VISHAY / VITRAMON Surface Mount OMD Capacitors

VJ OMD SERIES: SMD CERAMIC CAPACITOR SOLUTIONS FOR BOARDFLEX SENSITIVE APPLICATIONS

Features:
- Efficient low-power consumption, ripple current capable to 1.2 arms at 100kHz
- High voltage breakdown compared to standard design
- Excellent reliability and thermal shock performance
- High frequency filtering for switching power
- Available with polymer termination for increase resistance to board flex cracking

Applications:
- Input filter capacitors
- Output filter capacitors
- Snubber capacitors reduce MOSFET voltage spikes
- Lighting ballasts
- Ideal for power supplies

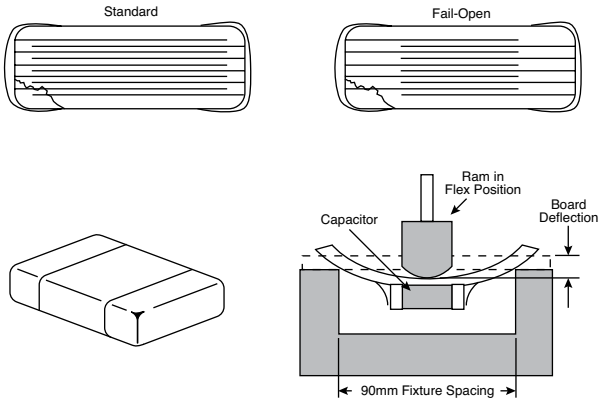
Specifications:
- Temperature coefficient of capacitance (TCC): X7R Style- ±15% from -55°C with 0VDC applied C0G (NP0) style- 0±30ppm/°C from -55°C to +125°C
- Operating temperature: -55°C to +125°C
- Voltage rating: 50VDC to 300VDC

LEAD-FREE

RoHS Compliant

DIMENSIONS: in. (mm)

Part Ordering Number	Length	Width	Max. Thickness (T)	Termination Pad	
				Min.	Max.
VJ1206	0.126±0.008 (3.20±0.20)	0.063±0.008 (1.60±0.20)	0.067 (1.68)	0.010 (0.25)	0.028 (0.71)
VJ1210	0.126±0.008 (3.20±0.20)	0.098±0.008 (2.50±0.20)	0.067 (1.68)	0.010 (0.25)	0.028 (0.71)
VJ1812	0.177±0.010 (4.50±0.25)	0.126±0.008 (3.20±0.20)	0.086 (2.18)	0.010 (0.25)	0.030 (0.76)
VJ1825	0.177±0.010 (4.50±0.25)	0.252±0.008 (6.40±0.20)	0.086 (2.18)	0.010 (0.25)	0.030 (0.76)
VJ2220	0.220±0.010 (5.59±0.25)	0.200±0.008 (5.08±0.20)	0.086 (2.18)	0.010 (0.25)	0.030 (0.76)
VJ2225	0.220±0.010 (5.59±0.25)	0.250±0.008 (6.35±0.20)	0.086 (2.18)	0.010 (0.25)	0.030 (0.76)



A predominant failure mode in multilayer ceramic capacitors is cracking caused by board flexure that results in capacitance loss, leakage, and high current shorts. A short circuit condition can cause further failures of downstream components.

Extensive board flexure testing was performed on OMD-Capacitors soldered onto glass epoxy resin boards. The boards were then subjected to 8, flexure (see diagram above) and the Insulation Resistance (IR) of each capacitor was measured. IR remained >100ΩF in all cases because these designs do not allow cracks to bridge across opposing electrodes creating conductive pathways. Commercial grade product may experience a serious loss in IR and eventually short when tested under the same conditions.

MOUSER STOCK NO.	Vishay Part No.	Cap Value	Voltage	Tolerance (%)	Price Each			Full Reel Quantity	Price Per Piece
					1	100	500		
Style 1206-Temperature Coef: X7R									
77-VJ1206Y102KXEAT4X	VJ1206Y102KXEAT4X	.001µF	500	10				3000	
77-VJ1206Y102KXRAT4X	VJ1206Y102KXRAT4X	.001µF	1500	10				2500	
77-VJ1206Y102MXFAT4X	VJ1206Y102MXFAT4X	.001µF	2000	20				2500	
77-VJ1206Y103KBAAT4X	VJ1206Y103KBAAT4X	.01µF	50	10				3000	
77-VJ1206Y103KXLAT4X	VJ1206Y103KXLAT4X	.01µF	630	10				2500	
77-VJ1206Y104JXAAT4X	VJ1206Y104JXAAT4X	.1µF	50	5				2500	
77-VJ1206Y104KBAAT4X	VJ1206Y104KBAAT4X	.1µF	50	10				3000	
77-VJ1206Y104KXAAT4X	VJ1206Y104KXAAT4X	.1µF	50	10				2500	
77-VJ1206Y183KBLAT4X	VJ1206Y183KBLAT4X	.018µF	630	10				2500	
77-VJ1206Y272KXGAT4X	VJ1206Y272KXGAT4X	.0027µF	1000	10				2500	
77-VJ1206Y471KXRAT4X	VJ1206Y471KXRAT4X	470pF	1500	10				2500	
77-VJ1206Y472KXGAT4X	VJ1206Y472KXGAT4X	.0047µF	1000	10				2500	
77-VJ1206Y561KXFAT4X	VJ1206Y561KXFAT4X	560pF	2000	10				2500	
77-VJ1206Y681KXLAT4X	VJ1206Y681KXLAT4X	680pF	630	10				2500	
Style 1210-Temperature Coef: X7R									
77-VJ1210Y102JXFAT4X	VJ1210Y102JXFAT4X	.001µF	2000	5				2500	
77-VJ1210Y152MXFAT4X	VJ1210Y152MXFAT4X	.0015µF	2000	20				2500	
Style 1812-Temperature Coef: NPO/COG									
77-VJ1812A120FXHAT4X	VJ1812A120FXHAT4X	12pF	3000	1				1000	
77-VJ1812A121KXGAT4X	VJ1812A121KXGAT4X	120pF	1000	10				1000	
77-VJ1812A330JXGAT4X	VJ1812A330JXGAT4X	33pF	1000	5				1000	
77-VJ1812A821JXGAT4X	VJ1812A821JXGAT4X	820pF	1000	5				1000	
Style 1812-Temperature Coef: X7R									
77-VJ1812Y102KXFAT4X	VJ1812Y102KXFAT4X	.001µF	2000	10				1000	
77-VJ1812Y103KXRAT4X	VJ1812Y103KXRAT4X	.01µF	1500	10				1000	
77-VJ1812Y103MXRAT4X	VJ1812Y103MXRAT4X	.01µF	1500	20				1000	
77-VJ1812Y104KXEAT4X	VJ1812Y104KXEAT4X	.1µF	500	10				1000	
77-VJ1812Y104MXBAT4X	VJ1812Y104MXBAT4X	.1µF	100	20				1000	
77-VJ1812Y105KXBAT4X	VJ1812Y105KXBAT4X	1.0µF	100	10				1000	
77-VJ1812Y105MBBAT4X	VJ1812Y105MBBAT4X	1.0µF	100	20				1000	
77-VJ1812Y154KXEAT4X	VJ1812Y154KXEAT4X	.15µF	500	10				1000	
77-VJ1812Y222KXFAT4X	VJ1812Y222KXFAT4X	.0022µF	2000	10				1000	
77-VJ1812Y334JXCAT4X	VJ1812Y334JXCAT4X	.33µF	200	5				1000	
77-VJ1812Y392KXFAT4X	VJ1812Y392KXFAT4X	.0039µF	2000	10				1000	
77-VJ1812Y471KXHAT4X	VJ1812Y471KXHAT4X	470pF	3000	10				1000	
77-VJ1812Y472KXRAT4X	VJ1812Y472KXRAT4X	.0047µF	1500	10				1000	
77-VJ1812Y474JFAAT4X	VJ1812Y474JFAAT4X	.47µF	50	5				1000	
77-VJ1812Y474KXBAT4X	VJ1812Y474KXBAT4X	.47µF	100	10				1000	
77-VJ1812Y822KXRAT4X	VJ1812Y822KXRAT4X	.0082µF	1500	10				1000	
Style 1825-Temperature Coef: X7R									
77-VJ1825Y104KXEAT4X	VJ1825Y104KXEAT4X	.1µF	500	10				1000	
Style 2220-Temperature Coef: NPO/COG									
77-VJ2220A392JXGAT4X	VJ2220A392JXGAT4X	.0039µF	1000	5				1000	
Style 2220-Temperature Coef: X7R									
77-VJ2220Y124KXEAT4X	VJ2220Y124KXEAT4X	.12µF	500	10				1000	
77-VJ2220Y224KXEAT4X	VJ2220Y224KXEAT4X	.22µF	500	10				1000	
Style 2225-Temperature Coef: X7R									
77-VJ2225Y103KXFAT4X	VJ2225Y103KXFAT4X	.01µF	2000	10				1000	
77-VJ2225Y105KXBAT4X	VJ2225Y105KXBAT4X	1.0µF	100	10				1000	
77-VJ2225Y223KXRAT4X	VJ2225Y223KXRAT4X	.023µF	1500	10				1000	
77-VJ2225Y224MXEAT4X	VJ2225Y224MXEAT4X	.22µF	500	20				1000	
77-VJ2225Y273KBFAT4X	VJ2225Y273KBFAT4X	.027µF	2000	10				1000	
77-VJ2225Y334KXEAT4X	VJ2225Y334KXEAT4X	.33µF	500	10				1000	
77-VJ2225Y473MXFAT4X	VJ2225Y473MXFAT4X	.047µF	2000	20				1000	

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