		Capacitance Change	Within ±2.5% or ±0.25 pF (whichever is larger)	
		Q	30pF and over: Q≧1400 30pF and below: Q≧800+20C C: Nominal Capacitance (pF)	
		I.R.	More than 10,000MΩ	
		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 listed in the following table. Let sit for 24±2 hours at room temperature, then measure. Step / 1 / 2 / 3 / 4 Temp. (℃) / 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
		Appearance	No defects or abnormalities.	
		Capacitance Change	Within ±2.5% or ±0.25pF (whichever is larger)	
		Q	30pF and over: Q≧1400 30pF and below: Q≧800+20C C: Nominal Capacitance (pF)	
		I.R.	More than 10,000MΩ	
		Dielectric Strength	No defects.	
16	Humidity Steady State		The measured and observed characteristics should satisfy the specifications in the following table.	Set the capacitor at 40±2℃ 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)	
		Q	30pF and over: Q≧350 10pF and over, 30pF and below: Q≧275+5C/2 10pF and below: Q≧200+10C C: Nominal Capacitance (pF)	
		I.R.	More than 1,000MΩ	

Continued on the following page.

GQM Series Specifications and Test Methods

Continued from the preceding page.

No.	Item		Specifications	Test Method
17	Humidity Load		The measured and observed characteristics should satisfy the specifications in the following table.	Apply the rated voltage at 40±2℃ and 90 to 95% humidity for 500±12 hours. Remove and let sit for 24±2 hours at room temperature then measure. The charge/discharge current is less than 50mA.
		Appearance	No defects or abnormalities.	
		Capacitance Change	Within ±7.5% or ±0.75pF (whichever is larger)	
		Q	30pF and over: Q≧200 30pF and below: Q≧100+10C/3 C: Nominal Capacitance (pF)	
		I.R.	More than 500MΩ	
18	High Temperature Load		The measured and observed characteristics should satisfy the specifications in the following table.	Apply 200%* of the rated voltage for 1000±12 hours at the maximum operating temperature ±3℃. Set for 24±2 hours at room temperature, then measure. The charge/discharge current is less than 50mA. *GQM22: 150% of the rated voltage
		Appearance	No defects or abnormalities.	
		Capacitance Change	Within ±3% or ±0.3pF (whichever is larger)	
		Q	30pF and over: Q≧350 10pF and over, 30pF and below: Q≧275+5C/2 10pF and below: Q≧200+10C C: Nominal Capacitance (pF)	
		I.R.	More than 1,000MΩ	

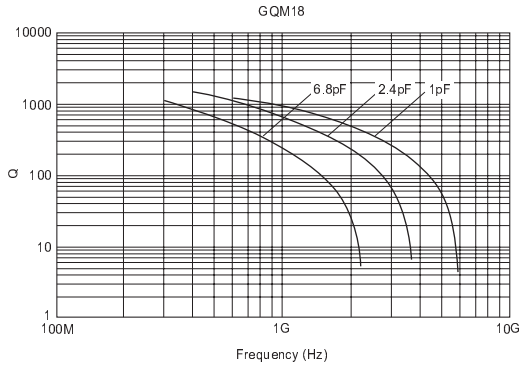
Table A

Char.	Nominal Values (ppm/℃)*1	Capacitance Change from 25℃ (%)					
		−55℃		−30℃		−10℃	
		Max.	Min.	Max.	Min.	Max.	Min.
5C	0±30	0.58	−0.24	0.40	−0.17	0.25	−0.11

*1: Nominal values denote the temperature coefficient within a range of 25 to 125℃.

GQM Series Data

■ Q - Frequency Characteristics



■ Resonant Frequency - Capacitance