



FEATURES:

- Capacitance range: 0.1pF to 2.2uF
- Voltage range: 200V to 5000V
- Ceramic monolithic structure provides excellent reliability
- High-speed automated placement capabilities

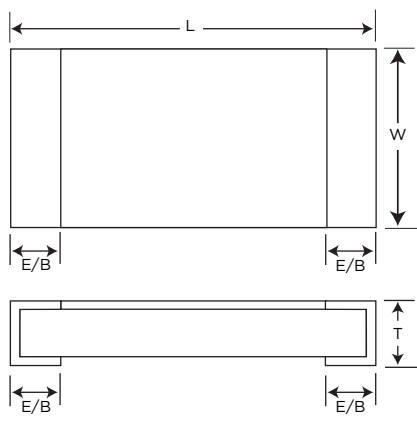


PART NUMBER STRUCTURE

C	1808	X7R	202	—	102	K	N	E	
Ceramic Capacitor	Size	Temperature Characteristic	Rated Voltage		Capacitance	Tolerance	Termination	Packaging	
	0402 0603 0805 1206 1210 1808 1812 1825 2220 2225	(Dielectric) COG X7R X7T	1st two digits are significant followed by number of zeroes. 201 = 200V 251 = 250V 401 = 400V 451 = 450V 501 = 500V 601 = 600V 631 = 630V 102 = 1000V 202 = 2000V 302 = 3000V 402 = 4000V 502 = 5000V		(picofarads) 1st two digits are significant, followed by number of zeroes. R denotes decimal e.g: 101 = 100pF R denotes decimal 6R8 = 6.8pF	*B = ± 0.10pF *C = ± 0.25pF *D = ± 0.50pF F = ± 1% G = ± 2% J = ± 5% K = ± 10% M = ± 20% N = ± 30% * For values below 10pF only.	N = 100% matte Tin (Sn) over nickel.	E = Embossed Tape P = Paper Tape	
Example P/N: C1808X7R202-102KNE					Standard termination finish is 100% matte Tin (Sn).				

DIMENSIONS

Unit: inch (mm)

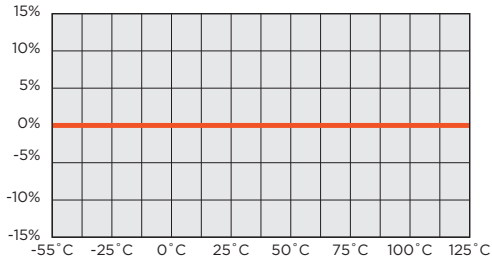


SIZE	L	W	T	E/B
0402	0.039 ± 0.004 (1.00 ± 0.10)	0.020 ± 0.004 (0.50 ± 0.10)	See Specific Value	0.010 ± 0.004 (0.25 ± 0.10)
0603	0.063 ± 0.008 (1.60 ± 0.20)	0.0315 ± 0.008 (0.80 ± 0.20)	See Specific Value	0.0158 ± 0.006 (0.40 ± 0.15)
0805	0.079 ± 0.008 (2.00 ± 0.20)	0.05 ± 0.008 (1.25 ± 0.20)	See Specific Value	0.020 ± 0.008 (0.50 ± 0.20)
1206	0.130 ± 0.012 (3.30 ± 0.30)	0.063 ± 0.008 (1.60 ± 0.20)	See Specific Value	0.0236 ± 0.008 (0.60 ± 0.20)
1210	0.130 ± 0.016 (3.30 ± 0.40)	0.0985 ± 0.012 (2.50 ± 0.30)	See Specific Value	0.0295 ± 0.014 (0.75 ± 0.35)
1808	0.177 ± 0.016 (4.50 ± 0.40)	0.080 ± 0.010 (2.03 ± 0.25)	See Specific Value	0.0295 ± 0.014 (0.75 ± 0.35)
1812	0.177 ± 0.016 (4.50 ± 0.40)	0.126 ± 0.016 (3.20 ± 0.40)	See Specific Value	0.0295 ± 0.014 (0.75 ± 0.35)
1825	0.177 ± 0.016 (4.50 ± 0.40)	0.252 ± 0.016 (6.40 ± 0.40)	See Specific Value	0.0295 ± 0.014 (0.75 ± 0.35)
2220	0.225 ± 0.016 (5.70 ± 0.40)	0.197 ± 0.016 (5.00 ± 0.40)	See Specific Value	0.0335 ± 0.014 (0.85 ± 0.35)
2225	0.225 ± 0.016 (5.70 ± 0.40)	0.248 ± 0.016 (6.30 ± 0.40)	See Specific Value	0.0335 ± 0.014 (0.85 ± 0.35)

ELECTRICAL SPECIFICATION

COG (NP0)

Typical Capacitance Change vs. Temperature



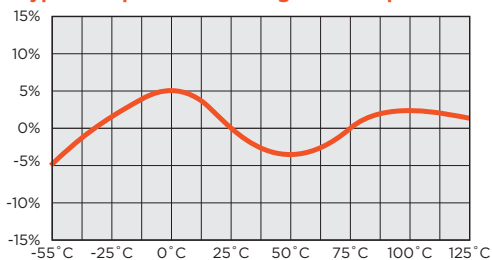
Operating Temperature Range:
-55°C to +125°C
Temperature Coefficient:
0 ±30PPM/°C
Temperature Voltage Coefficient:
0 ±30PPM/°C
Insulation Resistance:
>100 Ω-F or 10 GΩ, whichever is less at 25°C, WDCV.
(The IR at 125°C is 10% of the value at 25°C)
Withstanding Voltage:
See below
Capacitance Tolerance:
C, D, F, G, J, K

Dielectric Strength is equal to 1.5 times rated voltage (WVDC) for 500 volt capacitors and 1.2 times (WVDC) for 1,000 through 5,000 volt capacitors.

Circuit applications in excess of 1,000 volts may require a surface coating to prevent external arcing.

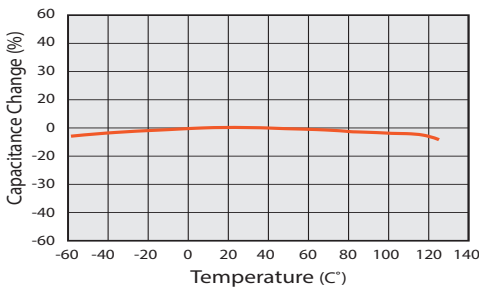
X7R

Typical Capacitance Change vs. Temperature



Operating Temperature Range:
-55°C to +125°C
Temperature Coefficient:
0 ±15Δ°C MAX.
Temperature Voltage Coefficient:
X7R not applicable
Insulation Resistance:
>100 ohms F or 10 G ohms, whichever is less at 25°C, WDCV.
(The IR at 125°C is 10% of the value at 25°C)
Withstanding Voltage:
1.5 x WVDC for 5 sec.
D.F. Specification:
≥50V, ≤2.5%
Capacitance Tolerance:
J,K,M,N

X7T



Operating Temperature Range:
-55°C to +125°C
Temperature Coefficient:
+22% - -33% - Δ°C MAX.
Temperature Voltage Coefficient:
X7T not applicable
Insulation Resistance:
>100 ohms F or 10 G ohms, whichever is less at 25°C, WDCV.
(The IR at 125°C is 10% of the value at 25°C)
Withstanding Voltage:
1.5 x WVDC for 5 sec.
D.F. Specification:
≥50V, ≤2.5%
Capacitance Tolerance:
K,M,N

TEST PARAMETERS

Test parameters for Multilayer Ceramic Capacitors - X7R/X7T: 1KHz ± 50Hz at 1.0 ± 0.2 Vrms, 25°C

Test parameters for Multilayer Ceramic Capacitors - COG (NP0): 1MHz ± 50KHz at 1.0 ± 0.2 Vrms ≤ 1000pF, 25°C
1KHz ± 50Hz at 1.0 ± 0.2 Vrms > 1000pF, 25°C

Note: To ensure proper capacitance readings, the voltage level must be held constant. The HP4284 and Agilent E4980 has a "ALC" (Automatic Level Control) function and should be switched to the "ON" position for accurate capacitance readings.

VOLTAGE AND CAPACITANCE RANGE

COG (NPO) DIELECTRIC

Values that are typically available.

All measurements in mm

SIZE		0402		0603		0805					
VDCW (MAX)		200V	250V	200V	250V	200V	250V	500V	600V / 630V	1kV	
CAPACITANCE CODE	OR1	0.1pF	0.50±0.05	0.50±0.05							
	OR2	0.2pF	0.50±0.05	0.50±0.05							
	OR3	0.3pF	0.50±0.05	0.50±0.05							
	OR4	0.4pF	0.50±0.05	0.50±0.05							
	OR5	0.5pF	0.50±0.05	0.50±0.05	0.80±0.07	0.80±0.07	0.60±0.10	0.60±0.10	0.60±0.10	0.60±0.10	1.25±0.10
	1R0	1.0pF	0.50±0.05	0.50±0.05	0.80±0.07	0.80±0.07	0.60±0.10	0.60±0.10	0.60±0.10	0.60±0.10	1.25±0.10
	1R2	1.2pF	0.50±0.05	0.50±0.05	0.80±0.07	0.80±0.07	0.60±0.10	0.60±0.10	0.60±0.10	0.60±0.10	1.25±0.10
	1R5	1.5pF	0.50±0.05	0.50±0.05	0.80±0.07	0.80±0.07	0.60±0.10	0.60±0.10	0.60±0.10	0.60±0.10	1.25±0.10
	1R8	1.8pF	0.50±0.05	0.50±0.05	0.80±0.07	0.80±0.07	0.60±0.10	0.60±0.10	0.60±0.10	0.60±0.10	1.25±0.10
	2R2	2.2pF	0.50±0.05	0.50±0.05	0.80±0.07	0.80±0.07	0.60±0.10	0.60±0.10	0.60±0.10	0.60±0.10	1.25±0.10
	2R7	2.7pF	0.50±0.05	0.50±0.05	0.80±0.07	0.80±0.07	0.60±0.10	0.60±0.10	0.60±0.10	0.60±0.10	1.25±0.10
	3R3	3.3pF	0.50±0.05	0.50±0.05	0.80±0.07	0.80±0.07	0.60±0.10	0.60±0.10	0.60±0.10	0.60±0.10	1.25±0.10
	3R9	3.9pF	0.50±0.05	0.50±0.05	0.80±0.07	0.80±0.07	0.60±0.10	0.60±0.10	0.60±0.10	0.60±0.10	1.25±0.10
	4R7	4.7pF	0.50±0.05	0.50±0.05	0.80±0.07	0.80±0.07	0.60±0.10	0.60±0.10	0.60±0.10	0.60±0.10	1.25±0.10
	5R6	5.6pF	0.50±0.05	0.50±0.05	0.80±0.07	0.80±0.07	0.60±0.10	0.60±0.10	0.60±0.10	0.60±0.10	1.25±0.10
	6R8	6.8pF	0.50±0.05	0.50±0.05	0.80±0.07	0.80±0.07	0.60±0.10	0.60±0.10	0.60±0.10	0.60±0.10	1.25±0.10
	8R2	8.2pF	0.50±0.05	0.50±0.05	0.80±0.07	0.80±0.07	0.60±0.10	0.60±0.10	0.60±0.10	0.60±0.10	1.25±0.10
	100	10pF	0.50±0.05	0.50±0.05	0.80±0.07	0.80±0.07	0.60±0.10	0.60±0.10	0.60±0.10	0.60±0.10	0.85±0.15
	120	12pF	0.50±0.05	0.50±0.05	0.80±0.07	0.80±0.07	0.60±0.10	0.60±0.10	0.60±0.10	0.60±0.10	1.25±0.10
	150	15pF	0.50±0.05	0.50±0.05	0.80±0.07	0.80±0.07	0.60±0.10	0.60±0.10	0.60±0.10	0.60±0.10	1.25±0.10
	180	18pF	0.50±0.05	0.50±0.05	0.80±0.07	0.80±0.07	0.60±0.10	0.60±0.10	0.60±0.10	0.60±0.10	1.25±0.10
	220	22pF	0.50±0.05	0.50±0.05	0.80±0.07	0.80±0.07	0.60±0.10	0.60±0.10	0.60±0.10	0.60±0.10	1.25±0.10
	270	27pF	0.50±0.05	0.50±0.05	0.80±0.07	0.80±0.07	0.60±0.10	0.60±0.10	0.60±0.10	0.60±0.10	1.25±0.10
	330	33pF	0.50±0.05	0.50±0.05	0.80±0.07	0.80±0.07	0.60±0.10	0.60±0.10	0.60±0.10	0.60±0.10	1.25±0.10
	390	39pF	0.50±0.05	0.50±0.05	0.80±0.07	0.80±0.07	0.60±0.10	0.60±0.10	0.60±0.10	0.60±0.10	1.25±0.10
	470	47pF	0.50±0.05	0.50±0.05	0.80±0.07	0.80±0.07	0.60±0.10	0.60±0.10	0.60±0.10	0.60±0.10	1.25±0.10
	560	56pF	0.50±0.05	0.50±0.05	0.80±0.07	0.80±0.07	0.60±0.10	0.60±0.10	0.60±0.10	0.60±0.10	1.25±0.10
	680	68pF	0.50±0.05		0.80±0.07	0.80±0.07	0.60±0.10	0.60±0.10	0.60±0.10	0.60±0.10	1.25±0.10
	820	82pF	0.50±0.05		0.80±0.07	0.80±0.07	0.60±0.10	0.60±0.10	0.80±0.10	0.80±0.10	1.25±0.10
	101	100pF	0.50±0.05		0.80±0.07	0.80±0.07	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	1.25±0.10
	121	120pF			0.80±0.07	0.80±0.07	0.80±0.10	0.80±0.10	1.25±0.10	1.25±0.10	1.25±0.10
	151	150pF			0.80±0.07	0.80±0.07	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10
	181	180pF			0.80±0.07	0.80±0.07	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10
	221	220pF			0.80±0.07	0.80±0.07	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10
	271	270pF			0.80±0.15	0.80±0.15	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10
	331	330pF			0.80±0.15	0.80±0.15	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10
	391	390pF			0.80±0.15	0.80±0.15	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10
	471	470pF			0.80±0.15	0.80±0.15	1.25±0.10	1.25±0.10	1.25±0.20	1.25±0.20	
	561	560pF			0.80±0.15	0.80±0.15	1.25±0.10	0.85±0.15	1.25±0.20	1.25±0.20	
	681	680pF			0.80±0.15	0.80±0.15	1.25±0.10	1.25±0.10	1.25±0.20	1.25±0.20	
	821	820pF			0.80±0.15	0.80±0.15	1.25±0.10	1.25±0.10	1.25±0.20	1.25±0.20	
	102	1000pF			0.80±0.15	0.80±0.15	1.25±0.10	1.25±0.10	1.25±0.20	1.25±0.20	
	122	1200pF			0.80±0.15	0.80±0.15	1.25±0.10	1.25±0.10	1.25±0.20	1.25±0.20	
	152	1500pF			0.80±0.15	0.80±0.15	1.25±0.10	1.25±0.10	1.25±0.20	1.25±0.20	
182	1800pF			0.80±0.15	0.80±0.15	0.85±0.15	0.85±0.15	1.25±0.20	1.25±0.20		
222	2200pF			0.80±0.15	0.80±0.15	1.25±0.10	1.25±0.10	1.25±0.20	1.25±0.20		
272	2700pF						1.25±0.20	1.25±0.20			
332	3300pF						1.25±0.20	1.25±0.20			
392	3900pF						1.25±0.20	1.25±0.20			
472	4700pF						1.25±0.20	1.25±0.20			
562	5600pF										
682	6800pF										
822	8200pF										
103	0.01uF										
123	0.012uF										
153	0.015uF										
183	0.018uF										
223	0.022uF										
273	0.027uF										
333	0.033uF										
393	0.039uF										
473	0.047uF										
563	0.056uF										
683	0.068uF										
823	0.082uF										
104	0.10uF										

Note: Additional values may be available. Please contact us for more information. Due to demand and raw material fluctuations, specific values may not be available.

VOLTAGE AND CAPACITANCE RANGE

COG (NPO) DIELECTRIC

Values that are typically available.

All measurements in mm

SIZE		1206							1210				
VDCW (MAX)		200V	250V	500V	600V / 630V	1KV	2KV	3KV	200V	250V	500V	600V / 630V	1KV
CAPACITANCE CODE	OR1	0.1pF											
	OR2	0.2pF											
	OR3	0.3pF											
	OR4	0.4pF											
	OR5	0.5pF											
	1R0	1.0pF											
	1R2	1.2pF											
	1R5	1.5pF	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10					
	1R8	1.8pF	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10					
	2R2	2.2pF	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10					
2R7	2.7pF	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10						
3R3	3.3pF	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	1.25±0.20					
3R9	3.9pF	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	1.25±0.20					
4R7	4.7pF	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	1.25±0.20					
5R6	5.6pF	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	1.25±0.20					
6R8	6.8pF	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	1.25±0.20					
8R2	8.2pF	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	1.25±0.20					
100	10pF	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	1.25±0.20	0.95±0.10	0.95±0.10	0.95±0.10	0.95±0.10	0.95±0.10
120	12pF	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	1.25±0.20	0.95±0.10	0.95±0.10	0.95±0.10	0.95±0.10	0.95±0.10
150	15pF	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	1.25±0.20	0.95±0.10	0.95±0.10	0.95±0.10	0.95±0.10	0.95±0.10
180	18pF	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	1.25±0.20	0.95±0.10	0.95±0.10	0.95±0.10	0.95±0.10	0.95±0.10
220	22pF	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	1.25±0.20	0.95±0.10	0.95±0.10	0.95±0.10	0.95±0.10	0.95±0.10
270	27pF	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	1.60±0.20	0.95±0.10	0.95±0.10	0.95±0.10	0.95±0.10	0.95±0.10
330	33pF	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.95±0.10	1.60±0.20	0.95±0.10	0.95±0.10	0.95±0.10	0.95±0.10	0.95±0.10
390	39pF	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.95±0.10	1.60±0.20	0.95±0.10	0.95±0.10	0.95±0.10	0.95±0.10	0.95±0.10
470	47pF	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.95±0.10	1.60±0.20	0.95±0.10	0.95±0.10	0.95±0.10	0.95±0.10	0.95±0.10
560	56pF	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	1.25±0.10		0.95±0.10	0.95±0.10	0.95±0.10	0.95±0.10	0.95±0.10
680	68pF	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	1.25±0.20		0.95±0.10	0.95±0.10	0.95±0.10	0.95±0.10	0.95±0.10
820	82pF	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	1.25±0.10		0.95±0.10	0.95±0.10	0.95±0.10	0.95±0.10	0.95±0.10
101	100pF	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	1.25±0.10		0.95±0.10	0.95±0.10	0.95±0.10	0.95±0.10	1.25±0.10
121	120pF	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	1.25±0.10	1.60±0.20		0.95±0.10	0.95±0.10	0.95±0.10	0.95±0.10	1.25±0.10
151	150pF	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	1.25±0.10	1.25±0.20		0.95±0.10	0.95±0.10	0.95±0.10	0.95±0.10	1.25±0.10
181	180pF	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	1.60±0.20	1.60±0.20		0.95±0.10	0.95±0.10	0.95±0.10	0.95±0.10	1.25±0.10
221	220pF	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	1.60±0.20	1.60±0.20		0.95±0.10	0.95±0.10	0.95±0.10	0.95±0.10	1.60±0.20
271	270pF	0.80±0.10	0.95±0.10	0.95±0.10	0.95±0.10	1.60±0.20	1.60±0.30		0.95±0.10	0.95±0.10	0.95±0.10	0.95±0.10	1.60±0.20
331	330pF	0.80±0.10	0.95±0.10	0.95±0.10	0.95±0.10	1.60±0.20	1.60±0.30		0.95±0.10	0.95±0.10	0.95±0.10	0.95±0.10	1.60±0.20
391	390pF	0.80±0.10	0.95±0.10	0.95±0.10	0.95±0.10	1.60±0.20	1.60±0.20		0.95±0.10	0.95±0.10	0.95±0.10	0.95±0.10	1.60±0.20
471	470pF	0.95±0.10	0.95±0.10	0.95±0.10	0.95±0.10	1.60±0.20			0.95±0.10	0.95±0.10	0.95±0.10	0.95±0.10	1.60±0.20
561	560pF	0.95±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.60±0.20			0.95±0.10	0.95±0.10	0.95±0.10	0.95±0.10	1.60±0.20
681	680pF	0.95±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.60±0.20			0.95±0.10	0.95±0.10	0.95±0.10	0.95±0.10	1.60±0.20
821	820pF	0.95±0.10	1.60±0.20	1.60±0.20	1.60±0.20	1.60±0.20			0.95±0.10	0.95±0.10	0.95±0.10	0.95±0.10	1.25±0.20
102	1000pF	0.95±0.10	1.60±0.20	1.60±0.20	1.60±0.20	1.60±0.20			1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.20
122	1200pF	0.95±0.10	1.60±0.20	1.60±0.20	1.60±0.20	1.60±0.20			1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20
152	1500pF	1.25±0.10	1.60±0.20	1.60±0.20	1.60±0.20	1.60±0.20			1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20
182	1800pF	1.25±0.10	1.60±0.20	1.60±0.20	1.60±0.20	1.60±0.20			1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20
222	2200pF	1.25±0.10	1.60±0.20	1.60±0.20	1.60±0.20	1.60±0.20			1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20
272	2700pF	1.25±0.10	1.60±0.20	1.60±0.20	1.60±0.20	1.60±0.20			1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20
332	3300pF	1.25±0.10	1.60±0.20	1.60±0.20	1.60±0.20	1.60±0.20			1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20
392	3900pF	1.25±0.10	1.60±0.20	1.60±0.20	1.60±0.20	1.60±0.20			1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20
472	4700pF	1.00±0.10	1.60±0.20	1.60±0.20	1.60±0.20	1.60±0.20			1.60±0.20	1.60±0.20	1.60±0.20	1.60±0.20	2.00±0.20
562	5600pF	1.60±0.20	1.60±0.20	1.60±0.20	1.60±0.20				1.60±0.20	1.60±0.20	1.60±0.20	1.60±0.20	2.00±0.20
682	6800pF	1.60±0.20	1.60±0.20	1.60±0.20	1.60±0.20				1.60±0.20	1.60±0.20	1.60±0.20	1.60±0.20	2.00±0.20
822	8200pF	1.60±0.20	1.60±0.20	1.60±0.20	1.60±0.20				1.60±0.20	1.60±0.20	1.60±0.20	1.60±0.20	2.00±0.20
103	0.01uF	1.60±0.20	1.60±0.20	1.60±0.20	1.60±0.20				1.60±0.20	1.60±0.20	2.00±0.20	2.00±0.20	2.00±0.20
123	0.012uF								2.00±0.20	2.00±0.20	2.50±0.30	2.50±0.30	2.50±0.30
153	0.015uF								2.00±0.20	2.00±0.20	2.50±0.30	2.50±0.30	2.50±0.30
183	0.018uF								2.00±0.20	2.00±0.20	2.50±0.30	2.50±0.30	2.50±0.30
223	0.022uF								2.00±0.20	2.00±0.20	2.50±0.30	2.50±0.30	2.50±0.30
273	0.027uF								2.00±0.20	2.00±0.20	2.50±0.30	2.50±0.30	
333	0.033uF								2.00±0.20	2.00±0.20	2.50±0.30	2.50±0.30	
393	0.039uF								2.00±0.20	2.00±0.20			
473	0.047uF								2.00±0.20	2.00±0.20			
563	0.056uF												
683	0.068uF												
823	0.082uF												
104	0.10uF												

Note: Additional values may be available. Please contact us for more information. Due to demand and raw material fluctuations, specific values may not be available.

VOLTAGE AND CAPACITANCE RANGE

COG (NPO) DIELECTRIC

Values that are typically available.

All measurements in mm

SIZE		1808						1812							
VDCW (MAX)		500V	600V / 630V	1kV	2kV	3kV	5kV	200V	250V	500V	600V / 630V	1kV	2kV	3kV	
↑	OR1	0.1pF													
	OR2	0.2pF													
	OR3	0.3pF													
	OR4	0.4pF													
	OR5	0.5pF													
	1R0	1.0pF													
	1R2	1.2pF													
	1R5	1.5pF													
	1R8	1.8pF	1.25±0.10	1.25±0.10											
	2R2	2.2pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20							1.25±0.20
2R7	2.7pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20							1.25±0.20	
3R3	3.3pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20							1.25±0.20	
3R9	3.9pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20							1.25±0.20	
4R7	4.7pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20							1.25±0.20	
5R6	5.6pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20							1.25±0.20	
6R8	6.8pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20							1.25±0.20	
8R2	8.2pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20							1.25±0.20	
100	10pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	
120	12pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	
150	15pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.20	2.00±0.20	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	
180	18pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.20	2.00±0.20	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	
220	22pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.20	2.00±0.20	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	
270	27pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.20	2.00±0.20	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	
330	33pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.20	2.00±0.20	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	
390	39pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.20	2.00±0.20	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	
470	47pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.20	2.00±0.20	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.20	
560	56pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.20		1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	
680	68pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.20		1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	
820	82pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.20		1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	
101	100pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20		1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	
121	120pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20		1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	
151	150pF	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20	2.00±0.20		1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	
181	180pF	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20	2.00±0.20		1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20	
221	220pF	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20	2.00±0.20		1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20	
271	270pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20		1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20	2.00±0.20	
331	330pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20		1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20	2.00±0.20	
391	390pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20		1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20	2.00±0.20	
471	470pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20		1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20	2.00±0.20	1.60±0.20	
561	560pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20			1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20	2.00±0.20	2.00±0.20	
681	680pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20		1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20	2.00±0.20	2.00±0.20	
821	820pF	2.00±0.20	2.00±0.20	2.00±0.20	1.25±0.10			1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20	2.00±0.20	2.50±0.30	
102	1000pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20			1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20	2.00±0.20	2.50±0.30	
122	1200pF	2.00±0.20	2.00±0.20	1.60±0.20	1.60±0.20			1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20			
152	1500pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20			1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20			
182	1800pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20			1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20			
222	2200pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20			1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20			
272	2700pF	2.00±0.20	2.00±0.20	2.00±0.20				1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20			
332	3300pF	2.00±0.20	2.00±0.20	2.00±0.20				1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20			
392	3900pF							1.25±0.10	1.25±0.10	1.25±0.20	1.25±0.10	2.50±0.30			
472	4700pF							1.25±0.10	1.25±0.10	1.25±0.20	1.25±0.10	2.00±0.20			
562	5600pF							1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.50±0.30			
682	6800pF							1.25±0.20	1.25±0.20	1.25±0.10	1.25±0.10				
822	8200pF									1.25±0.10	1.25±0.10				
103	0.01uF							1.25±0.20	1.25±0.20	1.25±0.10	1.25±0.10				
123	0.012uF									1.60±0.20	1.60±0.20				
153	0.015uF									1.60±0.20	1.60±0.20				
183	0.018uF									2.00±0.20	2.00±0.20				
223	0.022uF									2.00±0.20	2.00±0.20				
273	0.027uF														
333	0.033uF														
393	0.039uF														
473	0.047uF														
563	0.056uF														
683	0.068uF														
823	0.082uF														
104	0.10uF														

Note: Additional values may be available. Please contact us for more information. Due to demand and raw material fluctuations, specific values may not be available.

VOLTAGE AND CAPACITANCE RANGE

COG (NPO) DIELECTRIC

Values that are typically available.

All measurements in mm

SIZE		1825						2220							
VDCW (MAX)		200V / 250V	500V	600V / 630V	1kV	2kV	3kV	200V / 250V	500V	600V / 630V	1kV	2kV	3kV	5kV	
↑	OR1	0.1pF													
	OR2	0.2pF													
	OR3	0.3pF													
	OR4	0.4pF													
	OR5	0.5pF													
	1R0	1.0pF													
	1R2	1.2pF													
	1R5	1.5pF													
	1R8	1.8pF													
	2R2	2.2pF													1.25±0.20
2R7	2.7pF													1.25±0.20	
3R3	3.3pF													1.25±0.20	
3R9	3.9pF													1.25±0.20	
4R7	4.7pF													1.25±0.20	
5R6	5.6pF													1.25±0.20	
6R8	6.8pF													1.25±0.20	
8R2	8.2pF													1.25±0.20	
100	10pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	1.25±0.20	
120	12pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	1.25±0.20	
150	15pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	1.25±0.20	
180	18pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	1.25±0.20	
220	22pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	1.25±0.20	
270	27pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	1.25±0.20	
330	33pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	1.60±0.20	
390	39pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	1.60±0.20	
470	47pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	1.60±0.20	
560	56pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	1.60±0.20	
680	68pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	1.60±0.20	
820	82pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	1.60±0.20	
101	100pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	1.60±0.20	
121	120pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	1.60±0.20	
151	150pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	1.60±0.20	
181	180pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	1.60±0.20	
221	220pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20		
271	270pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20		
331	330pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30		
391	390pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30		
471	470pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30		
561	560pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30		
681	680pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30		
821	820pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30		
102	1000pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30		
122	1200pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20		2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30	2.50±0.30	2.50±0.30		
152	1500pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30		2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30	2.50±0.30	2.50±0.30		
182	1800pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30		2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30	2.50±0.30			
222	2200pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30		2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30	2.50±0.30			
272	2700pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30		2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30	2.50±0.30			
332	3300pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30		2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30	2.50±0.30			
392	3900pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30		2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30	2.50±0.30			
472	4700pF	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30	2.50±0.30		2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30	2.50±0.30			
562	5600pF	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30			2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30				
682	6800pF	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30			2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30				
822	8200pF	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30			2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30				
103	0.01uF	2.00±0.20	1.60±0.20	2.00±0.20	2.50±0.30			2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30				
123	0.012uF	2.00±0.20	2.00±0.20	2.00±0.20				2.00±0.20	2.00±0.20	2.00±0.20					
153	0.015uF	2.00±0.20	2.00±0.20	2.00±0.20				2.00±0.20	2.00±0.20	2.00±0.20					
183	0.018uF	2.00±0.20	2.00±0.20	2.00±0.20				2.00±0.20	2.00±0.20	2.00±0.20					
223	0.022uF	2.00±0.20	2.00±0.20	2.00±0.20				2.00±0.20	2.00±0.20	2.00±0.20					
273	0.027uF	2.00±0.20	2.00±0.20	2.00±0.20				2.00±0.20	2.00±0.20	2.00±0.20					
333	0.033uF	2.00±0.20	2.00±0.20	2.00±0.20				2.00±0.20	2.00±0.20	2.00±0.20	2.40±0.30				
393	0.039uF	2.00±0.20	2.50±0.30	2.50±0.30				2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20				
473	0.047uF	2.00±0.20						2.50±0.30	2.50±0.30	2.50±0.30					
563	0.056uF	2.50±0.30						2.50±0.30	2.50±0.30	2.50±0.30					
683	0.068uF	2.50±0.30						2.50±0.30	2.80±0.30	2.80±0.30					
823	0.082uF								2.80±0.30	2.80±0.30					
104	0.10uF								2.80±0.30	2.80±0.30					

Note: Additional values may be available. Please contact us for more information. Due to demand and raw material fluctuations, specific values may not be available.

VOLTAGE AND CAPACITANCE RANGE

COG (NPO) DIELECTRIC

All measurements in mm

Values that are typically available.

SIZE		2225						
VDCW (MAX)		200V / 250V	500V	600V / 630V	1KV	2KV	3kV	
CAPACITANCE CODE	OR1	0.1pF						
	OR2	0.2pF						
	OR3	0.3pF						
	OR4	0.4pF						
	OR5	0.5pF						
	1R0	1.0pF						
	1R2	1.2pF						
	1R5	1.5pF						
	1R8	1.8pF						
	2R2	2.2pF						
	2R7	2.7pF						
	3R3	3.3pF						
	3R9	3.9pF						
	4R7	4.7pF						
	5R6	5.6pF						
	6R8	6.8pF						
	8R2	8.2pF						
	100	10pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20
	120	12pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20
	150	15pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20
180	18pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	
220	22pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	
270	27pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	
330	33pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	
390	39pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	
470	47pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	
560	56pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	
680	68pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	
820	82pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	
101	100pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	
121	120pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	
151	150pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	
181	180pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	
221	220pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	1.25±0.20	
271	270pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	
331	330pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	
391	390pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	
471	470pF	2.00±0.20	2.00±0.20	2.00±0.20	1.25±0.20	2.00±0.20	2.00±0.20	
561	560pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	
681	680pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	
821	820pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30	2.50±0.30	
102	1000pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30	2.50±0.30	
122	1200pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30		
152	1500pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30		
182	1800pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30		
222	2200pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30	2.40±0.20	
272	2700pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30		
332	3300pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30		
392	3900pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30		
472	4700pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30		
562	5600pF	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30	2.50±0.30		
682	6800pF	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30	2.50±0.30		
822	8200pF	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30	2.50±0.30		
103	0.01uF	2.00±0.20	1.60±0.20	2.00±0.20	2.50±0.30	2.50±0.30		
123	0.012uF	2.00±0.20	2.00±0.20	2.00±0.20				
153	0.015uF	2.00±0.20	2.00±0.20	2.00±0.20				
183	0.018uF	2.00±0.20	2.00±0.20	2.00±0.20				
223	0.022uF	2.00±0.20	2.00±0.20	2.00±0.20				
273	0.027uF	2.00±0.20	2.00±0.20	2.00±0.20				
333	0.033uF	2.00±0.20	2.00±0.20	2.00±0.20				
393	0.039uF	2.00±0.20	2.00±0.20	2.00±0.20				
473	0.047uF	2.00±0.20	2.00±0.20	2.00±0.20				
563	0.056uF	2.50±0.30	2.50±0.30	2.50±0.30				
683	0.068uF	2.50±0.30	2.50±0.30	2.50±0.30				
823	0.082uF	2.50±0.30	2.50±0.30					
104	0.10uF	2.50±0.30						

Note: Additional values may be available. Please contact us for more information. Due to demand and raw material fluctuations, specific values may not be available.

VOLTAGE AND CAPACITANCE RANGE

Values that are typically available.

X7R DIELECTRIC

All measurements in mm

SIZE		0603	0805					1206				
VDCW (MAX)		200V / 250V	200V	250V	500V	600V / 630V	1kV	200V / 250V	500V	600V / 630V	1kV	2kV
101	100pF	0.80±0.15	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10
121	120pF	0.80±0.15	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10
151	150pF	0.80±0.15	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10
181	180pF	0.80±0.15	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10
221	220pF	0.80±0.15	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	1.25±0.10	1.25±0.10	1.25±0.10	0.80±0.10	0.85±0.15
271	270pF	0.80±0.15	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10
331	330pF	0.80±0.15	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10
391	390pF	0.80±0.15	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10
471	470pF	0.80±0.15	0.80±0.10	0.80±0.10	0.85±0.15	0.80±0.10	0.85±0.15	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10
561	560pF	0.80±0.15	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.85±0.15	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10
681	680pF	0.80±0.15	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.85±0.15	0.80±0.10	0.80±0.10	0.80±0.10	1.25±0.10	1.25±0.10
821	820pF	0.80±0.15	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.85±0.15	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10
102	1000pF	0.80±0.15	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.85±0.15	0.85±0.15	0.85±0.15	1.25±0.10	1.25±0.10	1.25±0.10
122	1200pF	0.80±0.15	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.60±0.20
152	1500pF	0.80±0.15	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	1.25±0.10	1.25±0.10	0.80±0.10	0.80±0.10	1.25±0.10	1.60±0.20
182	1800pF	0.80±0.15	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.60±0.20
222	2200pF	0.80±0.15	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	0.85±0.15	0.80±0.10	1.25±0.10	0.85±0.15	1.25±0.10	1.60±0.20
272	2700pF	0.80±0.15	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.60±0.20
332	3300pF	0.80±0.15	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.60±0.20
392	3900pF	0.80±0.15	0.80±0.10	0.80±0.10	0.80±0.10	0.80±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	
472	4700pF	0.80±0.15	0.80±0.10	0.80±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	
562	5600pF	0.80±0.15	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	
682	6800pF	0.80±0.15	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	
822	8200pF	0.80±0.15	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	
103	0.01uF	0.80±0.15	0.80±0.10	0.80±0.10	1.25±0.10	1.25±0.10	1.25±0.10	0.80±0.10	0.95±0.10	0.95±0.10	1.25±0.10	
123	0.012uF		1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10		1.25±0.10	1.25±0.10	1.25±0.20	1.60±0.20	
153	0.015uF		1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10		1.25±0.10	1.25±0.10	1.25±0.10	1.60±0.20	
183	0.018uF		1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10		1.25±0.10	1.25±0.10	1.25±0.10		
223	0.022uF		1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10		1.25±0.10	1.60±0.20	1.60±0.20		
273	0.027uF		1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10		1.25±0.10	1.60±0.20	1.60±0.20		
333	0.033uF		1.25±0.10	1.25±0.10	1.25±0.10			1.60±0.20	1.60±0.20	1.60±0.20		
393	0.039uF		1.25±0.10	1.25±0.10				1.60±0.20	1.60±0.20	1.60±0.20		
473	0.047uF		1.25±0.20	1.25±0.10				0.85±0.15	1.25±0.20	1.60±0.20		
563	0.056uF		1.25±0.10	1.25±0.10				1.60±0.20	1.60±0.20	1.60±0.20		
683	0.068uF		1.25±0.10	1.25±0.10				1.60±0.20	1.60±0.20			
823	0.082uF		1.25±0.10					1.60±0.20				
104	0.10uF		1.25±0.10	0.85±0.15				1.60±0.20				
124	0.12uF							1.60±0.20				
154	0.15uF							1.60±0.20				
184	0.18uF							1.60±0.20				
224	0.22uF							1.60±0.20				
274	0.27uF											
334	0.33uF											
394	0.39uF											
474	0.47uF											
564	0.56uF											
684	0.68uF											
824	0.82uF											
105	1.0uF											
155	1.5uF											
225	2.2uF											

Note: Additional values may be available. Please contact us for more information. Due to demand and raw material fluctuations, specific values may not be available.

VOLTAGE AND CAPACITANCE RANGE

Values that are typically available.

X7R DIELECTRIC

All measurements in mm

SIZE		1210					1808					
VDCW (MAX)		200V / 250V	500V	600V / 630V	1kV	2kV	500V	600V / 630V	1kV	2kV	3kV	4kV
101	100pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10						
121	120pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10						
151	150pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10		1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20
181	180pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20
221	220pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20
271	270pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20
331	330pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20	2.00±0.20
391	390pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20	2.00±0.20
471	470pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20	1.60±0.20
561	560pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20	2.00±0.20
681	680pF	0.95±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20	2.00±0.20
821	820pF	0.95±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20	2.00±0.20
102	1000pF	0.95±0.10	1.25±0.10	1.25±0.10			1.25±0.10	1.25±0.10	1.25±0.20	1.25±0.20	1.25±0.20	2.00±0.20
122	1200pF	0.95±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.50±0.30	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20	2.00±0.20	
152	1500pF	0.95±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.00±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20	1.25±0.20	
182	1800pF	0.95±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.50±0.30	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20	2.00±0.20	
222	2200pF	0.95±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.20	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.20	2.00±0.20	
272	2700pF	0.95±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.50±0.30	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.20	2.00±0.20	
332	3300pF	0.95±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.50±0.30	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.20	2.00±0.20	
392	3900pF	0.95±0.10	1.25±0.10	1.25±0.10	1.60±0.20	2.50±0.30	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.20	1.60±0.20	
472	4700pF	0.95±0.10	1.25±0.10	1.25±0.10	1.60±0.20	1.60±0.20	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20	2.00±0.20	
562	5600pF	0.95±0.10	1.25±0.10	1.25±0.10	1.60±0.20	2.50±0.30	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	
682	6800pF	0.95±0.10	1.25±0.10	1.25±0.10	1.60±0.20	2.50±0.30	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20		
822	8200pF	0.95±0.10	1.25±0.10	1.25±0.10	1.60±0.20	2.50±0.30	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20		
103	0.01uF	0.95±0.10	1.25±0.10	1.25±0.10	1.60±0.20		2.00±0.20	2.00±0.20	2.00±0.20	1.60±0.20		
123	0.012uF	0.95±0.10	1.25±0.10	1.25±0.10	1.60±0.20		2.00±0.20	2.00±0.20	2.00±0.20			
153	0.015uF	0.95±0.10	1.25±0.10	1.25±0.10	1.60±0.20		2.00±0.20	2.00±0.20	2.00±0.20			
183	0.018uF	0.95±0.10	1.25±0.10	1.25±0.10	1.60±0.20		2.00±0.20	2.00±0.20	2.00±0.20			
223	0.022uF	0.95±0.10	1.25±0.10	1.25±0.10	1.60±0.20		2.00±0.20	2.00±0.20	2.00±0.20			
273	0.027uF	0.95±0.10	1.60±0.20	1.60±0.20	1.60±0.20		2.00±0.20	2.00±0.20	2.00±0.20			
333	0.033uF	0.95±0.10	1.00±0.10	1.60±0.20	1.60±0.20		2.00±0.20	2.00±0.20	2.00±0.20			
393	0.039uF	0.95±0.10	1.60±0.20	1.60±0.20	2.00±0.20		2.00±0.20	2.00±0.20	2.00±0.20			
473	0.047uF	1.25±0.10	1.60±0.20	1.60±0.20	2.50±0.30		2.00±0.20	2.00±0.20	2.00±0.20			
563	0.056uF	1.25±0.10	1.60±0.20	1.60±0.20			2.00±0.20	2.00±0.20	2.00±0.20			
683	0.068uF	1.60±0.20	2.00±0.20	2.00±0.20			2.00±0.20	2.00±0.20				
823	0.082uF	1.60±0.20	2.00±0.20	2.00±0.20			2.00±0.20	2.00±0.20				
104	0.10uF	1.60±0.20	2.00±0.20	2.00±0.20								
124	0.12uF	1.60±0.20	2.50±0.30	2.50±0.30								
154	0.15uF	2.50±0.30	2.50±0.30	2.50±0.30								
184	0.18uF	2.50±0.30										
224	0.22uF	1.25±0.20										
274	0.27uF	2.50±0.30										
334	0.33uF	2.50±0.30										
394	0.39uF	2.50±0.30										
474	0.47uF	2.50±0.30										
564	0.56uF	2.50±0.30										
684	0.68uF	2.50±0.30										
824	0.82uF											
105	1.0uF											
155	1.5uF											
225	2.2uF											

Note: Additional values may be available. Please contact us for more information. Due to demand and raw material fluctuations, specific values may not be available.

VOLTAGE AND CAPACITANCE RANGE

Values that are typically available.

X7R DIELECTRIC

All measurements in mm

SIZE		1812						1825				
		200V / 250V	500V	600V / 630V	1kV	2kV	3kV	200V / 250V	500V	600V / 630V	1kV	2kV
101	100pF											
121	120pF											
151	150pF											
181	180pF											
221	220pF											
271	270pF				1.25±0.10	1.25±0.10	1.25±0.20					
331	330pF				1.25±0.10	1.25±0.10	2.00±0.20					
391	390pF				1.25±0.10	1.25±0.10	2.00±0.20					
471	470pF				1.25±0.10	1.25±0.10	1.25±0.20					
561	560pF				1.25±0.10	1.25±0.10	2.00±0.20					
681	680pF				1.25±0.10	1.25±0.10	2.00±0.20					
821	820pF				1.25±0.10	1.25±0.10	2.00±0.20					
102	1000pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.20	1.25±0.10	1.25±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	
122	1200pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20
152	1500pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20
182	1800pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20
222	2200pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.50±0.30	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20
272	2700pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.60±0.20	2.50±0.30	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20
332	3300pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.20		2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20
392	3900pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20	2.50±0.30	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20
472	4700pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20	2.50±0.30	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20
562	5600pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.20	2.50±0.30	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20
682	6800pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.20	2.50±0.30	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20
822	8200pF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	2.50±0.30		2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20
103	0.01uF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.10	1.60±0.20		2.00±0.20	1.25±0.20	2.00±0.20	2.00±0.20	1.25±0.20
123	0.012uF	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20			2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30
153	0.015uF	1.25±0.10	1.25±0.10	1.25±0.10	2.00±0.20			2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30
183	0.018uF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.20			2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30
223	0.022uF	1.25±0.10	1.25±0.10	1.25±0.10	2.50±0.30			2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30
273	0.027uF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.20			2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.80±0.30
333	0.033uF	1.25±0.10	1.25±0.10	1.25±0.10	1.25±0.20	2.80±0.20		2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.80±0.30
393	0.039uF	1.25±0.10	1.25±0.10	1.25±0.10	2.50±0.30			2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.80±0.30
473	0.047uF	1.25±0.10	1.25±0.10	1.25±0.10	2.50±0.30			2.00±0.20	2.00±0.20	2.00±0.20	1.25±0.20	2.80±0.30
563	0.056uF	1.25±0.10	2.00±0.20	2.00±0.20	2.50±0.30			2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	
683	0.068uF	1.25±0.10	2.00±0.20	2.00±0.20	2.50±0.30			2.00±0.20	1.25±0.20	2.00±0.20	2.00±0.20	
823	0.082uF	1.25±0.10	2.00±0.20	2.00±0.20	2.50±0.30			2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30	
104	0.10uF	1.25±0.10	2.00±0.20	2.00±0.20	2.50±0.30			2.00±0.20	1.25±0.20	2.00±0.20	1.60±0.20	
124	0.12uF	1.25±0.10	2.50±0.30	2.50±0.30				2.00±0.20	2.00±0.20	2.00±0.20		
154	0.15uF	2.00±0.20	2.50±0.30	2.50±0.30				1.25±0.20	2.00±0.20	2.00±0.20		
184	0.18uF	2.00±0.20	2.50±0.30	2.50±0.30				2.00±0.20	2.00±0.20	2.00±0.20		
224	0.22uF	2.00±0.20	2.50±0.30	2.50±0.30				2.00±0.20	1.60±0.20	2.00±0.20		
274	0.27uF	2.00±0.20	2.50±0.30					2.00±0.20	2.00±0.20	2.00±0.20		
334	0.33uF	2.00±0.20	2.50±0.30					2.00±0.20	2.00±0.20	2.00±0.20		
394	0.39uF	2.00±0.20	2.50±0.30					2.00±0.20	2.00±0.20	2.00±0.20		
474	0.47uF	2.50±0.30	2.50±0.30					2.00±0.20	2.00±0.20	2.00±0.20		
564	0.56uF	2.50±0.30						2.00±0.20	2.50±0.30	2.50±0.30		
684	0.68uF	2.50±0.30						1.25±0.20				
824	0.82uF	2.50±0.30						2.00±0.20				
105	1.0uF	2.50±0.30						1.60±0.20				
155	1.5uF											
225	2.2uF											

Note: Additional values may be available. Please contact us for more information. Due to demand and raw material fluctuations, specific values may not be available.

VOLTAGE AND CAPACITANCE RANGE

Values that are typically available.

X7R DIELECTRIC

All measurements in mm

SIZE		2220					2225				
VDCW (MAX)		200V / 250V	500V	1kV	2kV	3kV	200V / 250V	500V	1kV	2kV	3kV
101	100pF										
121	120pF										
151	150pF										
181	180pF										
221	220pF										
271	270pF										
331	330pF										
391	390pF										
471	470pF										
561	560pF										
681	680pF										
821	820pF										
102	1000pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20
122	1200pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20
152	1500pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20
182	1800pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20
222	2200pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20
272	2700pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20
332	3300pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20
392	3900pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	1.25±0.20
472	4700pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20
562	5600pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30
682	6800pF	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30	2.00±0.20	2.00±0.20	2.00±0.20	1.25±0.20	2.50±0.30
822	8200pF	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30	2.50±0.30	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30
103	0.01uF	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30	2.50±0.30	2.00±0.20	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30
123	0.012uF	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30	2.80±0.30	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30	2.50±0.30
153	0.015uF	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30	2.80±0.30	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30	2.50±0.30
183	0.018uF	2.00±0.20	2.00±0.20	2.00±0.20	2.80±0.30	2.80±0.30	2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30	2.80±0.30
223	0.022uF	2.00±0.20	2.00±0.20	2.00±0.20	2.80±0.30		2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30	
273	0.027uF	2.00±0.20	2.00±0.20	2.00±0.20	2.80±0.30		2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30	
333	0.033uF	2.00±0.20	2.00±0.20	2.00±0.20	2.80±0.30		2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30	
393	0.039uF	2.00±0.20	2.00±0.20	2.00±0.20	2.80±0.30		2.00±0.20	2.00±0.20	2.00±0.20	2.80±0.30	
473	0.047uF	2.00±0.20	2.00±0.20	2.00±0.20	2.80±0.30		2.00±0.20	2.00±0.20	1.25±0.20	2.80±0.30	
563	0.056uF	2.00±0.20	2.00±0.20	2.00±0.20	2.80±0.30		2.00±0.20	2.00±0.20	2.00±0.20	2.80±0.30	
683	0.068uF	2.00±0.20	2.00±0.20	2.50±0.30			2.00±0.20	2.00±0.20	2.00±0.20		
823	0.082uF	2.00±0.20	2.00±0.20	2.50±0.30			2.00±0.20	2.00±0.20	2.00±0.20		
104	0.10uF	2.00±0.20	2.00±0.20	2.50±0.30			2.00±0.20	2.00±0.20	2.50±0.30		
124	0.12uF	2.00±0.20	2.00±0.20	2.50±0.30			2.00±0.20	2.00±0.20	2.80±0.30		
154	0.15uF	2.00±0.20	2.00±0.20	2.80±0.30			2.00±0.20	2.00±0.20	2.80±0.30		
184	0.18uF	2.00±0.20	2.00±0.20	2.80±0.30			2.00±0.20	2.00±0.20	2.80±0.30		
224	0.22uF	2.00±0.20	2.00±0.20	2.80±0.30			2.00±0.20	1.25±0.20	2.80±0.30		
274	0.27uF	2.00±0.20	2.00±0.20				2.00±0.20	2.00±0.20			
334	0.33uF	2.00±0.20	1.60±0.20				2.00±0.20	2.00±0.20			
394	0.39uF	2.00±0.20	2.00±0.20				2.00±0.20	1.60±0.20			
474	0.47uF	2.00±0.20	2.00±0.20				2.00±0.20	2.00±0.20			
564	0.56uF	2.00±0.20	2.50±0.30				2.00±0.20	2.00±0.20			
684	0.68uF	2.00±0.20	2.50±0.30				2.00±0.20				
824	0.82uF	2.00±0.20	2.80±0.30				2.00±0.20				
105	1.0uF	1.25±0.20	2.80±0.30				1.25±0.20				
155	1.5uF	2.50±0.30					2.50±0.30				
225	2.2uF	2.40±0.20					2.50±0.30				

Note: Additional values may be available. Please contact us for more information. Due to demand and raw material fluctuations, specific values may not be available.

VOLTAGE AND CAPACITANCE RANGE

X7T DIELECTRIC

Values that are typically available.

All measurements in inches (mm)

SIZE		1206				1210			
VDCW (MAX)		250V	400V	450V	630V	250V	400V	450V	630V
182	1800pF								
222	2200pF								
272	2700pF								
332	3300pF								
392	3900pF								
472	4700pF								
562	5600pF								
682	6800pF								
822	8200pF								
103	0.01uF	0.85±0.15	0.95±0.10	0.95±0.10	0.95±0.10				
123	0.012uF		0.95±0.10	0.95±0.10	1.25±0.10				
153	0.015uF	0.85±0.15	0.95±0.10	0.95±0.10	1.25±0.10				
183	0.018uF		0.95±0.10	0.95±0.10	1.25±0.10				
223	0.022uF	0.85±0.15	0.95±0.10	0.95±0.10	1.25±0.10				0.95±0.10
273	0.027uF		1.25±0.10	1.25±0.10	1.60±0.20				1.25±0.10
333	0.033uF	0.85±0.15	1.25±0.10	1.25±0.10	1.60±0.20	1.00+0.1/-0.05			1.25±0.10
393	0.039uF	0.85±0.15	1.25±0.10	1.25±0.10	1.60±0.20				1.25±0.10
473	0.047uF	0.95±0.10	1.60±0.20	1.60±0.20	1.60+0.30/-0.10	1.25±0.20			1.25±0.10
563	0.056uF	0.95±0.10	1.60±0.20	1.60±0.20					1.60±0.20
683	0.068uF	0.95±0.10	1.60±0.20	1.60±0.20	1.60±0.20	1.25±0.10	1.25±0.10		1.60±0.20
823	0.082uF	1.25±0.10	1.60+0.30/-0.10	1.60+0.30/-0.10		1.25±0.10	1.25±0.10		1.60±0.20
104	0.10uF	1.25±0.10	1.60±0.20	1.60±0.20		0.95±0.10	1.60±0.20	1.60±0.20	1.60±0.20
124	0.12uF	1.60±0.20				0.95±0.10	1.60±0.20	1.60±0.20	2.00±0.20
154	0.15uF	1.60±0.20				1.25±0.10	2.00±0.20	2.00±0.20	2.00±0.20
184	0.18uF	1.60±0.20				1.25±0.10	2.00±0.20	2.00±0.20	
224	0.22uF	1.60+0.30/-0.10				1.60±0.20	2.00±0.20	2.00±0.20	
274	0.27uF					1.60±0.20			
334	0.33uF					2.00±0.20	2.00±0.20		
394	0.39uF					2.00±0.20			
474	0.47uF								
564	0.56uF								
684	0.68uF								
824	0.82uF								
105	1.0uF								
155	1.5uF								
225	2.2uF								

Note: Additional values may be available. Please contact us for more information. Due to demand and raw material fluctuations, specific values may not be available.

VOLTAGE AND CAPACITANCE RANGE

X7T DIELECTRIC

Values that are typically available.

All measurements in inches (mm)

SIZE		1812				2220			
VDCW (MAX)		250V	400V	450V	630V	250V	400V	450V	630V
182	1800pF								
222	2200pF								
272	2700pF								
332	3300pF								
392	3900pF								
472	4700pF								
562	5600pF								
682	6800pF								
822	8200pF								
103	0.01uF								
123	0.012uF								
153	0.015uF								
183	0.018uF								
223	0.022uF								
273	0.027uF								
333	0.033uF								
393	0.039uF								
473	0.047uF								
563	0.056uF								
683	0.068uF				1.25±0.10				
823	0.082uF				1.25±0.10				
104	0.10uF				1.60±0.20				2.00±0.20
124	0.12uF				1.60±0.20				2.00±0.20
154	0.15uF		1.60±0.20	1.60±0.20	1.60±0.20				2.00±0.20
184	0.18uF		1.60±0.20	1.60±0.20	2.00±0.20				2.00±0.20
224	0.22uF	1.25±0.10	2.00±0.20	1.60±0.20	2.00±0.20		2.00±0.20	2.00±0.20	2.00±0.20
274	0.27uF	1.25±0.10	2.00±0.20	2.00±0.20	2.50±0.30		2.00±0.20	2.00±0.20	2.00±0.20
334	0.33uF	1.25±0.10	2.00±0.20	2.00±0.20			2.00±0.20	2.00±0.20	2.00±0.20
394	0.39uF	1.60±0.20	2.50±0.30	2.50±0.30			2.00±0.20	2.00±0.20	2.50±0.30
474	0.47uF	1.60±0.20	2.50±0.30	2.50±0.30		2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30
564	0.56uF	1.60±0.20				2.00±0.20	2.00±0.20	2.00±0.20	2.50±0.30
684	0.68uF	1.60±0.20				2.00±0.20	2.00±0.20	2.00±0.20	
824	0.82uF	2.00±0.20				2.00±0.20	2.50±0.30	2.50±0.30	
105	1.0uF	2.50±0.30				2.00±0.20	2.50±0.30	2.50±0.30	
155	1.5uF					2.00±0.20			
225	2.2uF					2.50±0.30			

Note: Additional values may be available. Please contact us for more information. Due to demand and raw material fluctuations, specific values may not be available.

ENVIRONMENTAL CHARACTERISTICS

NO	ITEM	TEST CONDITION	PERFORMANCE												
1	APPEARANCE	No abnormal exterior appearance	* No remarkable defect. * Dimensions to conform to individual specification sheet.												
2	INSULATION RESISTANCE	* Test temp.: Room Temperature. Rated voltage: 200-630V To apply rated voltage (500V max.) for 60 sec.	≥10GΩ or RxC≥100Ω·F whichever is smaller												
		* Test temp.: Room Temperature. Rated voltage: ≥630V To apply 500V for 60 sec.													
4	CAPACITANCE	* Test temp.: Room Temperature. Class I: (NPO) Cap≤1000pF, 1.0±0.2Vrms, 1MHz±10% Cap>1000pF, 1.0±0.2Vrms, 1kHz±10% Class II: (X7R) 1.0±0.2Vrms, 1kHz±10%	Shall not exceed the limits given in the detailed spec.												
5	Q	*Before initial measurement (Class II only): To apply de-aging at 150°C for 1hr then set for 24±2 hrs at room temp .	NPO: Cap≥30pF, Q≥1000; Cap<30pF, Q≥400+20C X7R: ≤2.5%												
6	DIELECTRIC STRENGTH	* To apply voltage: 200V-300V ≥2 times VDC 400V-450V ≥1.2 times VDC 500V-999V ≥1.5 times VDC 1000V-3000V ≥1.2 times VDC 4000V ≥1.1 times VDC * Duration: 1 to 5 sec. * Charge & discharge current less than 50mA.	* No evidence of damage or flash over during test.												
7	CAPACITANCE TEMPERATURE COEFFICIENT	With no electrical load. <table border="1" data-bbox="461 1188 937 1293"> <thead> <tr> <th>Dielectric</th> <th>Operating Temp.</th> </tr> </thead> <tbody> <tr> <td>NPO</td> <td>-55-125°C at 25°C</td> </tr> <tr> <td>X7R</td> <td>-55-125°C at 25°C</td> </tr> </tbody> </table> *Before initial measurement (Class II only): To apply de-aging at 150°C for 1hr then set for 24±2 hrs at room temp .	Dielectric	Operating Temp.	NPO	-55-125°C at 25°C	X7R	-55-125°C at 25°C	<table border="1" data-bbox="1021 1218 1455 1320"> <thead> <tr> <th>T.C.</th> <th>Capacitance Change</th> </tr> </thead> <tbody> <tr> <td>NPO</td> <td>Within ±30ppm/°C</td> </tr> <tr> <td>X7R</td> <td>Within ±15%</td> </tr> </tbody> </table>	T.C.	Capacitance Change	NPO	Within ±30ppm/°C	X7R	Within ±15%
Dielectric	Operating Temp.														
NPO	-55-125°C at 25°C														
X7R	-55-125°C at 25°C														
T.C.	Capacitance Change														
NPO	Within ±30ppm/°C														
X7R	Within ±15%														
8	ADHESIVE STRENGTH OF TERMINATION	* Pressurizing force: 5N (≤0603) and 10N (>0603) * Test time: 10±1 sec.	* No remarkable damage or removal of the terminations.												
9	VIBRATION RESISTANCE	* Vibration frequency: 10-55 Hz/min. * Total amplitude: 1.5mm * Test time: 6 hrs. (Two hrs each in three mutually perpendicular directions.) *Before initial measurement (Class II only): To apply de-aging at 150°C for 1hr then set for 24±2 hrs at room temp . *Cap./DF(Q) Measurement to be made after de-aging at 150°C for 1hr then set for 24±2 hrs at room temp.	* No remarkable damage. * Cap change and Q/DF.: To meet initial spec.												
10	SOLDERABILITY	* Solder temperature: 235±5°C * Dipping time: 2±0.5 sec.	95% min. coverage of all metalized area.												


ENVIRONMENTAL CHARACTERISTICS

NO	ITEM	TEST CONDITION	PERFORMANCE															
11	BENDING TEST	<p>* The middle part of substrate shall be pressurized by means of the pressurizing rod at a rate of about 1 mm per second until the deflection becomes 1 mm and then the pressure shall be maintained for 5±1 sec.</p> <p>*Before initial measurement (Class II only): To apply de-aging at 150°C for 1hr then set for 24±2 hrs at room temp.</p> <p>* Measurement to be made after keeping at room temp. for 24±2 hrs.</p>	<p>* No remarkable damage.</p> <p>* Cap change: NPO: within ±5.0% or ±0.5pF whichever is larger. X7R: within ±12.5%</p> <p>(This capacitance change means the change of capacitance under specified flexure of substrate from the capacitance measured before the test.)"</p>															
12	RESISTANCE TO SOLDERING HEAT	<p>* Solder temperature: 260±5°C * Dipping time: 10±1 sec * Preheating: 120 to 150°C for 1 minute before immerse the capacitor in a eutectic solder.</p> <p>*Before initial measurement (Class II only): To apply de-aging at 150°C for 1hr then set for 24±2 hrs at room temp . *Cap. / DF(Q) / I.R. Measurement to be made after de-aging at 150°C for 1hr then set for 24±2 hrs at room temp.</p>	<p>* No remarkable damage.</p> <p>* Cap change: NPO: within ±2.5% or ±0.25pF whichever is larger. X7R: within ±7.5%</p> <p>* Q/D.F., I.R. and dielectric strength: To meet initial requirements. * 25% max. leaching on each edge."</p>															
13	TEMPERATURE CYCLE	<p>* Conduct the five cycles according to the temperatures and time.</p> <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Step</th> <th>Temp. (°C)</th> <th>Time (min.)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Min. operating temp. +0/-3</td> <td>30±3</td> </tr> <tr> <td>2</td> <td>Room temp.</td> <td>2-3</td> </tr> <tr> <td>3</td> <td>Max. operating temp. +3/-0</td> <td>30±3</td> </tr> <tr> <td>4</td> <td>Room temp.</td> <td>2-3</td> </tr> </tbody> </table> <p>*Before initial measurement (Class II only): To apply de-aging at 150°C for 1hr then set for 24±2 hrs at room temp . * Cap. / DF(Q) / I.R. Measurement to be made after de-aging at 150°C for 1hr then set for 24±2 hrs at room temp .</p>	Step	Temp. (°C)	Time (min.)	1	Min. operating temp. +0/-3	30±3	2	Room temp.	2-3	3	Max. operating temp. +3/-0	30±3	4	Room temp.	2-3	<p>* No remarkable damage.</p> <p>* Cap change: NPO: within ±2.5% or ±0.25pF whichever is larger. X7R: within ±7.5%</p> <p>* Q/D.F., I.R. and dielectric strength: To meet initial requirements.</p>
Step	Temp. (°C)	Time (min.)																
1	Min. operating temp. +0/-3	30±3																
2	Room temp.	2-3																
3	Max. operating temp. +3/-0	30±3																
4	Room temp.	2-3																
14	HUMIDITY (DAMP HEAT) STEADY STATE	<p>* Test temp.: 40±2°C * Humidity: 90-95% RH * Test time: 500+24/-0hrs.</p> <p>*Before initial measurement (Class II only): To apply de-aging at 150°C for 1hr then set for 24±2 hrs at room temp . * Cap. / DF(Q) / I.R. Measurement to be made after de-aging at 150°C for 1hr then set for 24±2 hrs at room temp .</p>	<p>* No remarkable damage.</p> <p>* Cap change: NPO: within ±5.0% or ±0.5pF whichever is larger. X7R: within ±12.5%</p> <p>* Q/D.F. value: NPO: Cap≥30pF, Q≥350; 10pF≤Cap<30pF, Q≥275+2.5C Cap<10pF; Q≥200+10C X7R: ≤3.0%</p> <p>* I.R.: ≥1GΩ or RxC≥50Ω-F whichever is smaller.</p>															
15	HUMIDITY (DAMP HEAT) LOAD	<p>* Test temp.: 40±2°C * Humidity: 90-95%RH * Test time: 500+24/-0 hrs.</p> <p>* To apply voltage: rated voltage (Max. 500V)</p> <p>*Before initial measurement (Class II only): To apply de-aging at 150°C for 1hr then set for 24±2 hrs at room temp . * Cap. / DF(Q) / I.R. Measurement to be made after de-aging at 150°C for 1hr then set for 24±2 hrs at room temp .</p>	<p>* No remarkable damage.</p> <p>* Cap change: NPO: within ±7.5% or ±0.75pF whichever is larger. X7R: within ±12.5%</p> <p>* Q/D.F. value: NPO: Cap≥30pF, Q≥200; Cap<30pF, Q≥100+10/3C X7R: ≤3.0%</p> <p>* I.R.: ≥500MΩ or RxC≥25Ω-F whichever is smaller.</p>															
16	HIGH TEMPERATURE LOAD (ENDURANCE)	<p>* Test temp.: NPO, X7R: 125±3°C</p> <p>* To apply voltage: (1) 1206/NP0 (3kV) ≥1.5pF: 100% of rated voltage. 1812/NP0/472&1812/NP0/562(1KV): 100% of rated voltage. (2) 200V-300V: 200% of rated voltage. (3) 400V-450V: 120% of rated voltage. (4) 500V: 150% of rated voltage. (5) 630V-3000V: 120% of rated voltage. (6) 4000V: 110% of rated voltage.</p> <p>* Test time: 1000+24/-0 hrs.</p> <p>*Before initial measurement (Class II only): To apply de-aging at 150°C for 1hr then set for 24±2 hrs at room temp . * Cap. / DF(Q) / I.R. Measurement to be made after de-aging at 150°C for 1hr then set for 24±2 hrs at room temp.</p>	<p>* No remarkable damage.</p> <p>* Cap change: NPO: within ±3.0% or ±0.3pF whichever is larger. X7R: within ±12.5%</p> <p>* Q/D.F. value: NPO: Cap≥30pF, Q≥350 10pF≤Cap<30pF, Q≥275+2.5C Cap<10pF Q≥200+10C X7R: ≤3.0%</p> <p>* I.R.: ≥1GΩ or RxC≥50Ω-F whichever is smaller.</p>															

*Room condition-- Temperature: 15° to 35°C, Relative humidity: 25 to 75%, Atmospheric pressure: 86 to 106kPa.

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