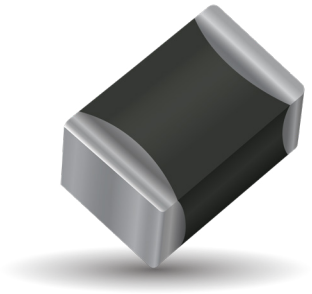
Low Clamp Automotive TransGuard®

Multilayer Varistors with Low Clamping to Working Voltage Ratio



GENERAL DESCRIPTION

AVX Low Clamping Automotive TransGuard® Multilayer Varistors are designed for applications where lower clamping to working voltage ratio is required. Parts are suitable for automotive, industrial and general applications. Parts are AEC-Q200 qualified.

They offer bi-directional ESD overvoltage protection as well as EMI/RFI attenuation in a single SMT package. This allows designers the ability to combine the circuit protection and EMI/RFI attenuation function into a single highly reliable device.

Compared to standard varistors, low clamp varistors exhibit lower breakdown and clamping to working voltage ratio and provide enhanced protection for components with higher sensitivity to overvoltage.

Available in 0603 to 1210 case size, 16 Vdc working voltage, energy rating 0.1 - 1.6J, load dump energy 0.7 – 3J, peak current 50 – 500A and capacitance 400 – 5000pF. Operating temperature range is -55°C to +125°C. Parts offer excellent lead free solderability thanks to Ni Barrier/100% Sn termination.

GENERAL CHARACTERISTICS

- Operating Temp.: -55 to +125°C
- Working Voltage: 16Vdc
- Case Size: 0603 - 1210

FEATURES & BENEFITS

- AEC-Q200 Qualified
- Low Clamping to Working Voltage ratio
- EMI/RFI attenuation

APPLICATIONS

- Infotainment
- ECU
- Displays
- Microcontrollers
- Low V_C to V_W ratio requirements

HOW TO ORDER

VL	AS	0603	16	A	350	R	P
Varistor Low Clamp	Automotive Series	Case Size 0603 0805 1206 1210	Working Voltage 16 = 16Vdc	Energy Rating A = 0.1J C = 0.3J E = 0.5J J = 1.6J	Clamping Voltage 350 = 35V	Package D = 7"(1,000) R = 7" (4,000) T = 13" (10,000)	Termination P = Ni/Sn plated

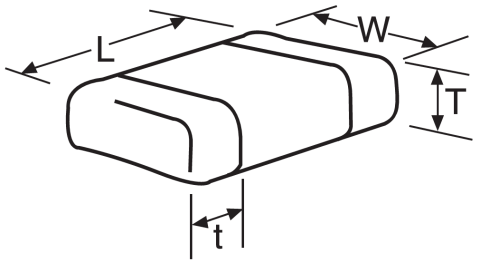
RoHS COMPLIANT

MSL 1
Pb Free 260°C

DIMENSIONS

mm (inches)

Size (EIA)	Length (L)	Width (W)	Max Thickness (T)	Land Length (t)
0603	1.60±0.15 (0.063±0.006)	0.80±0.15 (0.031±0.006)	0.90 (0.035)	0.35±0.15 (0.014±0.006)
0805	2.01±0.20 (0.079±0.008)	1.25±0.20 (0.049±0.008)	1.02 (0.040)	0.71 max. (0.028 max.)
1206	2.01±0.20 (0.079±0.008)	1.25±0.20 (0.049±0.008)	1.02 (0.040)	0.71 max. (0.028 max.)
1210	2.01±0.20 (0.079±0.008)	1.25±0.20 (0.049±0.008)	1.02 (0.040)	0.71 max. (0.028 max.)

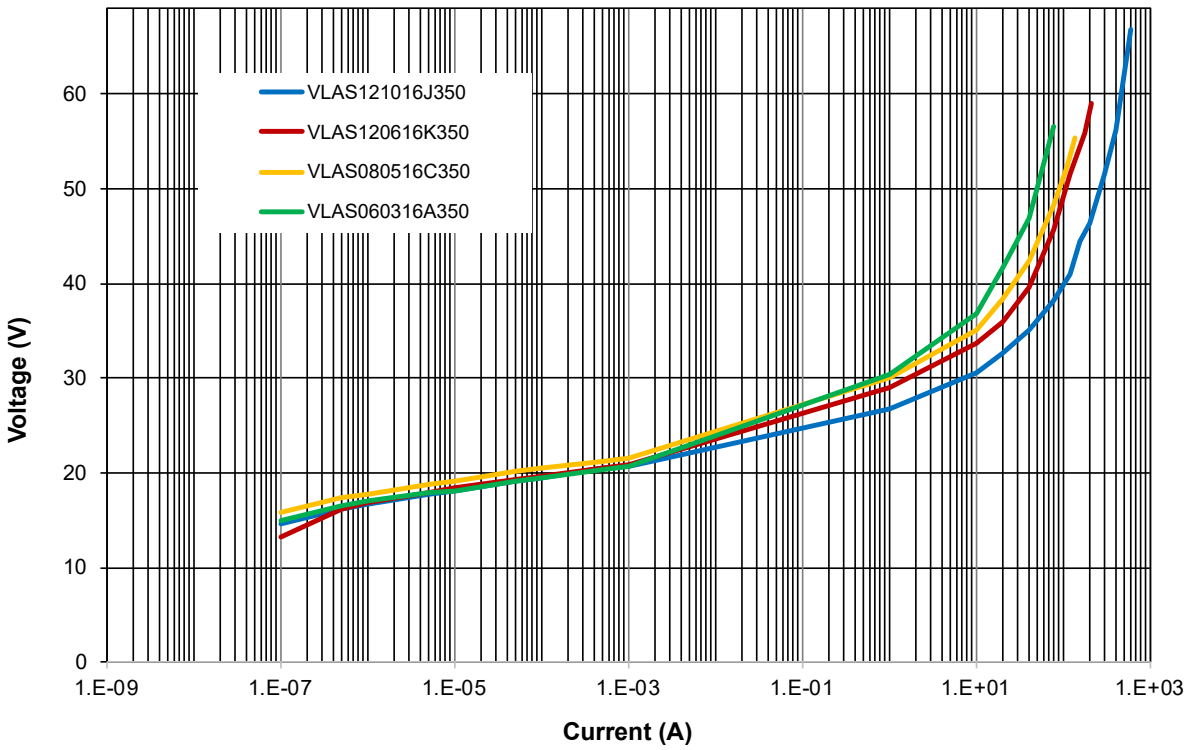


ELECTRICAL CHARACTERISTICS

AVX PM	V_W (DC)	V_W (AC)	V_B	V_C	V_{CTyp}	I_{VC}	I_L	E_T	E_{LD}	I_P	Cap	V_{Jump}	$P_{Diss. Max}$
	Vdc	Vac	V	V	V	A	µA	J	J	A	pF	V	W
VLAS060316A350	16	11	20.5±10%	35	30	1	10	0.1	-	50	400	20	0.003
VLAS080516C350	16	11	20.5±10%	35	30	1	10	0.3	0.7	120	900	20	0.006
VLAS120616E350	16	11	20.5±10%	35	30	1	10	0.5	1.3	200	1400	20	0.010
VLAS121016J350	16	11	20.5±10%	35	30	2.5	10	1.6	3	500	5000	20	0.030

VW(DC)	DC Working Voltage [V]
VW(AC)	AC Working Voltage [V]
V_B	Breakdown Voltage [V @ 1mADC]
V_C	Clamping Voltage [V @ IVC]
V_{CTyp}	Typical Clamping Voltage [V @ IVC]
I_{VC}	Test Current for VC
I_L	Maximum leakage current at the working voltage [µA]
E_t	Transient Energy Rating [J, 10x1000µS]
I_P	Peak Current Rating [A, 8x20µS]
Cap	Typical capacitance [pF] @ 1kHz and 0.5VRMS
V_{Jump}	Jump Start (V)
$P_{Diss\ Max}$	Max Power Dissipation (W)

V-I CHARACTERISTICS



FORWARD TRANSMISSION CHARACTERISTICS (S21)