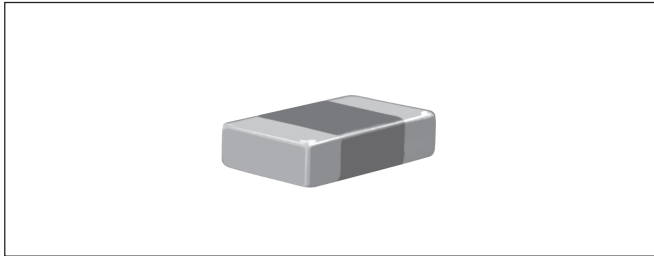


## Multilayer Ceramic Chip Capacitors



### FEATURES

- General purpose dielectric.
- Excellent aging characteristics.
- Ideal for decoupling and filtering.
- Wide range of case sizes, voltage ratings and capacitance values.

### GENERAL SPECIFICATIONS

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

**Capacitance Range:** 120pF to 1.0μF.

**Dissipation Factor (DF):**

≤ 25V ratings: 3.5% maximum @ 1.0 Vrms and 1kHz.  
 50V, 100V ratings: 2.5% maximum @ 1.0 Vrms and 1kHz.

**Temperature Coefficient of Capacitance (TCC):**

X7R: ± 15% from - 55°C to + 125°C, with 0 Vdc applied.  
 X7S: ± 22% from - 55°C to + 125°C, with 0 Vdc applied.

**Insulation Resistance (IR):**

@ + 25°C and rated voltage 100,000 Megohms minimum or 1000 ohm-farads, whichever is less.

@ + 125°C and rated voltage 10,000 Megohms minimum or 100 ohm-farads, whichever is less.

**Dielectric Withstanding Voltage (DWV):**

250% rated voltage for 5 ± 1 seconds, 50 milliamps current maximum.

**Aging Rate:** 1% maximum per decade.

ORDERING INFORMATION								
VJ	0805	Y	102	K	X	A	A	T
PRODUCT SERIES	CASE SIZE	DIELECTRIC	CAPACITANCE NOMINAL CODE	CAPACITANCE TOLERANCE	TERMINATION	DC VOLTAGE RATING	MARKING	PACKAGING <sup>1</sup>
VJ = MLCC	0402 0603 0805 1206 1210 1808 1812 1825 2220 2225 3640 <sup>2</sup>	Y = X7R S = X7S	Expressed in picofarads (pF). The first two digits are significant, the third is a multiplier. <b>Example:</b> 102 = 1000pF.	J = ± 5% K = ± 10% M = ± 20%	X = Nickel barrier with 100% tin plated finish F = Palladium silver	J = 16V X = 25V A = 50V B = 100V See page 16 for higher voltage ratings	A = Unmarked	T = 7" Reel, plastic tape C = 7" Reel, paper tape R = 11 1/4" Reel, plastic tape P = 11 1/4" Reel, paper tape B = Bulk <b>NOTE:</b> 0402 and 0603 available in paper tape only

<sup>1</sup>See page 57 for cassette case packaged capacitors.

<sup>2</sup>Please contact factory for special considerations regarding 3640 - size components.

# VJ X7R/X7S Dielectric

Vishay Vitramon



<b>X7R/X7S DIELECTRIC</b>																						
STYLE		VJ0402				VJ0603				VJ0805				VJ1206				VJ1210				
E.I.A. TYPE		0402				0603				0805				1206				1210				
VOLTAGE (Vdc)		16	25	50	100	16	25	50	100	16	25	50	100	16	25	50	100	16	25	50	100	
Capacitance Code	Capacitance																					
101	100 pF																					
121	120 pF																					
151	150 pF																					
181	180 pF																					
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	.010 $\mu$ F																					
123	.012 $\mu$ F	■																				
153	.015 $\mu$ F	■																				
183	.018 $\mu$ F	■																				
223	.022 $\mu$ F	■																				
273	.027 $\mu$ F	■																				
333	.033 $\mu$ F	■																				
393	.039 $\mu$ F																					
473	.047 $\mu$ F																					
563	.056 $\mu$ F																					
683	.068 $\mu$ F																					
823	.082 $\mu$ F																					
104	.10 $\mu$ F																					
124	.12 $\mu$ F					■																
154	.15 $\mu$ F					■																
184	.18 $\mu$ F																					
224	.22 $\mu$ F																					
274	.27 $\mu$ F																					
334	.33 $\mu$ F																					
394	.39 $\mu$ F																					
474	.47 $\mu$ F																					
564	.56 $\mu$ F																					
684	.68 $\mu$ F																					
824	.82 $\mu$ F																					
105	1.0 $\mu$ F																					
125	1.2 $\mu$ F																					
155	1.5 $\mu$ F																					
185	1.8 $\mu$ F																					
225	2.2 $\mu$ F																					
275	2.7 $\mu$ F																					
335	3.3 $\mu$ F																					
395	3.9 $\mu$ F																					
475	4.7 $\mu$ F																					
565	5.6 $\mu$ F																					
685	6.8 $\mu$ F																					

■ - X7S

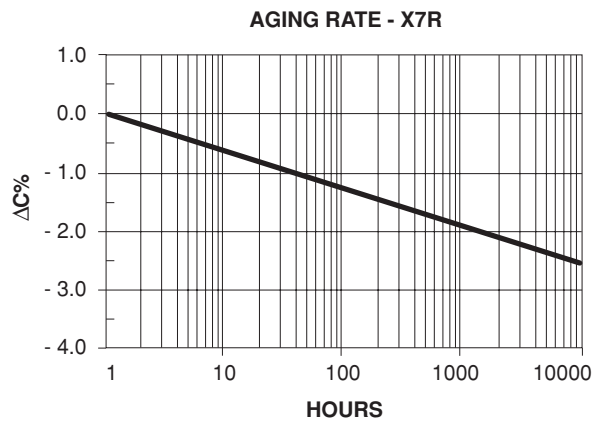
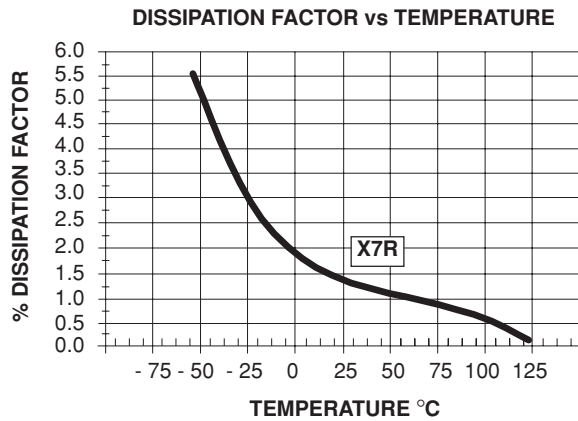
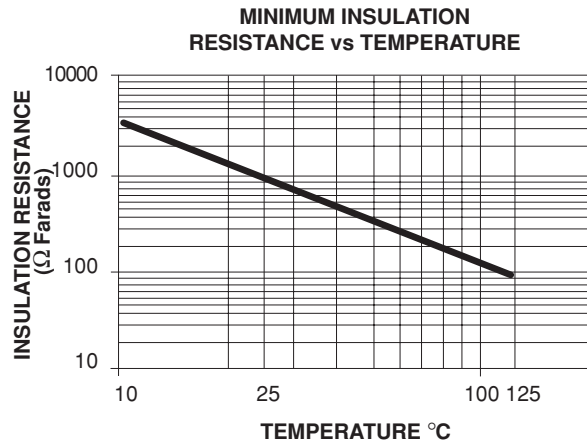
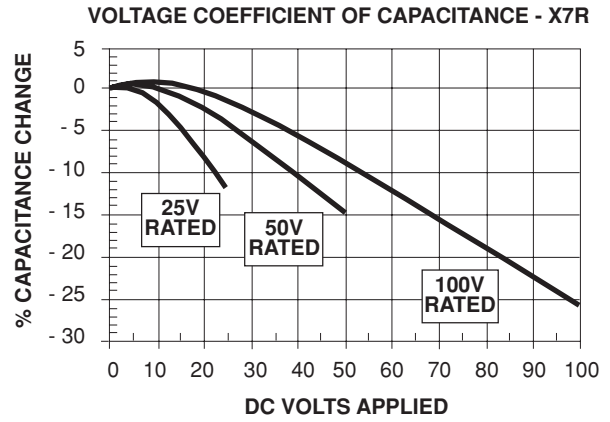
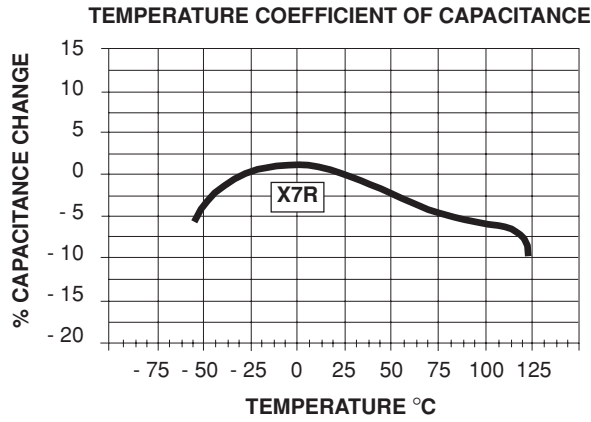


<b>X7R DIELECTRIC</b>																		
STYLE		VJ1808			VJ1812**			VJ1825*			VJ2220*		VJ2225*			VJ3640*		
E.I.A. TYPE		—			1812			1825			—		—			—		
VOLTAGE (Vdc)		—	50	100	25	50	100	25	50	100	50	100	25	50	100	25	50	100
Capacitance Code	Capacitance																	
101	100 pF																	
121	120 pF																	
151	150 pF																	
181	180 pF																	
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	.010 μF																	
123	.012 μF																	
153	.015 μF																	
183	.018 μF																	
223	.022 μF																	
273	.027 μF																	
333	.033 μF																	
393	.039 μF																	
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155	1.5 μF																	
185	1.8 μF																	
225	2.2 μF																	
275	2.7 μF																	
335	3.3 μF																	
395	3.9 μF																	
475	4.7 μF																	
565	5.6 μF																	
685	6.8 μF																	

\*See page 61 for soldering recommendations.



## X7R DIELECTRIC - TYPICAL PARAMETERS





## X7S DIELECTRIC - TYPICAL PARAMETERS

