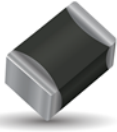


## UltraGuard Multilayer Varistors

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 <sub>W</sub> (DC)	V <sub>W</sub> (AC)	V <sub>B</sub>	V <sub>C</sub>	I <sub>VC</sub>	I <sub>L</sub>	E <sub>T</sub>	PP	I <sub>P</sub>	Cap	Cap Tol
EIA	Vdc	Vac	V	V	A	$\mu\text{A}$	J	W	A	pF	-
0402	3	2.3	6.8	18	1	1	0.05	38	20	175	+100/-50%

V<sub>W</sub>(DC) DC Working Voltage [V]

V<sub>W</sub>(AC) AC Working Voltage [V]

V<sub>B</sub> Typical Breakdown Voltage [V @ 1mA<sub>DC</sub>]

V<sub>C</sub> Clamping Voltage [V @ I<sub>VC</sub>]

I<sub>VC</sub> Test Current for V<sub>C</sub> [A, 8x20 $\mu\text{s}$ ]

I<sub>L</sub> Maximum leakage current at the working voltage [ $\mu\text{A}$ ]

E<sub>t</sub> Transient Energy Rating [J, 10x1000 $\mu\text{s}$ ]

PP Peak Power Rating [W, 10x1000 $\mu\text{s}$ ]

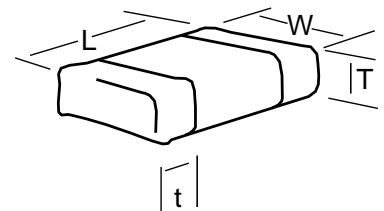
I<sub>P</sub> Peak Current Rating [A, 8x20 $\mu\text{s}$ ]

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

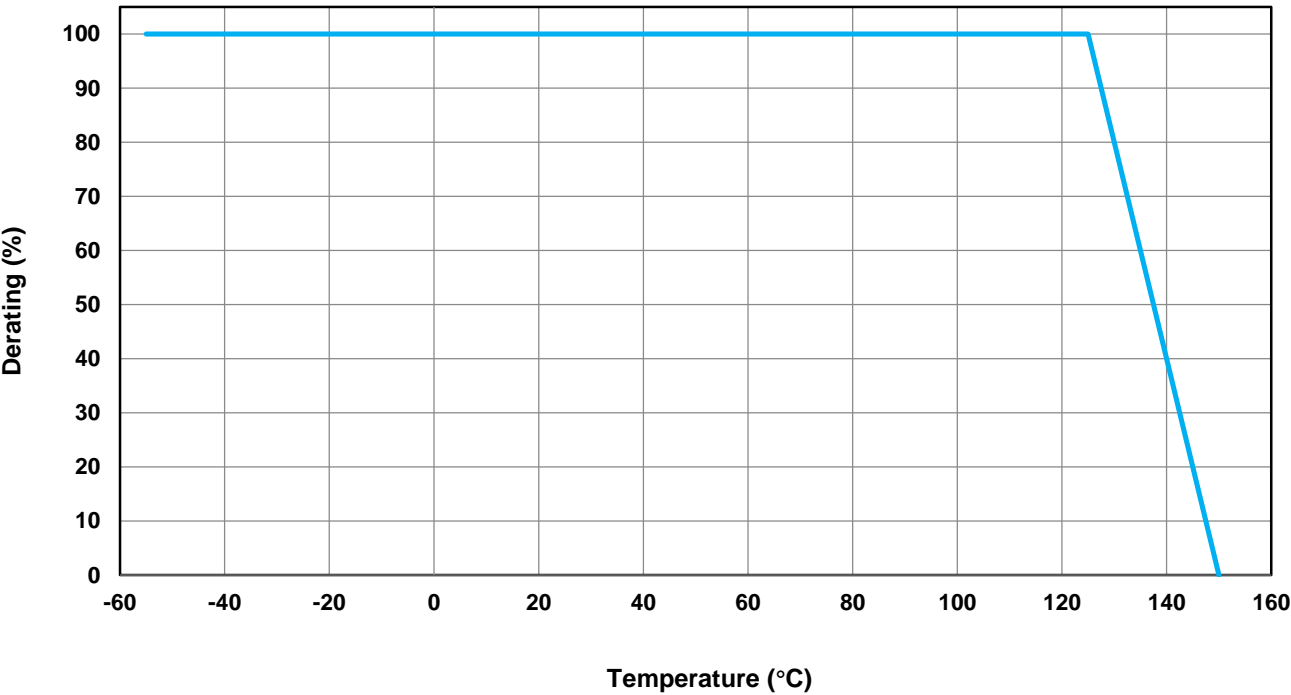
MSL 1

Pb Free 260°C

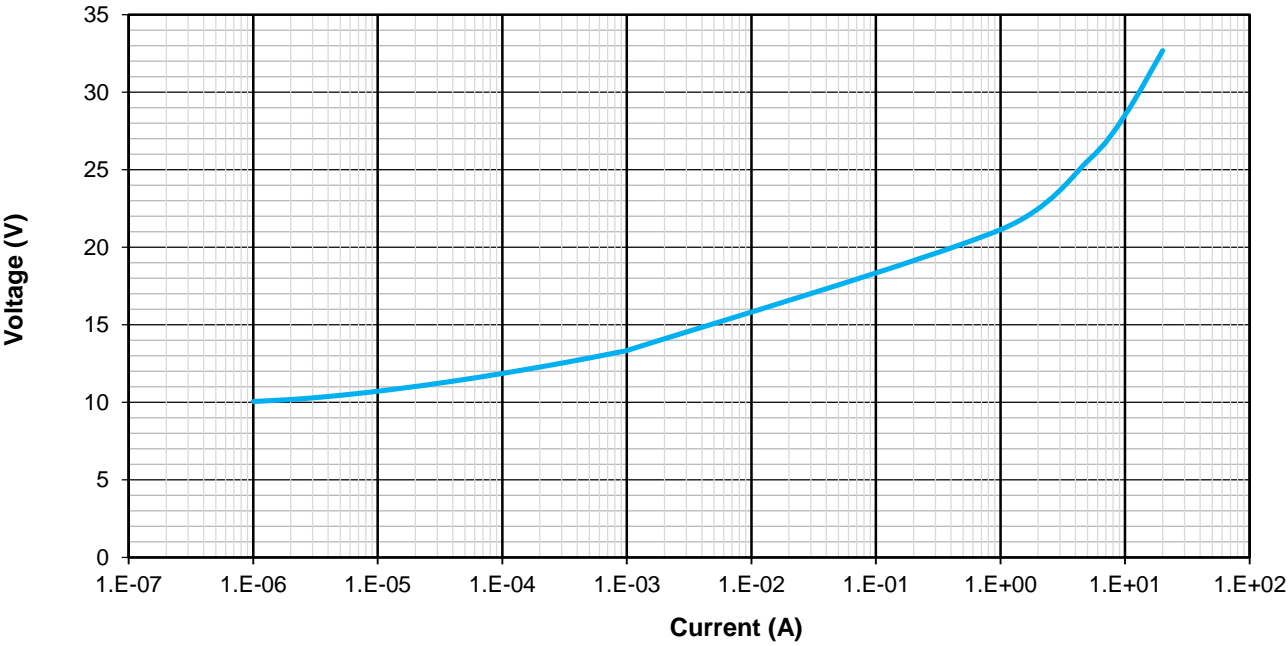
How to order (Packaging options)

VC	UG	04	0030	L	1	W	P
Varistor Chip	Low Leakage	Case Size	Working Voltage	Capacitance	No of Elements	Packaging	Termination
			0030 = 3Vdc	L = Low	1 = 1 element	W = 7" reel (10,000pcs)	P = Ni/Sn

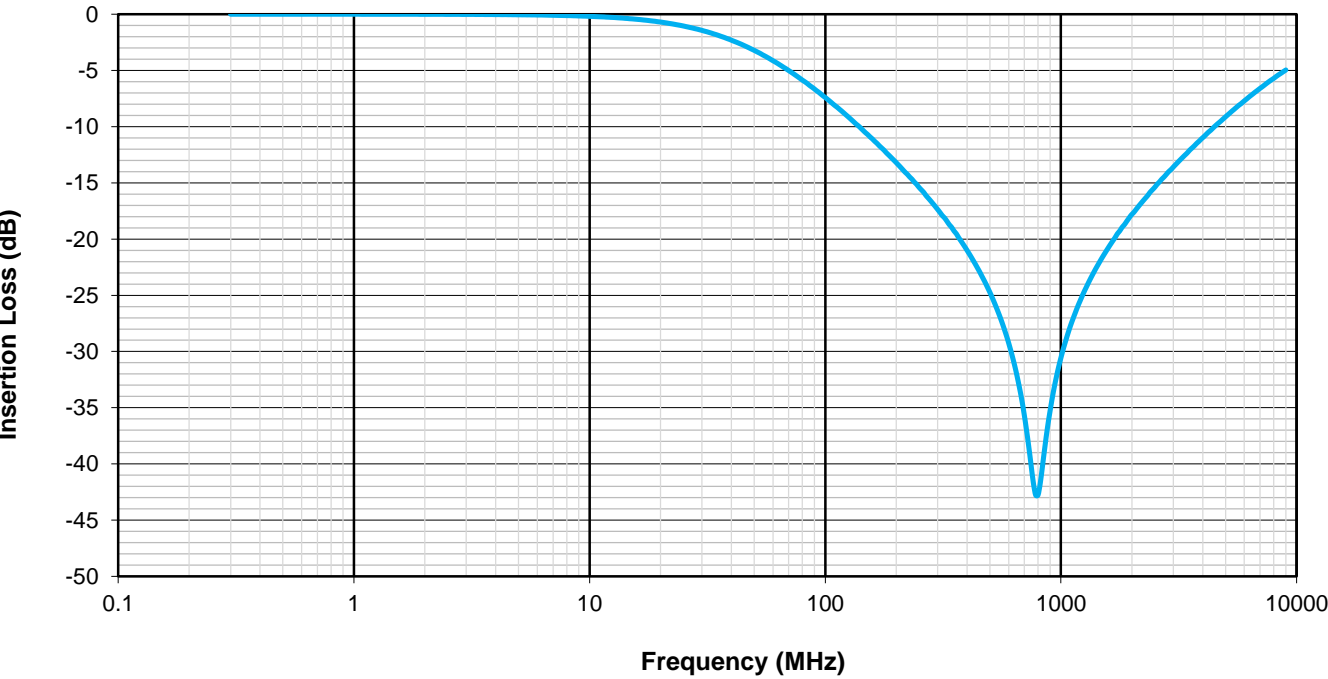
Typical Energy Derating Curve (Transient Energy, Peak Current, Power)



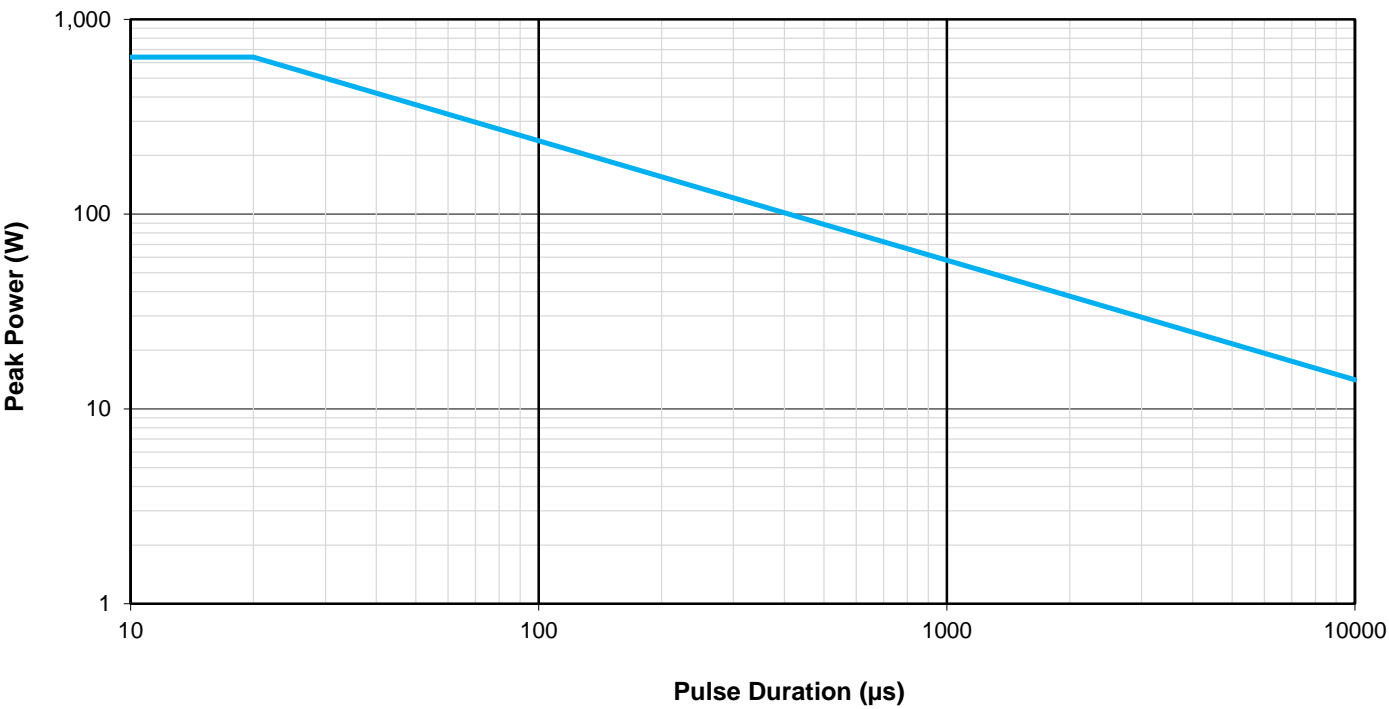
Voltage / Current Characteristics



S21 Characteristics



Power Derating



NOTICE: Specifications are subject to change without notice. All statements, information and data given herein are believed to be accurate and reliable, but are presented without guarantee or responsibility of any kind, expressed or implied. Specifications are typical and may not apply to all applications.