

Ultra Small series

◆ Features

- » High capacitance in unit size
- » High precision dimensional tolerances
- » Suitable used in high-accuracy automatic mounting machine

◆ Application

- » Miniature microwave module
- » Portable equipments (ex. Mobile phone, PDA)
- » High frequency circuits

◆ Part Number

CC	01005	N	100	C	160
Series	Size	Dielectric	Capacitance	Tolerance	Rated voltage
CC	Inch: 01005	N: NPO (COG) X: X7R B: X5R	Two significant Digits followed by no. of zeros and P is in place of decimal point Eg.: 0P5 = 0.5pF 1P0 = 1.0pF 100 = 10×10^0 = 10pF	B=±0.1pF C=±0.25pF D=±0.5pF J=±5% K=±10% M=±20%	Two significant Digits followed by no. of zeros and V is in place of decimal point 6V3 = 6.3 VDC 100= 10 VDC 160= 16 VDC

◆ General Electrical Data

Dielectric	NPO	X7R	X5R
Capacitance	0.2pF to 100pF	100pF to 1000pF	680pF to 0.1uF
Capacitance tolerance**	Cap<10pF: B(±0.1pF), C(±0.25pF), D(±0.5pF) Cap ≥ 10 pF: J(±5%)	K(±10%), M(±20%)	
Rated voltage (WVDC)	16V	10V	6.3V, 10V
DF / Q*	Cap<30pF, Q ≥ 400+20C Cap ≥ 30pF, Q ≥ 1000	≤ 3.5%	≤ 10%
Insulation resistance at Ur	≥ 10GΩ or RxC ≥ 500Ω *F which is less		RxC ≥ 50Ω *F
Operation temperature	-55 to +125°C	-55 to +125°C	-55 to +85°C
Capacitance change	±30ppm	±15%	
Termination	Ni/Sn (lead-free termination)		

*Measured at 30~70% related humidity

NPO: Apply 0.5~5Vrms, 1.0Mhz±10% at the condition of 25°C ambient temperature.

X7R: Apply 1±0.2Vrms, 1.0kHz ±10%, at the condition of 25°C ambient temperature.

X5R: Apply 0.5±0.2Vrms, 1.0kHz ±10%, at the condition of 25°C ambient temperature.

** Preconditioning for Class II MLCC: perform a heat treatment at 150±10°C for 1 hour, then leave in ambient condition for 24±2 hours before measurement.

◆ Capacitance Range

NPO	
Dielectric	01005
Rated Voltage	16VDC
0.2pF (0P2)	
0.3pF (0P3)	
0.4pF (0P4)	
0.5pF (0P5)	
0.6pF (0P6)	
0.7pF (0P7)	
0.8pF (0P8)	
0.9pF (0P9)	
1.0pF (1P0)	
1.2pF (1P2)	
1.5pF (1P5)	
1.8pF (1P8)	
2.0pF (2P0)	
2.2pF (2P2)	
2.7pF (2P7)	
3.0pF (3P0)	
3.3pF (3P3)	
3.9pF (3P9)	
4.0pF (4P0)	
4.7pF (4P7)	
5.0pF (5P0)	
5.6pF (5P6)	
6.0pF (6P0)	
6.8pF (6P8)	
7.0pF (7P0)	
8.0pF (8P0)	
8.2pF (8P2)	
9.0pF (9P0)	
10pF (100)	
12pF (120)	
15pF (150)	
18pF (180)	
22pF (220)	
27pF (270)	
33pF (330)	
39pF (390)	
47pF (470)	
56pF (560)	
68pF (680)	
82pF (820)	
100pF (101)	

X7R	
Dielectric	01005
Rated Voltage	10VDC
100pF (101)	
120pF (121)	
150pF (151)	
180pF (181)	
220pF (221)	
270pF (271)	
330pF (331)	
390pF (391)	
470pF (471)	
1000pF (102)	

X5R		
Dielectric	01005	
Rated Voltage	6.3VDC	10VDC
680pF (681)		
1000pF (102)		
1500pF (152)		
2200pF (222)		
3300pF (332)		
4700pF (472)		
6800pF (682)		
0.010uF (103)		
0.022uF (223)		
0.033uF (333)		
0.047uF (473)		
0.068uF (683)		
0.10uF (104)		