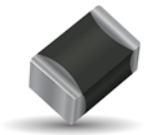
# VCUG080100L1RP

( 0805, 10Vdc, 0.1J, 30A, 225pF, Ni/Sn Term )

## 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 ≤1µA. 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 |
|---|---|

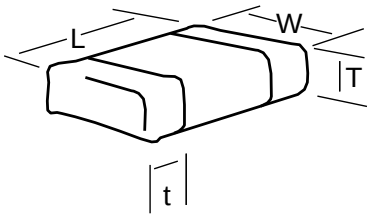
| Case Size | $V_W$ (DC) | $V_W$ (AC) | $V_B$ | $V_C$ | $I_{VC}$ | $I_L$ | $E_T$ | PP | $I_P$ | Cap | Cap Tol |
|---|---|---|---|---|---|---|---|---|---|---|---|
| EIA | Vdc | Vac | V | V | A | µA | J | W | A | pF | - |
| 0805 | 10 | 7.1 | 23 | 42 | 1 | 1 | 0.1 | 75 | 30 | 225 | +100/-50% |

| | |
|---|---|
| $V_W$(DC) | DC Working Voltage [V] |
| $V_W$(AC) | AC Working Voltage [V] |
| $V_B$ | Typical Breakdown Votage [V @ 1mA$_{DC}$] |
| $V_C$ | Clamping Voltage [V @ $I_{VC}$] |
| $I_{VC}$ | Test Current for $V_C$ [A, 8x20µs] |
| $I_L$ | Maximum leakage current at the working voltage [µA] |
| $E_t$ | Transient Energy Rating [J, 10x1000µS] |
| PP | Peak Power Rating [W, 10x1000µS] |
| $I_P$ | Peak Current Rating [A, 8x20µS] |
| Cap | Typical capacitance [pF] @1kHz and 0.5VRMS |
| Cap tol | Capacitance tolerance from typical value |

## Dimensions

**mm (inches)**

| Size (EIA) | Length (L) | Width (W) | Thickness (T) | Terminal (t) |
|---|---|---|---|---|
| 0805 | 2.01±0.20 | 1.25±0.20 | 1.02 max | 0.71 max |
| | (0.079±0.008) | (0.049±0.008) | (0.040 max) | (0.028 max) |




## Termination

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

RoHS COMPLIANT

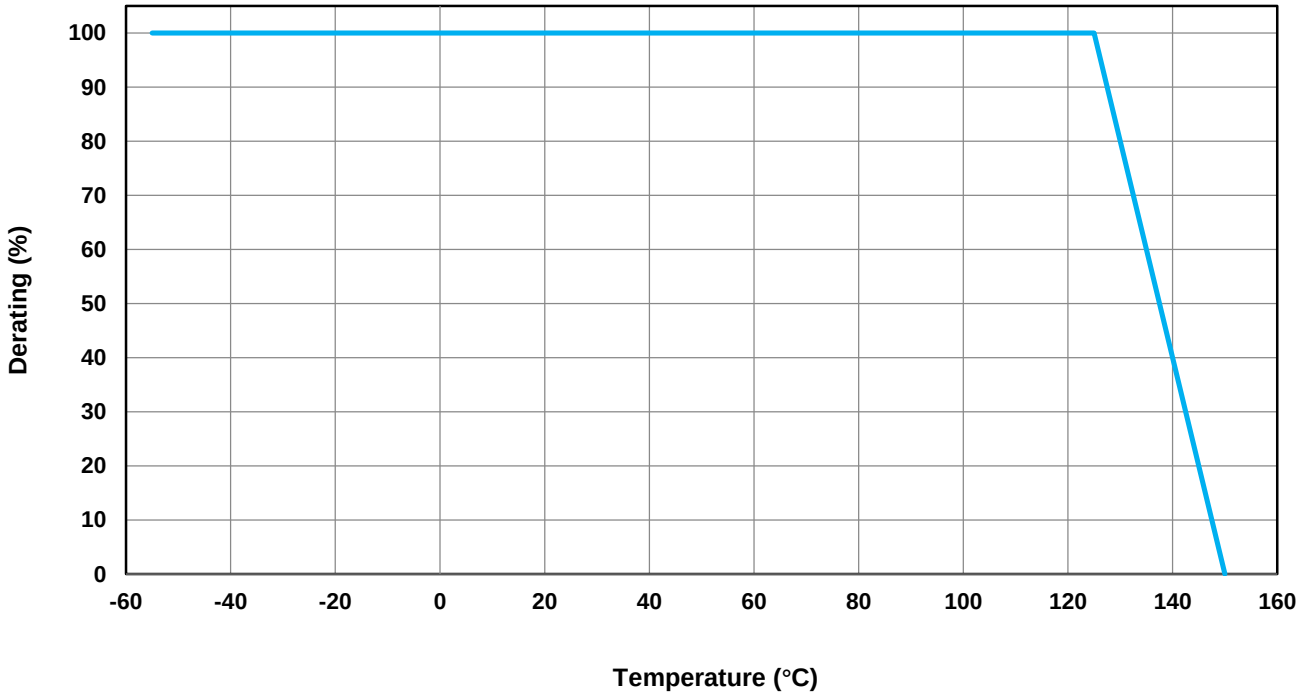
MSL 1

Pb Free 260°C

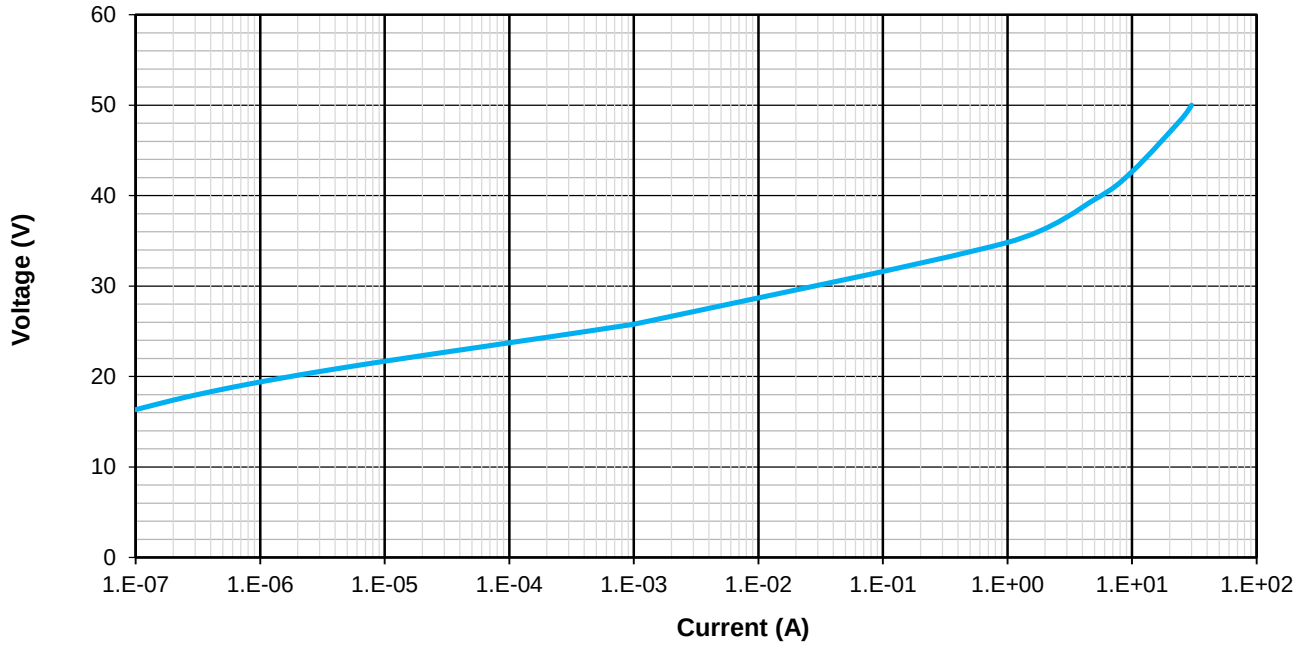
## How to order (Packaging options)

| VC | UG | 08 | 0100 | L | 1 | R | P |
|---|---|---|---|---|---|---|---|
| Varistor Chip | Low Leakage | Case Size | Working Voltage | Capacitance | No of Elements | Packaging | Termination |
| | | | 0100 = 10Vdc | L = Low | 1 = 1 element | D = 7“ reel (1,000pcs)<br>R = 7“ reel (4,000pcs)<br>T = 13“ reel (10,000pcs) | P = Ni/Sn |

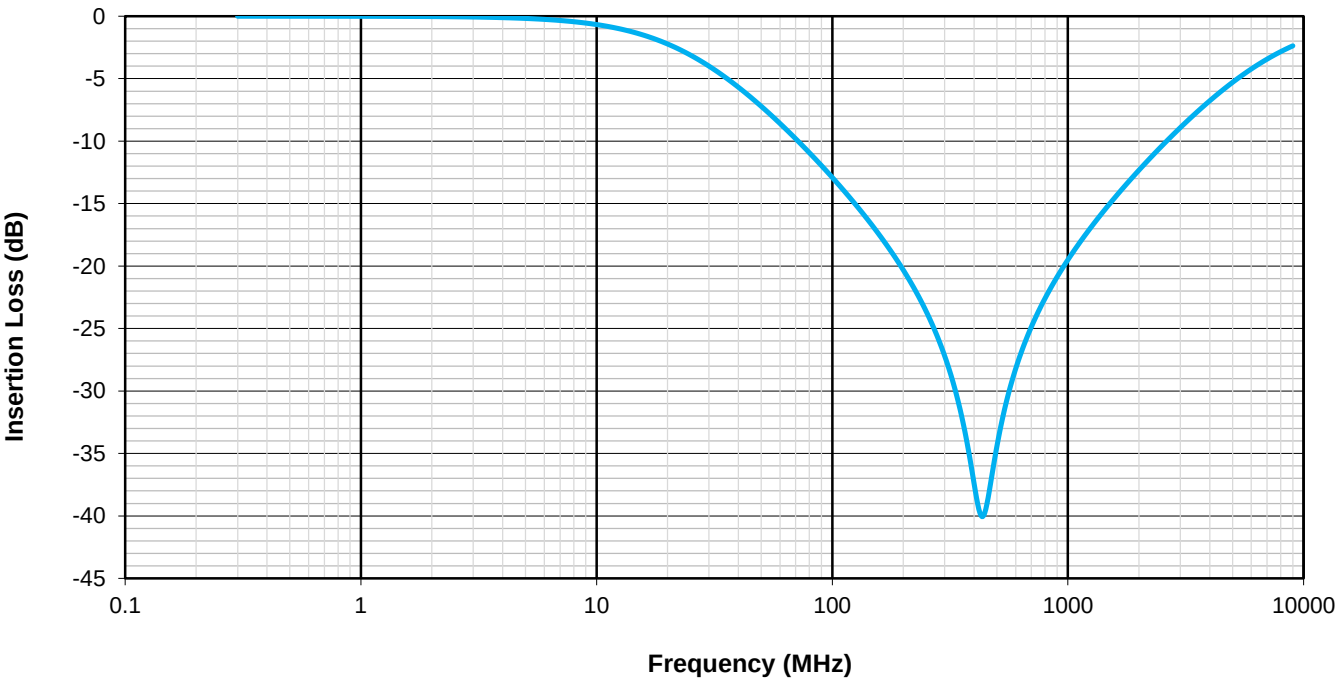
## Typical Energy Derating Curve (Transient Energy, Peak Current, Power)



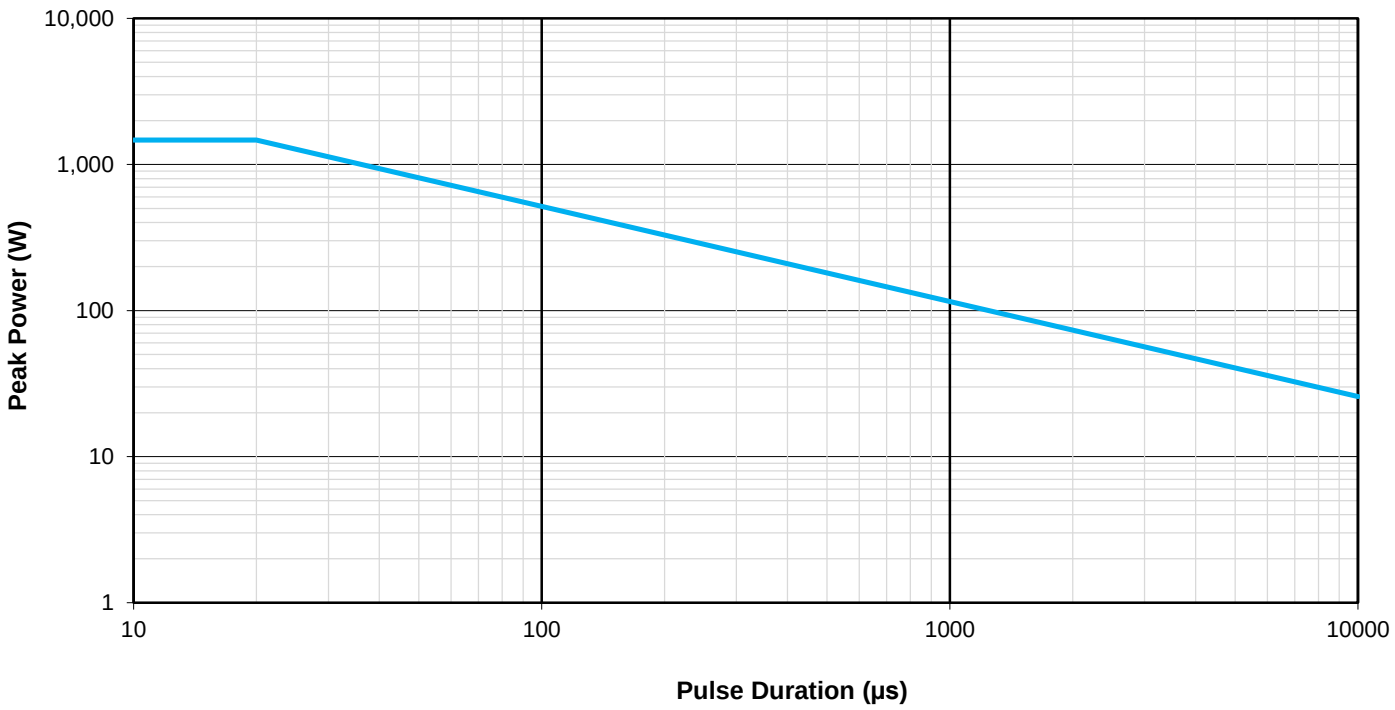
## Voltage / Current Characteristics




## S21 Characteristics



## Power Derating




NOTICE: Specifications are subject to change without notice. All statements, information and data given herein are beleived 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.