

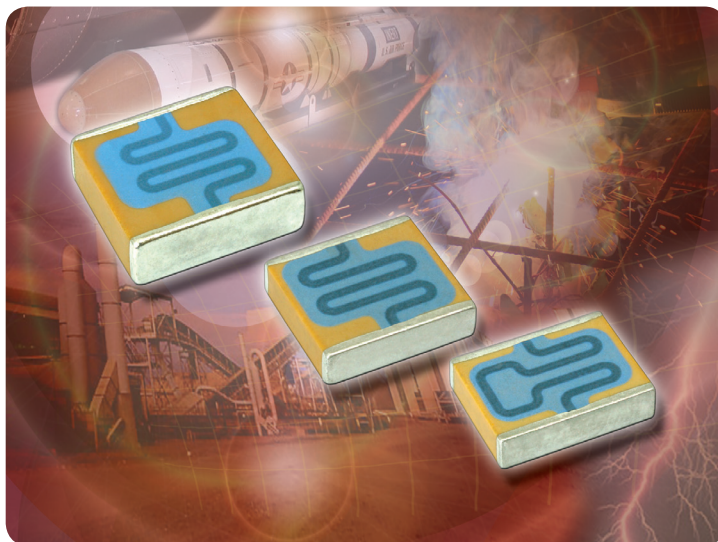


MULTILAYER CERAMIC CHIP CAPACITORS

VJ Controlled Discharge Capacitor (CDC) Series

Capacitors - For High Pulse Current Applications

Surface-Mount Multilayer Ceramic Chip Capacitors with Integrated Resistor for High Pulse Current Applications



KEY BENEFITS

- Voltage rating up to 1500 V
- Capacitance value up to 0.56 μF
- Low electrostrictive ceramic formulation
- Integrated resistor on the surface of the capacitor
- Available with tin/lead barrier termination (termination code "L")
- Wet build process with reliable Noble Metal Electrode (NME) system
- Halogen-free according to IEC 61249-2-21 definition

APPLICATIONS

- Detonation devices
- Down hole drilling
- Electronic fusing

END PRODUCTS

- Military
- Avionic and satellite systems

RESOURCES

- Datasheet: VJ Controlled Discharge Capacitor (CDC) - <http://www.vishay.com/doc?45203>
- For technical questions contact mlcc@vishay.com

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



MULTILAYER CERAMIC CHIP CAPACITORS

VJ Controlled Discharge Capacitor (CDC) Series

Surface-Mount Multilayer Ceramic Chip Capacitors with Integrated Resistor for High Pulse Current Applications

ELECTRICAL SPECIFICATIONS

Note

- Electrical characteristics at + 25 °C unless otherwise specified



Available
HALOGEN
FREE

Operating Temperature: - 55 °C to + 125 °C

Capacitance Range: 33 nF to 560 nF

Voltage Range: 1000 V_{DC} to 1500 V_{DC}

Temperature Coefficient of Capacitance (TCC):

X5P: ± 10 % from - 55 °C to + 85 °C, with 0 V_{DC} applied
X7R: ± 15 % from - 55 °C to + 125 °C, with 0 V_{DC} applied

Parallel Resistor: 500 MΩ ± 30 %

Dissipation Factor (DF):

2.5 % maximum at 1.0 V_{rms} and 1 kHz

Aging Rate: 1 % maximum per decade

Insulation Resistance (IR):

At + 25 °C without resistor: 100 000 MΩ minimum or 1000 ΩF, whichever is less.

At + 125 °C without resistor: 10 000 MΩ minimum or 100 ΩF, whichever is less.

Dielectric Strength Test:

Performed per Method 103 of EIA 198-2-E.

Applied test voltages:

1000 V_{DC}/1500 V_{DC}-rated: 120 % of rated voltage

SELECTION CHART

DIELECTRIC		X7R (X5P)					
STYLE		VJ3040 (1)		VJ3640 (1)		VJ4044 (1)	
EIA CODE		-	-	-	-	-	-
VOLTAGE (V _{DC})		1000	1500	1000	1500	1000	1500
VOLTAGE CODE		G	R	G	R	G	R
CAP. CODE	CAP.						
223	0.022 μF						
273	0.027 μF						
333	0.033 μF		•				
393	0.039 μF		•				
473	0.047 μF		•		•		
563	0.056 μF	•	•		•		
683	0.068 μF	•	•		•		
823	0.082 μF	•	•		•		
104	0.10 μF	•	•	•	•		•
124	0.12 μF	•	•	•	•		•
154	0.15 μF	•		•	•	•	•
184	0.18 μF	•		•	•	•	•
224	0.22 μF	•		•	•	•	•
274	0.27 μF			•		•	•
334	0.33 μF			•		•	•
394	0.39 μF					•	
474	0.47 μF					•	
564	0.56 μF					•	
684	0.68 μF						
824	0.82 μF						
105	1.0 μF						
125	1.2 μF						
155	1.5 μF						
185	1.8 μF						
225	2.2 μF						
275	2.7 μF						
335	3.3 μF						

Notes

(1) See soldering recommendations: www.vishay.com/doc/245034

- Plastic tape

ORDERING INFORMATION

VJ3640 (3)	Y	184	K	X	R	A	T	8R (2)
CASE CODE	DIELECTRIC	CAPACITANCE NOMINAL CODE	CAPACITANCE TOLERANCE	TERMINATION	DC VOLTAGE RATING (1)	MARKING	PACKAGING	PROCESS CODE
3040 3640 4044	Y = X7R (X5P)	Expressed in picofarads (pF). The first two digits are significant, the third is a multiplier. Examples: 184 = 180 nF 334 = 330 nF	J = ± 5 % K = ± 10 % M = ± 20 %	X = Ni barrier 100 % tin plate matte finish L = Ni barrier with tin lead plated finish min. 4 % lead	G = 1000 V R = 1500 V	A = Unmarked	T = 7" reel/plastic tape	

Notes

(1) DC voltage rating should not be exceeded in application. Other application factors may affect the MLCC performance.

Consult for questions: mlcc@vishay.com

(2) Process Code must be added to control special requirements

(3) Size designator may be replaced by four digit drawing number used to control non-standard products and/or special requirements

DIMENSIONS in inches [millimeters]

EIA STYLE	PART ORDERING NUMBER	LENGTH (L)	WIDTH (W)	MAXIMUM THICKNESS (T)	TERMINATION (P)	
					MIN.	MAX.
-	VJ3040	0.300 ± 0.015 [7.62 ± 0.38]	0.400 ± 0.015 [0.20 ± 0.38]	0.100 [2.54]	0.010 [0.25]	0.030 [0.76]
-	VJ3640	0.360 ± 0.015 [9.14 ± 0.38]	0.400 ± 0.015 [10.20 ± 0.38]	0.086 [2.18]	0.010 [0.25]	0.030 [0.76]
-	VJ4044	0.400 ± 0.015 [10.16 ± 0.38]	0.440 ± 0.015 [11.17 ± 0.38]	0.120 [3.05]	0.010 [0.25]	0.030 [0.76]

Revision: 13-Oct-11

