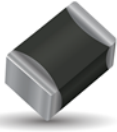


UltraGuard Multilayer Varistors

for Industrial and General applications



AVX UltraGuard multilayer varistors provide bi-directional overvoltage protection as well as EMI/RFI attenuation in a single SMT package with very low leakage $\leq 1\mu\text{A}$. AVX MLVs are zinc oxide (ZnO) based ceramic semiconductor devices with non-linear voltage-current characteristics (bi-directional) similar to back-to-back zener diodes with added advantage of greater current and energy handling capabilities, very fast turn-on time, multiple strikes capabilities as well as EMI/RFI attenuation in the off-state.

Electrical Characteristics

Operating Temperature

-55 to +125°C

Case Size	V _W (DC)	V _W (AC)	V _B	V _C	I _{VC}	I _L	E _T	PP	I _P	Cap	Cap Tol
EIA	Vdc	Vac	V	V	A	μA	J	W	A	pF	-
0402	5	3.5	10.8	22	1	1	0.05	38	20	175	+100/-50%

V_W(DC) DC Working Voltage [V]

V_W(AC) AC Working Voltage [V]

V_B Typical Breakdown Voltage [V @ 1mA_{DC}]

V_C Clamping Voltage [V @ I_{VC}]

I_{VC} Test Current for V_C [A, 8x20 μs]

I_L Maximum leakage current at the working voltage [μA]

E_t Transient Energy Rating [J, 10x1000 μs]

PP Peak Power Rating [W, 10x1000 μs]

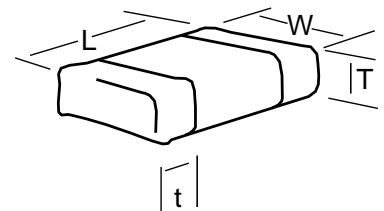
I_P Peak Current Rating [A, 8x20 μs]

Cap Typical capacitance [pF] @1MHz and 0.5VRMS

Cap tol Capacitance tolerance from typical value

Dimensions

Size (EIA)	mm (inches)			
	Length (L)	Width (W)	Thickness (T)	Terminal (t)
0402	1.00±0.10	0.50±0.10	0.6 max	0.25±0.15
	(0.040±0.004)	(0.020±0.004)	(0.024 max)	(0.010±0.006)



Termination

Ni barrier/100% Sn plated termination for lead free soldering.



RoHS
COMPLIANT

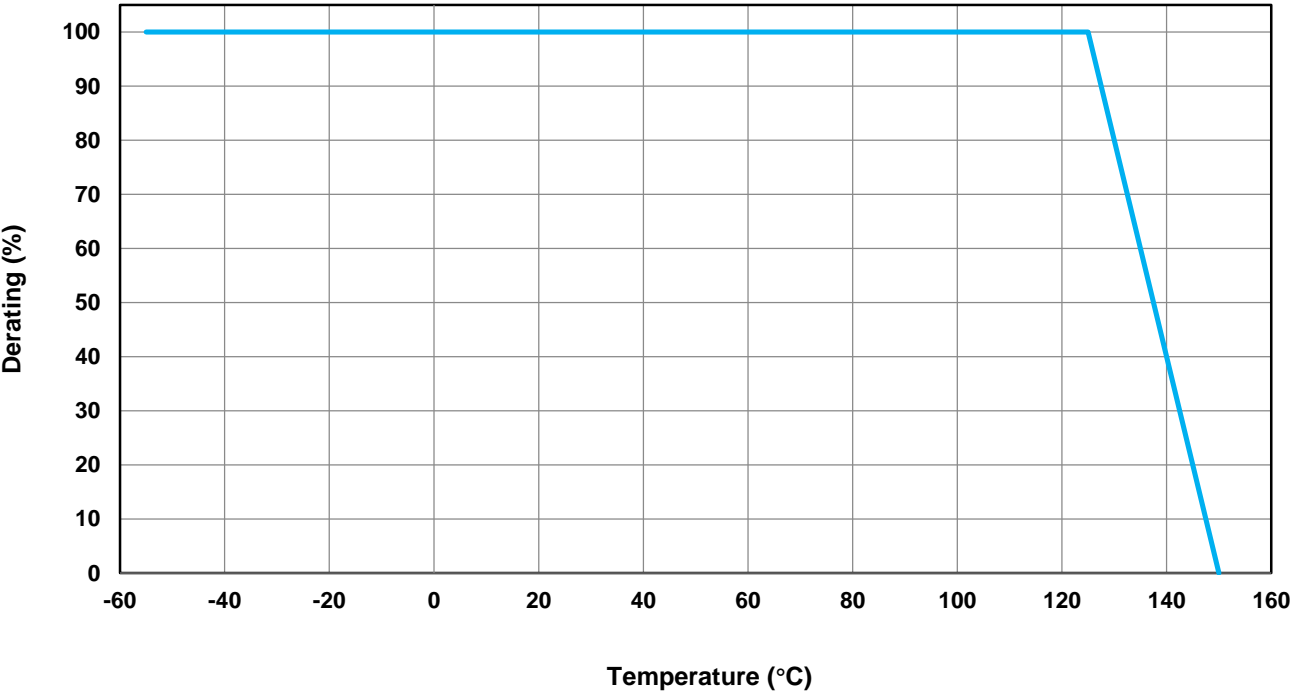
MSL 1

Pb Free 260°C

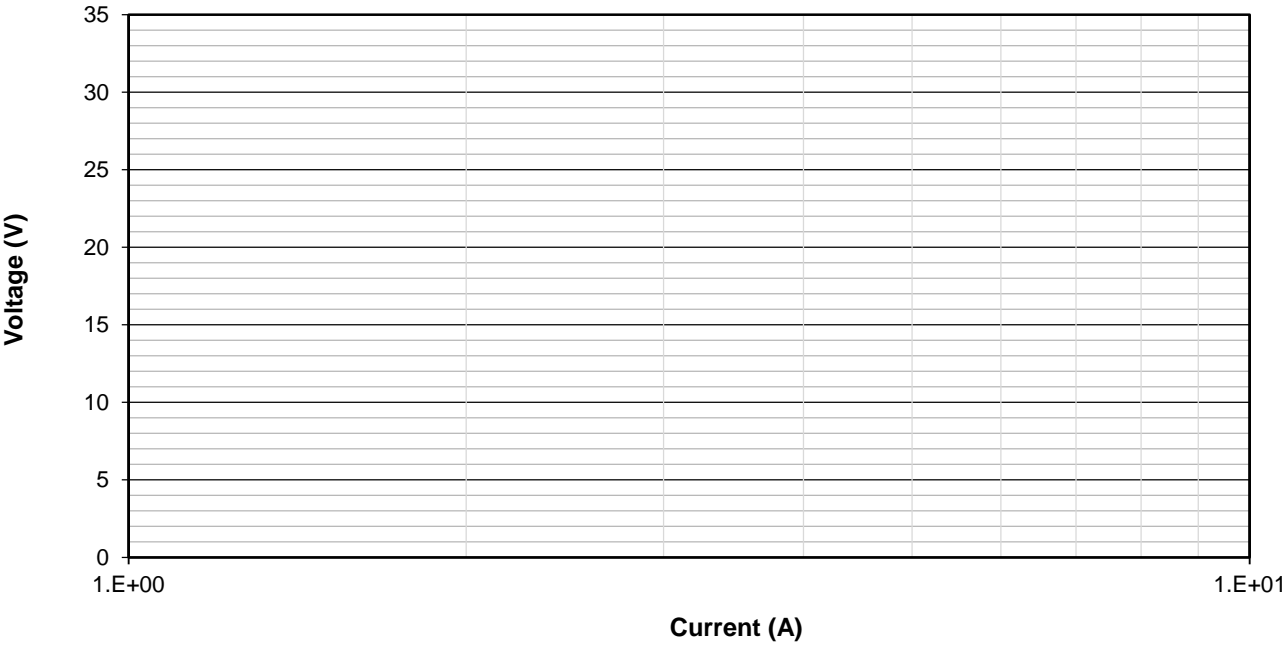
How to order (Packaging options)

VC	UG	04	0050	L	1	W	P
Varistor Chip	Low Leakage	Case Size	Working Voltage	Capacitance	No of Elements	Packaging	Termination
			0050 = 5Vdc	L = Low	1 = 1 element	W = 7" reel (10,000pcs)	P = Ni/Sn

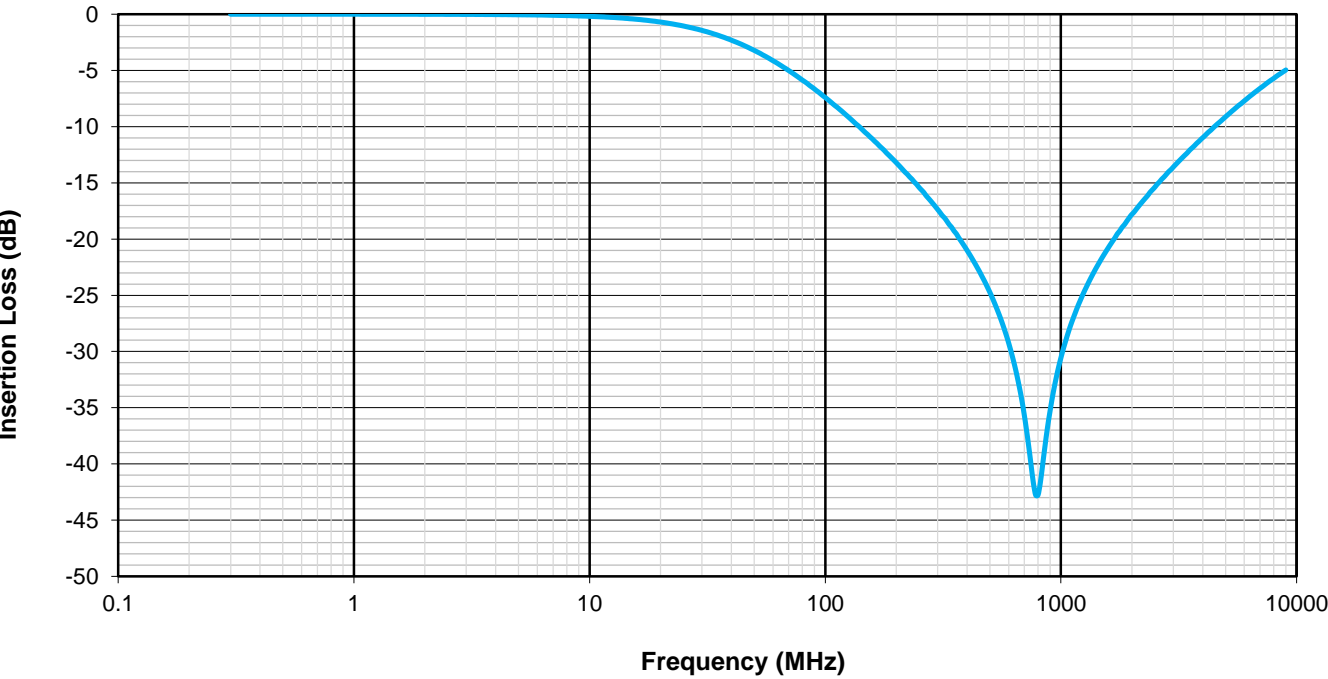
Typical Energy Derating Curve (Transient Energy, Peak Current, Power)



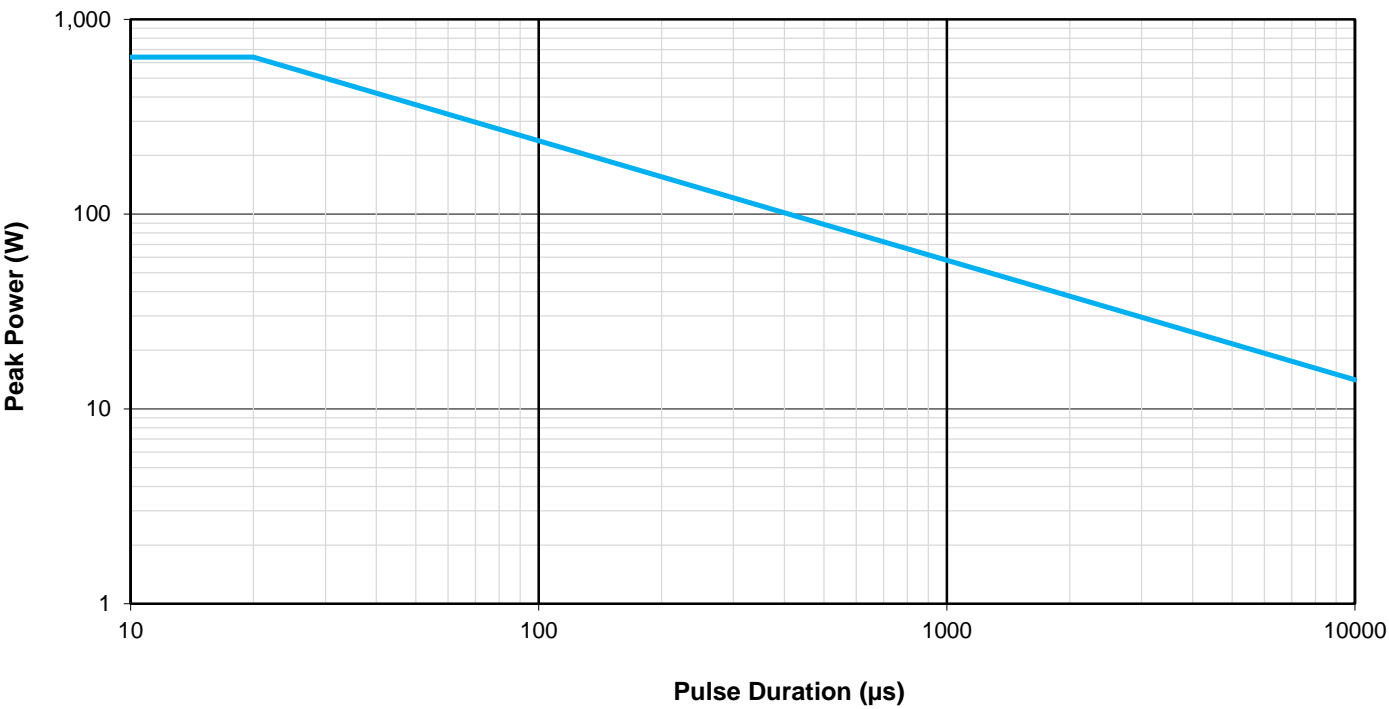
Voltage / Current Characteristics



S21 Characteristics



Power Derating



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