

Multilayer Ceramic Chip Capacitors for Telecom Applications



FEATURES

- Replaces high voltage, leaded, film capacitors.
- Rated for telecommunications voltages.
- Saves board space and weight.
- Surface mount (EIA size) packages.
- Wide band operation, excellent high frequency filtering.


**RoHS
COMPLIANT**

APPLICATIONS

- Ideal for telephone line (Tip 'N Ring®) filtering.
- Voice over Internet (VOI) cards.

ELECTRICAL SPECIFICATIONS

NOTE: Electrical characteristics at + 25 °C unless otherwise specified.

Capacitance Range: 0.033 pF to 1.0 µF.

Temperature Coefficient of Capacitance (TCC):
± 15 % from - 55 °C to + 125 °C.

Dissipation Factor (DF):
2.5 % maximum at 1.0 Vrms and 1 kHz.

Aging Rate: 1 % maximum per decade.

Insulation Resistance (IR):

At + 25 °C and rated voltage 100,000 MΩ minimum or 1000 ΩF, whichever is less.

At + 125 °C and rated voltage 10,000 MΩ minimum or 100 ΩF, whichever is less.

Dielectric Withstanding Voltage (DWV):

This is the maximum voltage the capacitors are tested for a 1 to 5 second period and the charge/discharge current does not exceed 50 mA

250 Vdc : DWV at 250 % of rated voltage.

DIMENSIONS in inches [millimeters]

PART ORDERING NUMBER	LENGTH	WIDTH	MAXIMUM THICKNESS (T)	TERMINATION PAD	
				MINIMUM	MAXIMUM
VJ1812	0.177 ± 0.010 [4.50 ± 0.25]	0.126 ± 0.010 [2.03 ± 0.25]	0.086 [2.18]	0.010 [0.25]	0.030 [0.76]
VJ1825	0.177 ± 0.010 [4.50 ± 0.25]	0.252 ± 0.010 [6.40 ± 0.25]	0.086 [2.18]	0.010 [0.25]	0.030 [0.76]
VJ2225	0.220 ± 0.010 [5.59 ± 0.25]	0.250 ± 0.010 [6.35 ± 0.25]	0.086 [2.18]	0.010 [0.25]	0.030 [0.76]

ORDERING INFORMATION

VJ1812	Y	334	J	X	P	A	T	3T
CASE CODE	DIELECTRIC	CAPACITANCE NOMINAL CODE	CAPACITANCE TOLERANCE	TERMINATION	DC VOLTAGE RATING ¹⁾	MARKING	PACKAGING	PROCESS CODE
1812 1825 2225	Y = X7R	Expressed in picofarads (pF). The first two digits are significant, the third is a multiplier. Example: 334 = 330000 pF	J = ± 5 % K = ± 10 % M = ± 20 %	X = Ni barrier with 100 % tin plated finish. F = AgPd	P = 250 V	A = Unmarked	T = 7" Reel, plastic tape R = 11 1/4" Reel, plastic tape B = Bulk W = Waffle tray	3T = Tip 'N Ring

Note

1. DC voltage rating should not be exceeded in application



TIP 'N RING® - X7R DIELECTRIC				
EIA TYPE		1812¹⁾	1825¹⁾	2225¹⁾
VOLTAGE (Vdc)		250	250	250
CAP. CODE	CAP.			
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			

Note

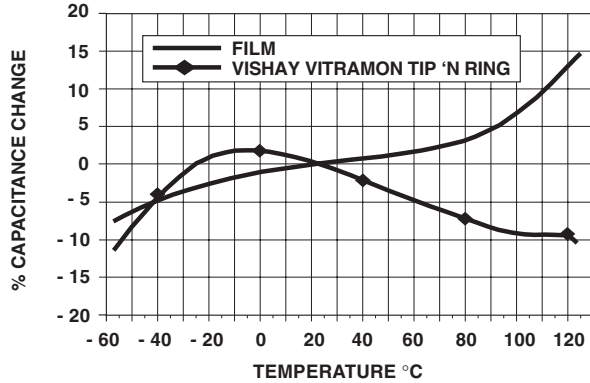
1. See soldering recommendations within this data book, or visit www.vishay.com/doc?45034



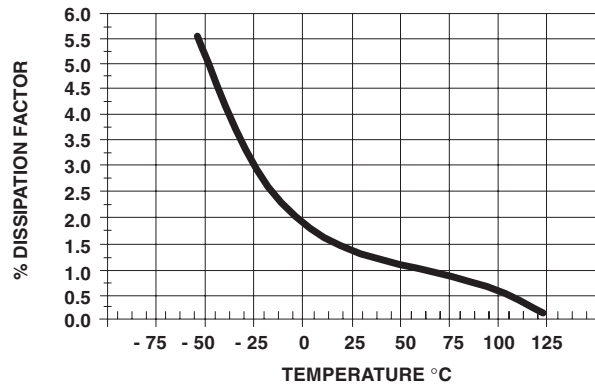
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TIP 'N RING® - TYPICAL PARAMETERS

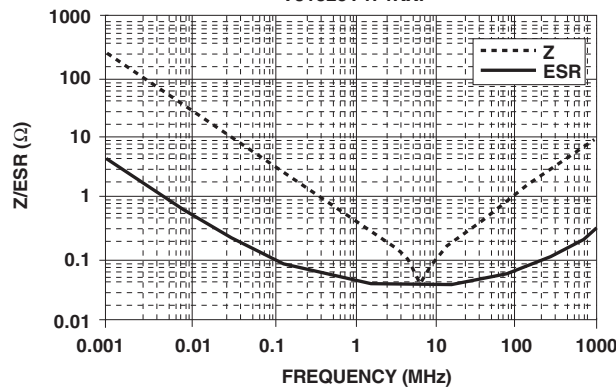
TEMPERATURE COEFFICIENT
OF CAPACITANCE COMPARISONS
FILM vs VISHAY VITRAMON VJ1825Y474KXP
TIP 'N RING CERAMIC
0.47µF, 250V



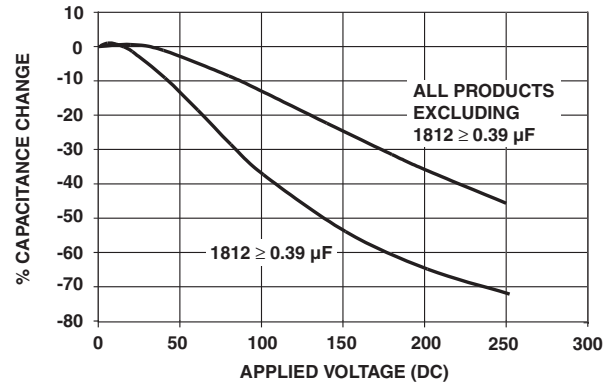
X7R - DISSIPATION FACTOR vs TEMPERATURE



IMPEDANCE vs FREQUENCY
VISHAY VITRAMON TIP 'N RING
VJ1825Y474KXP



VOLTAGE COEFFICIENT OF CAPACITANCE
X7R TIP 'N RING



STANDARD PACKAGING QUANTITIES 1/2/3)

		7" REEL QUANTITIES		11 1/4" AND 13" REEL QUANTITIES		BULK QUANTITIES	
BODY SIZE	TAPE SIZE	PAPER TAPE PACKAGING CODE "C"	PLASTIC TAPE PACKAGING CODE "T"	PAPER TAPE PACKAGING CODE "P"	PLASTIC TAPE PACKAGING CODE "R"	VIAL PACKAGING CODE "B"	WAFFLE PACKAGING CODE "W"
1812	12 mm	N/A	1,000	N/A	5,000	1,000	N/A
1825	12 mm	N/A	1,000	N/A	5,000	1,000	1,000
2225	12 mm	N/A	1,000	N/A	5,000	N/A	1,000

Note

- Vishay Vitramon uses embossed plastic carrier tape
- REFERENCE: EIA Standard RS 481 – "Taping of Surface Mount Components for Automatic Placement"
- N/A = Not Available



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