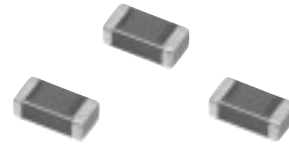


Multilayer Ceramic Capacitors (630V series)

Series: **ECJ**



■ Features

- Miniaturized for high density mounting
- High humidity resistance and long life
- Low inductance (ESL) and excellent frequency characteristics
- RoHS compliant

■ Recommended Applications

- Noise reduction for switching power supplies and DC to DC converters

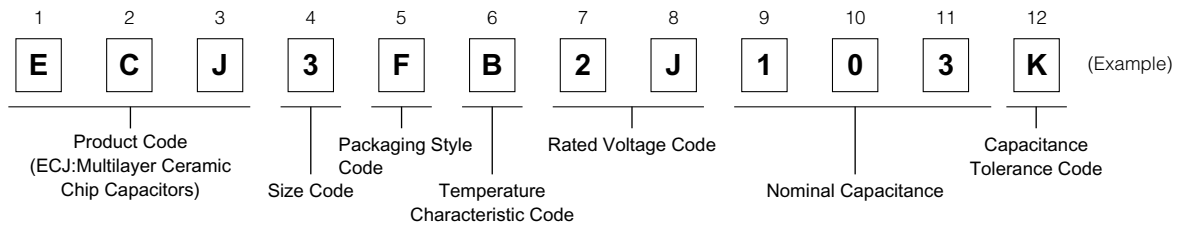
■ Handling Precautions

The handling precautions are described in the specifications. Please read them before purchase or use.

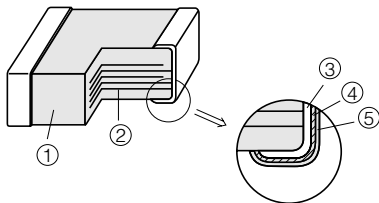
■ Packaging Specifications

See Page 45, 46, 56

■ Explanation of Part Numbers

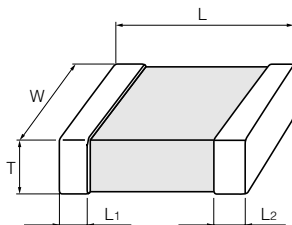


■ Construction



No	Name	
①	Ceramic dielectric	
②	Internal electrode	
③	Terminal electrode	Substrate electrode
④		Intermediate electrode
⑤		External electrode

■ Dimensions in mm (not to scale)



Size Code	Size (EIA)	L	W	T	L ₁ , L ₂
3	1206	3.20±0.15	1.60±0.15	0.85±0.10 1.15±0.10	0.6±0.3

■ Packaging Styles and Standard Packaging Quantities

Quantity : pcs./reel

Packaging Style Code	Packaging Styles	Thickness (mm)	Size 1206	
			T=0.85	T=1.15
V	φ180 reel	Paper taping (Pitch: 4 mm)	4,000	—
F		Embossed taping (Pitch: 4 mm)	—	3,000

Design and specifications are each subject to change without notice. Ask factory for the current technical specifications before purchase and/or use. Should a safety concern arise regarding this product, please be sure to contact us immediately.

00 Apr. 2008

Temperature Characteristics

● Class 1

Temperature Characteristic Code	Temperature Characteristics	Temp. Coeff. (ppm/°C)	Rate of Capacitance change at each Temp. (%)			
			-25 °C		85 °C	
			max.	min.	max.	min.
C	CH	0 ± 60	0.49	-0.27	0.39	-0.39

Note: Temperature coefficient: calculated between 20 °C to 85 °C

● Class 2

Temperature Characteristic Code	Temperature Characteristics	Capacitance Change	Measurement Temperature Range	Reference Temperature
B	B	±10 %	-25 to 85 °C	20 °C
	X7R	±15 %	-55 to 125 °C	25 °C

For applicable "temperature characteristics", see the lists of standard products on page 38.

Rated Voltage

Code	2J
Rated Voltage	DC 630 V

Nominal Capacitance

Ex.	101	102	103
Nominal Capacitance	100 pF	1,000 pF	10,000 pF (0.01 μF)

Capacitance tolerance

Class	Temperature Characteristics	Tolerance Code	Capacitance Tolerance
1	CH	J	±5 %
		K	±10 %
2	B, X7R	K	±10 %
		M	±20 %

Specifications and Testing Methods

Item	Specifications		Test Method	
	Class 1	Class 2		
Operating Temperature Range	-55 to 125 °C		—	
Dielectric Withstanding Voltage	No dielectric breakdown and/or damage		Test voltage: Rated voltage × 150 % Duration: 1 to 5 s Charge/discharge current: 50 mA max.	
Insulation Resistance (I.R.)	10000 MΩ min.		Measuring voltage: DC 500 V Duration: 60±5 s Charge / Discharge current: 50 mA max.	
Capacitance	Within the specified tolerance		Measuring temperature: 20±2 °C	
Q Factor or Dissipation Factor (tan δ)	Q:1000 min. tan δ:0.025 max.		Class 1	
			Measuring frequency	1 MHz±10 %
			Measuring voltage	0.5 to 5 Vrms
			Class 2	
			Preconditioning: The capacitors shall be kept in temperature of 150 +0/-10 °C for 1 hour and subjected to standard conditions* for 48±4 hours before initial measurement.	
			Measuring frequency	1 kHz±10 %
Measuring voltage	1.0±0.2 Vrms			

* Standard condition: Temperature 15 to 35 °C, Relative humidity 45 to 75 %.
For further information, see the technical specifications.

Design and specifications are each subject to change without notice. Ask factory for the current technical specifications before purchase and/or use.
Should a safety concern arise regarding this product, please be sure to contact us immediately.

■ Standard Products for EIA Size “1206”, Taped Version

● Class 1

- ◆ Temperature Characteristic Code: C (Temperature Characteristics: CH)

Rated voltage		DC 630 V		
Capacitance (pF)	Capacitance Tolerance	Part No.	Dim. T (mm)	Temp. Char.
				CH
100	±5 % (J) or ±10 % (K)	ECJ3VC2J101□	0.85	○
220		ECJ3VC2J221□	0.85	○
470		ECJ3FC2J471□	1.15	○
680		ECJ3FC2J681□	1.15	○
1000		ECJ3FC2J102□	1.15	○

□: Capacitance tolerance code : “□” for “J” or “K”

Standard packaging quantity of Packaging Style Code “V” (T = 0.85 mm): 4,000 pcs./reel, “F” (T = 1.15 mm): 3,000 pcs./reel
Soldering method of dimension T>1 mm: Avoid flow soldering.

● Class 2

- ◆ Temperature Characteristic Code: B (Temperature Characteristics: B, X7R)

Rated voltage		DC 630 V			
Capacitance (pF)	Capacitance Tolerance	Part No.	Dim. T (mm)	Temp. Char.	
				B	X7R
1000	±10 % (K) or ±20 % (M)	ECJ3FB2J102□	1.15	○	○
2200		ECJ3FB2J222□	1.15	○	○
4700		ECJ3FB2J472□	1.15	○	○
10000		ECJ3FB2J103□	1.15	○	○

□: Capacitance tolerance code : “□” for “K” or “M”

Standard packaging quantity of Packaging Style Code “F” (T = 1.15 mm): 3,000 pcs./reel
Avoid flow soldering.