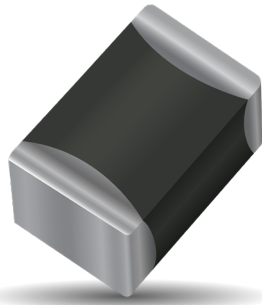


Low Clamp Automotive TransGuard®

Multilayer Varistors with Low Clamping to Working Voltage Ratio



GENERAL DESCRIPTION

KYOCERA 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, 16-30 Vdc working voltage, energy rating 0.1 - 1.6J, load dump energy 0.7 - 3J, peak current 50 - 500A and capacitance 275 - 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: 16-30 Vdc
- Case Size: 0603 - 1210

FEATURES & BENEFITS

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

APPLICATIONS

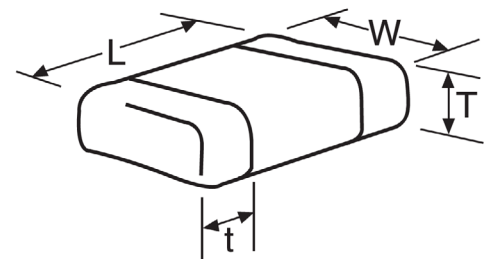
- Infotainment
- ECU
- Displays
- Microcontrollers
- Low V_C to V_W ratio requirements

HOW TO ORDER

VL ┆ Varistor Low Clamp	AS ┆ Automotive Series	0603 ┆ Case Size 0603 0805 1206 1210	16 ┆ Working Voltage 16 = 16Vdc 30 = 30Vdc	A ┆ Energy Rating A = 0.1J C = 0.3J D = 0.4J E = 0.5J J = 1.6J	350 ┆ Clamping Voltage 350 = 35V 570 = 57V	R ┆ Package D = 7" (1,000) R = 7" (4,000) T = 13" (10,000)	P ┆ Termination P = Ni/Sn plated Z = FLEXITERM® *Only available for 0603-1210 case	 MSL 1 Pb Free 260°C
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DIMENSIONS

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	3.20±0.20 (0.126±0.008)	1.60±0.20 (0.063±0.008)	1.02 (0.040)	0.94 max. (0.037 max.)
1210	3.20±0.20 (0.126±0.008)	2.49±0.20 (0.098±0.008)	1.70 (0.067)	1.14 max. (0.045 max.)



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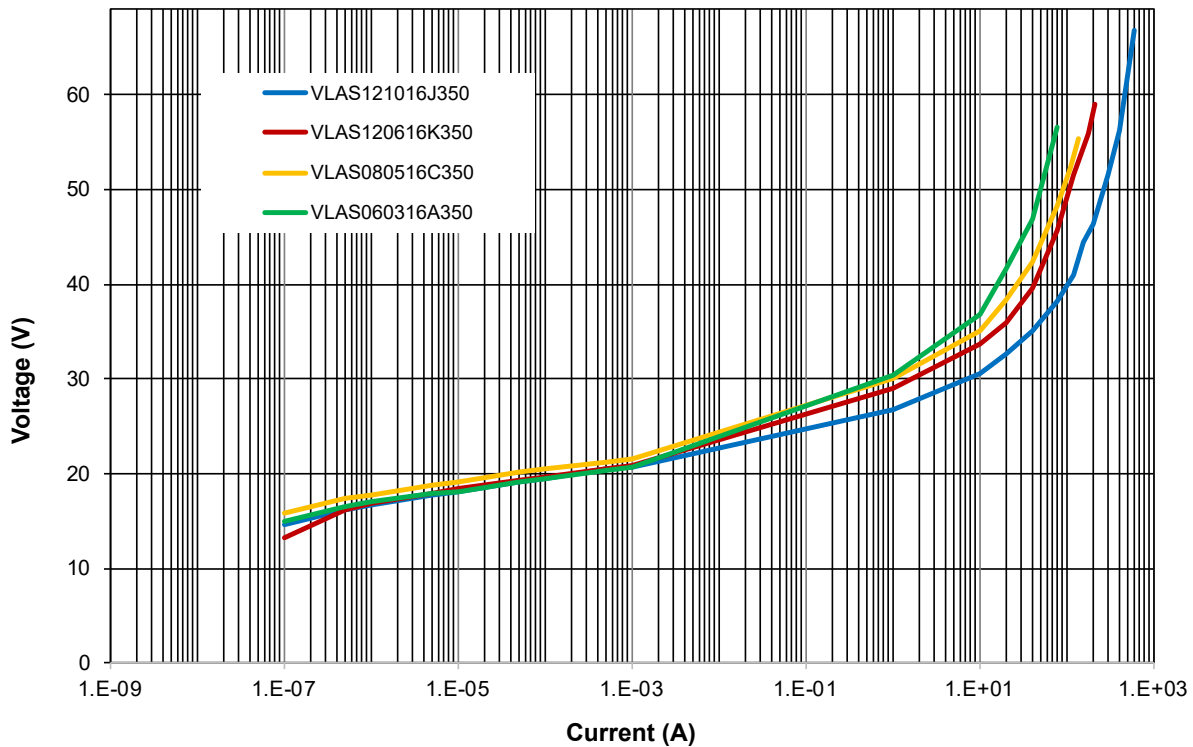


ELECTRICAL CHARACTERISTICS

Part Number	V _w (DC)	V _w (AC)	V _B	V _C	V _C Typ	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	19.5+12%	35	30	1	10	0.1	-	50	400	20	0.003
VLAS080516C350	16	11	19.5+12%	35	30	1	10	0.3	0.7	120	900	20	0.006
VLAS120616E350	16	11	19.5+12%	35	30	1	10	0.5	1.3	200	1400	20	0.010
VLAS121016J350	16	11	19.5+12%	35	30	2.5	10	1.6	3	500	5000	20	0.030
VLAS080522C440	22	17	27+13%	44	39	1	10	0.3	1	120	450	27.5	0.007
VLAS080530D570	30	21	34+13%	57	50	1	15	0.4	0.6	125	275	29	0.008
VLAS060334B650	34	30	39+13%	65	60	1	10	0.2	0.25	50	90	29	0.004
VLAS080534C650	34	30	39+13%	65	60	1	10	0.3	1	80	275	29	0.006
VLAS120634M650	34	30	39+13%	65	60	1	10	1	2	200	1100	29	0.02
VLAS121034R650	34	30	39+13%	65	60	5	10	1.7	4.5	300	1500	29	0.03

- V_w(DC) DC Working Voltage [V]
- V_w(AC) AC Working Voltage [V]
- V_B Breakdown Voltage [V @ 1mA DC]
- V_C Clamping Voltage [V @ I_{VC}]
- V_CTyp Typical Clamping Voltage [V @ I_{VC}]
- I_{VC} Test Current for VC
- I_L Maximum leakage current at the working voltage, 25°C [μA]
- E_T Transient Energy Rating [J, 10x1000μS]
- I_P Peak Current Rating [A, 8x20μS]
- Cap Typical capacitance [pF] @ 1kHz and 0.5VRMS, 25°C
- V_{Jump} Jump Start (V)
- P_{Diss Max} Max Power Dissipation (W)

V-I CHARACTERISTICS



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FORWARD TRANSMISSION CHARACTERISTICS (S21)

