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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Multilayer Ceramic Capacitors (4 Array Type)

Series: **ECJR, ECJT**



■ Features

- 4 miniature capacitors built within 0805 and 1206 case sizes
- Improved placement time on mounting machines
- Low self-inductance and excellent frequency characteristics
- RoHS compliant

■ Recommended Applications

- Input/Output circuit for computer motherboards
 - Serial port
 - Video port
 - Parallel port

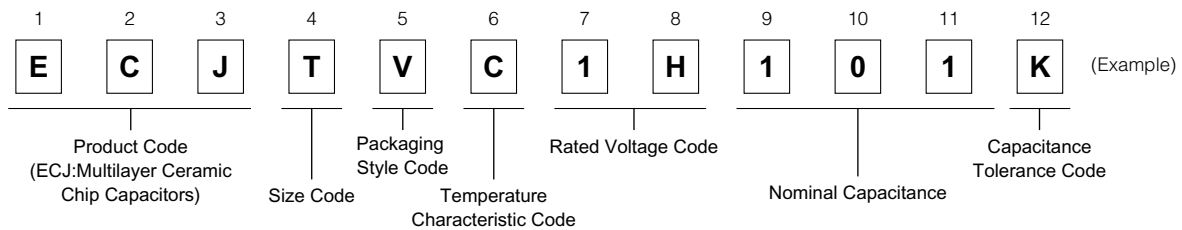
■ Handling Precautions

See Page 48 to 53

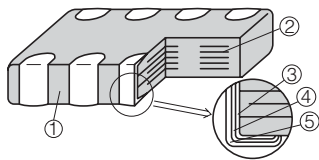
■ Packaging Specifications

See Page 45, 46, 56

■ Explanation of Part Numbers

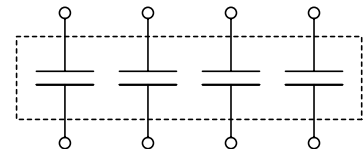


■ Construction

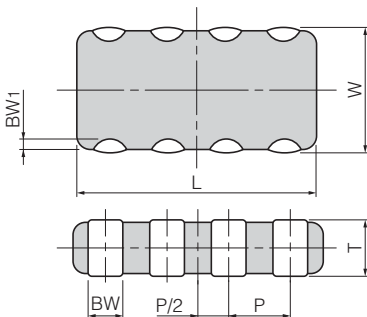


No	Name
①	Ceramic dielectric
②	Internal electrode
③	Substrate electrode
④	Intermediate electrode
⑤	External electrode

Schematic



■ Dimensions in mm (not to scale)



Size Code	Size (EIA)	L	W	T	BW	BW ₁	P
T	0805	2.00±0.15	1.25±0.15	0.85±0.10	0.25±0.10	0.2 ^{+0.3} _{-0.1}	0.5±0.1
R	1206	3.2±0.2	1.6±0.2	0.85±0.10	0.40±0.15	0.2 ^{+0.3} _{-0.1}	0.80±0.1

■ Packaging Styles and Standard Packaging Quantity

Quantity: pcs./reel

Packaging Style Code	Packaging Styles		Size	Quantity	
			0805	1206	
V	φ180 reel	Paper taping (Pitch : 4 mm)	4,000		

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 Sep. 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

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
	X5R	±15 %	-55 to 85 °C	25 °C
F	F	+30, -80 %	-25 to 85 °C	20 °C
	Y5V	+22, -82 %	-30 to 85 °C	25 °C

For applicable "temperature characteristics", see the lists of standard products on page 31 to 32.

Rated Voltage

Code	1H	1E	1C	1A	0J
Rated Voltage	DC 50 V	DC 25 V	DC 16 V	DC 10 V	DC 6.3 V

Nominal Capacitance

Ex.	100	101	104	105
Nominal Capacitance	10 pF	100 pF	100,000 pF (0.1 μF)	1,000,000 pF (1.0 μF)

Capacitance tolerance

Class	Temperature Characteristics		Tolerance Code	Capacitance Tolerance	
1	CH	Capacitance range	C=10 pF	F	±1 pF
			C>10 pF	K	±10 %
2	B, X7R, X5R		M	±20 %	
	F, Y5V		Z	+80, -20 %	

Specifications and Testing Methods

Item	Specifications		Test Method	
	Class 1	Class 2		
Operating Temperature Range	Temp. Char. CH: -55 to 125 °C	Temp. Char. B, X7R: -55 to 125 °C X5R: -55 to 85 °C F, Y5V: -30 to 85 °C	—	
Dielectric Withstanding Voltage	No dielectric breakdown and/or damage		Test voltage: Class 1: Rated voltage × 300 % Class 2: Rated voltage × 250 % Duration: 1 to 5 s Charge/discharge current: 50 mA max.	
Insulation Resistance (IR)	10000 MΩ or 500/C (MΩ) Whichever is less Note: 100/C (MΩ) min. for DC 10 V max. C: Nominal Cap. in μF		Measuring voltage: Rated voltage 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: C < 30 pF: Q≥400+20 C 30 pF≤C≤1000 pF: Q≥1000 C: Nominal Cap. in pF	tan δ: Temp. Char. B, X7R: 0.025 max. X5R: 0.075 max. F, Y5V: 0.125 max. Please see the technical specifications for details.	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 ± for 1 hour and subject 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 "0805", Taped Version

● Class 1

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

Rated voltage		DC 50 V		
Capacitance (pF)	Capacitance Tolerance	Part No.	Dim. T (mm)	Temp. Char.
10	±1 pF (F)	ECJTVC1H100F	0.85	○
22	±10 % (K)	ECJTVC1H220K	0.85	○
47		ECJTVC1H470K	0.85	○
100		ECJTVC1H101K	0.85	○
220		ECJTVC1H221K	0.85	○

Standard packaging quantity of Packaging Style Code "V" (T = 0.85 mm): 4,000 pcs./reel
Avoid flow soldering.

● Class 2

- ◆ Temperature Characteristic Code: B (Temperature Characteristics: B, X7R, X5R)

Rated voltage		DC 50 V			DC 25 V			DC 16 V			DC 10 V		
Capacitance (pF)	Capacitance Tolerance	Part No.	Dim. T (mm)	Temp. Char.		Part No.	Dim. T (mm)	Temp. Char.		Part No.	Dim. T (mm)	Temp. Char.	
				B	X7R			B	X7R			B	X7R
470	±20 % (M)	ECJTVB1H471M	0.85	○	○								
1000		ECJTVB1H102M	0.85	○	○								
2200		ECJTVB1H222M	0.85	○	○								
4700		ECJTVB1E472M	0.85	○	○								
10000		ECJTVB1C103M	0.85	○	○								
47000											ECJTVB1A473M	0.85	○
100000										ECJTVB1A104M	0.85	○	

Rated voltage		DC 6.3 V		
Capacitance (μF)	Capacitance Tolerance	Part No.	Dim. T (mm)	Temp. Char.
1.0	±20 % (M)	ECJTVB0J105M	0.85	○

Standard packaging quantity of Packaging Style Code "V" (T = 0.85 mm): 4,000 pcs./reel
Avoid flow soldering.

- ◆ Temperature Characteristics Code: F (Temperature Characteristics: F, Y5V)

Rated voltage		DC 16 V			
Capacitance (μF)	Capacitance Tolerance	Part No.	Dim. T (mm)	Temp. Char.	
				F	Y5V
0.1	+80, -20 % (Z)	ECJTVF1C104Z	0.85	○	○

Standard packaging quantity of Packaging Style Code "V" (T = 0.85 mm): 4,000 pcs./reel
Avoid flow soldering.

■ Standard Products for EIA "1206", Taped Version

● Class 1

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

Rated voltage		DC 50 V		
Capacitance (pF)	Capacitance Tolerance	Part No.	Dim. T (mm)	Temp. Char.
10	±1 pF (F)	ECJRVC1H100F	0.85	○
15	±10 % (K)	ECJRVC1H150K	0.85	○
22		ECJRVC1H220K	0.85	○
33		ECJRVC1H330K	0.85	○
47		ECJRVC1H470K	0.85	○
68		ECJRVC1H680K	0.85	○
100		ECJRVC1H101K	0.85	○
150		ECJRVC1H151K	0.85	○
220		ECJRVC1H221K	0.85	○
330		ECJRVC1H331K	0.85	○
470		ECJRVC1H471K	0.85	○

Standard packaging quantity of Packaging Style Code "V" (T = 0.85 mm): 4,000 pcs./reel
Avoid flow soldering.

● Class 2

- ◆ Temperature Characteristic Code: B (Temperature Characteristics: B, X7R, X5R)

Rated voltage		DC 50 V				DC 16 V				DC 6.3 V		
Capacitance (pF)	Capacitance Tolerance	Part No.	Dim. T (mm)	Temp. Char.		Part No.	Dim. T (mm)	Temp. Char.		Part No.	Dim. T (mm)	Temp. Char.
				B	X7R			B	X7R			
470	±20 % (M)	ECJRVB1H471M	0.85	○	○							
680		ECJRVB1H681M	0.85	○	○							
1000		ECJRVB1H102M	0.85	○	○							
1500		ECJRVB1H152M	0.85	○	○							
2200		ECJRVB1H222M	0.85	○	○							
3300		ECJRVB1H332M	0.85	○	○							
4700		ECJRVB1H472M	0.85	○	○							
6800		ECJRVB1H682M	0.85	○	○							
10000		ECJRVB1H103M	0.85	○	○							
100000						ECJRVB1C104M	0.85	○	○			
1000000									ECJRVB0J105M	0.85	○	

Standard packaging quantity of Packaging Style Code "V" (T = 0.85 mm): 4,000 pcs./reel
Avoid flow soldering.

- ◆ Temperature Characteristic Code: F (Temperature Characteristics: F, Y5V)

Rated voltage		DC 25 V				DC 10 V			
Capacitance (μF)	Capacitance Tolerance	Part No.	Dim. T (mm)	Temp. Char.		Part No.	Dim. T (mm)	Temp. Char.	
				F	Y5V			F	Y5V
0.1	+80, -20 %	ECJRVF1E104Z	0.85	○	○				
1.0	(Z)								

Standard packaging quantity of Packaging Style Code "V" (T = 0.85 mm): 4,000 pcs./reel
Avoid flow soldering.

■ Cross talk characteristics [Ex.]

Size: 0805, Temperature Characteristics: CH, 100 pF

