

MULTILAYER CERAMIC CHIP CAPACITORS

VJ...W1BC MLCC Chip Array

Surface-Mount Multilayer Ceramic Capacitors Array



KEY BENEFITS

- Enables tighter, more compact circuit board layouts, which reduces board assembly costs
- Increases throughput
- Mounting cost saving
- Dry sheet manufacturing technology
- Base Metal Electrode System (BME)
- Compliant to RoHS Directive 2011/65/EU
- Halogen-free according to IEC 61249-2-21 definition

APPLICATIONS

- Controlling noise in digital and analog signal lines
- Computer motherboards and peripherals
- Common electronic circuits

RESOURCES

- Datasheet: VJ...W1BC MLCC Chip Array - <http://www.vishay.com/doc?28539>
- For technical questions contact mlcc@vishay.com

Capacitors - Reduces Board Assembly Costs

One of the World's Largest Manufacturers of
Discrete Semiconductors and Passive Components





MULTILAYER CERAMIC CHIP CAPACITORS

VJ...W1BC MLCC Chip Array

Surface-Mount Multilayer Ceramic Chip Capacitors Array for Commodity Applications



RoHS COMPLIANT HALOGEN FREE

ELECTRICAL SPECIFICATION			
Size	4 x 0603		
Dielectric	COG (NP0)	X7R	Y5V
Capacitance ⁽¹⁾	10 pF to 470 pF	180 pF to 100 nF	10 nF to 100 nF
Capacitance Tolerance ⁽²⁾	J (± 5 %), K (± 10 %)	K (± 10 %), M (± 20 %)	Z (-20 %/+ 80 %)
Rated Voltage (V _{dc})	50 V	16 V, 50 V	50 V
tan δ/Q ⁽¹⁾	Cap. < 30 pF: Q ≥ 400 + 20 C Cap. ≥ 30 pF: Q ≥ 1000	U _R = 50 V: ≤ 2.5 % U _R = 16 V: ≤ 3.5 %	≤ 5 %
Insulation Resistance at U _R	≥ 10 GΩ	≥ 10 GΩ or R x C ≥ 500 Ω x F, whichever is less	
Operating Temperature	- 55 °C to + 125 °C		- 25 °C to + 85 °C
Capacitance Change	± 30 ppm	± 15 %	+ 30 %/- 80 %
Termination	Ni/Sn lead (Pb)-free termination		

Notes

- (1) Measured at 30 % ~ 70 % related humidity
NP0: apply 1.0 V_{RMS} ± 0.2 V_{RMS}, 1.0 MHz ± 10 % at the conditions of 25 °C ambient temperature
X7R: apply 1.0 V_{RMS} ± 0.2 V_{RMS}, 1.0 kHz ± 10 % at the conditions of 25 °C ambient temperature
Y5V: apply 1.0 V_{RMS} ± 0.2 V_{RMS}, 1.0 kHz ± 10 % at the conditions of 20 °C ambient temperature
- (2) Preconditioning for X7R, Y5V MLCC: Perform a heat treatment at 150 °C ± 10 °C for 1 h, then leave in ambient condition for 24 h ± 2 h before measurement.

SELECTION CHART					
DIELECTRIC		COG (NP0)	X7R		Y5V
STYLE		VJ06C4			
SIZE CODE		0612 (4 x 0603)			
VOLTAGE V _{dc}		50 V	16 V	50 V	50 V
VOLTAGE CODE		A	J	A	A
CAP. CODE	CAP.				
100	10 pF	B			
150	15 pF	B			
220	22 pF	B			
330	33 pF	B			
470	47 pF	B			
680	68 pF	B			
101	100 pF	B			
151	150 pF	B			
181	180 pF	B		B	
221	220 pF	B		B	
271	270 pF	B		B	
331	330 pF	B		B	
471	470 pF	B		B	
102	1.0 nF			B	
152	1.5 nF			B	
222	2.2 nF			B	
332	3.3 nF			B	
472	4.7 nF			B	
682	6.8 nF			B	
103	10 nF			B	B
153	15 nF		B	B	B
223	22 nF		B	B	B
333	33 nF		B		B
473	47 nF		B		B
683	68 nF		B		B
104	100 nF		B		B

- Note**
- Letters indicate product thickness, see packaging quantities

ORDERING INFORMATION						
VJ06C4	A	100	J	X	A	C W1BC
SIZE CODE	DIELECTRIC	CAPACITANCE	TOLERANCE	TERMINATION	RATED VOLTAGE	PACKAGING PROCESS CODE FOR BASIC COMMODITY
06C4	A = COG (NP0) Y = X7R V = Y5V	Two significant digits followed by the number of zeros. R is in place of decimal point: 100 = 10 pF 101 = 100 pF	J = ± 5 % K = ± 10 % M = ± 20 % Z = -20 %/+ 80 %	X = Ni Barrier	J = 16 V A = 50 V	C = 7" reel/paper tape

DIMENSIONS in inches (millimeters)						
	SIZE CODE	L	W	T MAX.	S	BW P
	0612 (1632)	0.125 ± 0.006 (3.20 ± 0.15)	0.063 ± 0.006 (1.60 ± 0.15)	0.036 (0.90)	0.012 ± 0.008 (0.30 ± 0.20)	0.016 ± 0.006 (0.40 ± 0.15) 0.031 ± 0.006 (0.80 ± 0.15)

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