Vishay Vitramon

Surface Mount Multilayer Ceramic Chip Capacitors for Low Inductance

FEATURES

- Surface mount, precious metal technology, wet built process
- Low inductance, typically half the inductance of standard product
- Reduces AC noise in multi-chip modules (MCM)
- Low profile, robust device for easy mounting

RoHS COMPLIANT

ELECTRICAL SPECIFICATIONS

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

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

Capacitance Range: 220 pF to 0.33 µF

Voltage Rating: 250 Vdc

Temperature Coefficient of Capacitance (TCC):
± 15 % from - 55 °C to + 125 °C, with 0 Vdc applied

Dissipation Factor (DF):
≤ 25 V ratings: 3.5 % maximum at 1.0 V_{rms} and 1 kHz
50 V ratings: 2.5 % maximum at 1.0 V_{rms} and 1 kHz

Aging Rate: 1 % maximum per decade

Insulation Resistance (IR):

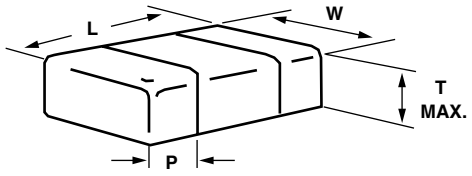
At + 25 °C and rated voltage 100 000 MΩ minimum or 1000 ΩF, whichever is less

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
≤ 50 Vdc: DWV at 250 % of rated voltage.

DIMENSIONS in inches [millimeters]



PART ORDERING NUMBER	LENGTH (L)	WIDTH (W)	MAXIMUM THICKNESS (T)	TERMINATION PAD (P)	
				MINIMUM	MAXIMUM
VJ0508	0.049 ± 0.008 [1.25 ± 0.20]	0.079 ± 0.008 [2.00 ± 0.20]	0.042 [1.07]	0.005 [0.13]	0.018 [0.46]
VJ0612	0.063 ± 0.008 [1.60 ± 0.20]	0.126 ± 0.008 [3.20 ± 0.20]	0.067 [1.70]	0.010 [0.25]	0.018 [0.46]

ORDERING INFORMATION

VJ0612	Y	104	K	X	A	A	T	### (2)
CASE CODE	DIELECTRIC	CAPACITANCE NOMINAL CODE	CAPACITANCE TOLERANCE	TERMINATION	DC VOLTAGE RATING (1)	MARKING	PACKAGING	PROCESS CODE
0508 0612	Y = X7R	Expressed in picofarads (pF). The first two digits are significant, the third is a multiplier. **Example:** 104 = 100 000 pF	J = ± 5 % K = ± 10 % M = ± 20 %	X = Ni barrier 100 % tin plated F = AgPd	Q = 10 V J = 16 V X = 25 V A = 50 V	A = Unmarked	R = 11 1/4" reel/plastic tape PU = 10 000 pieces T = 7" reel/plastic tape PU = 3000 pieces	

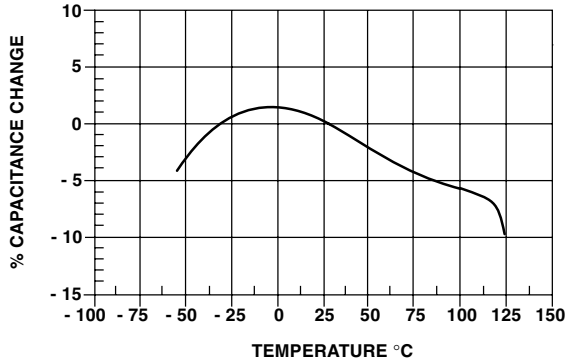
Notes:
(1) DC voltage rating should not be exceeded in application
(2) Process code may be added with three digits, used to control non-standard products and/or special requirements

SELECTION CHART

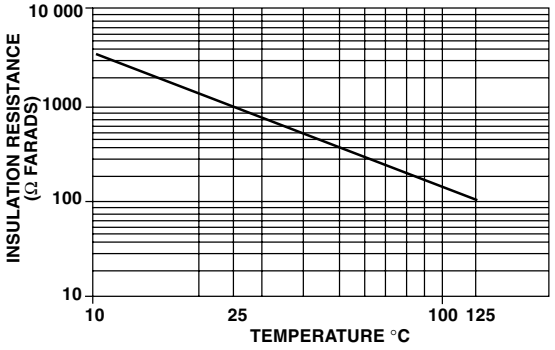
STYLE		VJ0508			VJ0612		
EIA TYPE							
VOLTAGE (Vdc)		10	16	25	16	25	50
CAP. CODE	CAP.						
221	220 pF	•	•	•			
271	270 pF	•	•	•			
331	330 pF	•	•	•			
391	390 pF	•	•	•			
471	470 pF	•	•	•			
561	560 pF	•	•	•			
681	680 pF	•	•	•			
821	820 pF	•	•	•			
102	1000 pF	•	•	•			
122	1200 pF	•	•	•			
152	1500 pF	•	•	•			
182	1800 pF	•	•	•			
222	2200 pF	•	•	•			
272	2700 pF	•	•	•			
332	3300 pF	•	•	•			
392	3900 pF	•	•	•			
472	4700 pF	•	•	•			
562	5600 pF	•	•	•			
682	6800 pF	•	•	•			
822	8200 pF	•	•	•	•	•	•
103	0.010 µF	•	•	•	•	•	•
123	0.012 µF	•	•	•	•	•	•
153	0.015 µF	•	•	•	•	•	•
183	0.018 µF	•	•	•	•	•	•
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				•	•	

TYPICAL PARAMETERS

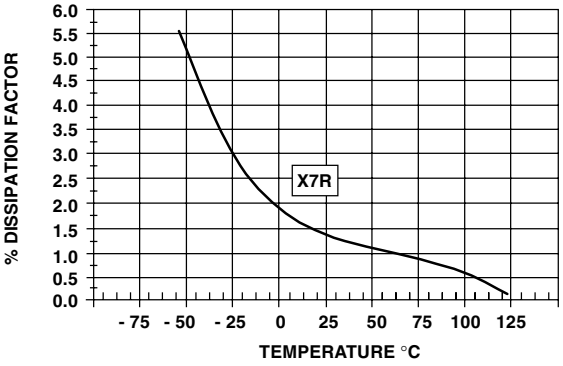
TEMPERATURE COEFFICIENT OF CAPACITANCE



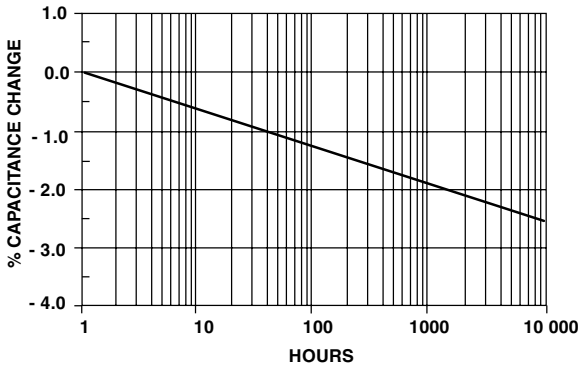
MINIMUM INSULATION RESISTANCE VS. TEMPERATURE



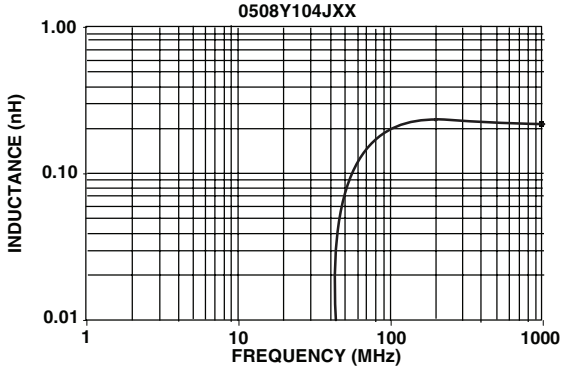
DISSIPATION FACTOR VS. TEMPERATURE



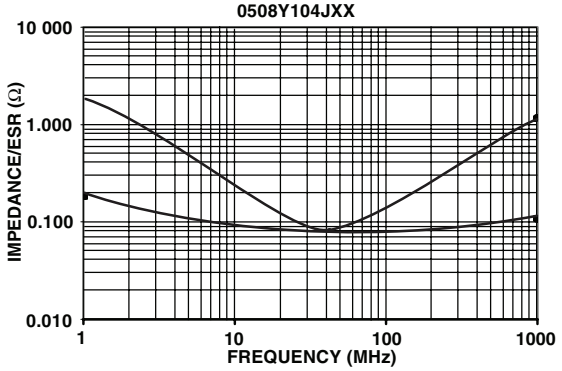
AGING RATE - X7R



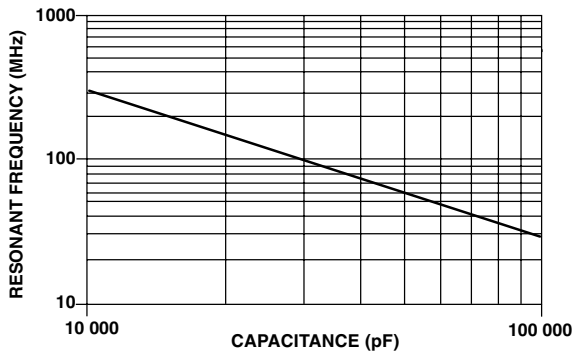
INDUCTANCE VS. FREQUENCY 0508Y104JXX



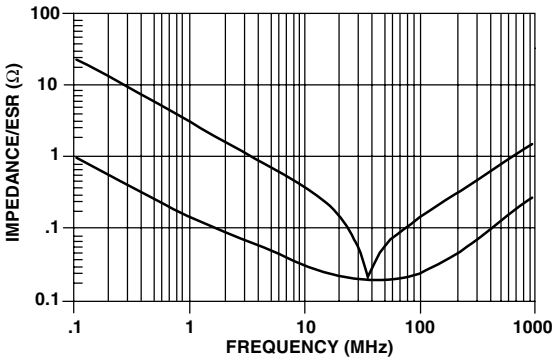
IMPEDANCE AND ESR VS. FREQUENCY 0508Y104JXX



VJ0612 SERIES RESONANT FREQUENCY



VJ0612Y823KXA IMPEDANCE AND ESR



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