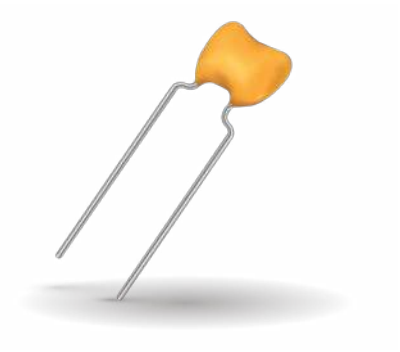
Radial Leaded High Temp. Automotive TransGuard®

150°C Rated Radial Leaded Varistors



GENERAL DESCRIPTION

KYOCERA AVX High Temperature Multi-Layer Varistors are designed for underhood applications. Products have been tested, qualified, and specified to 150°C. The Radial Leaded TransGuard is built for durability in harsh environments. The MLV advantage is EMI/RFI attenuation in the off state. This allows designers to combine the circuit protection and EMI/RFI attenuation function into a single highly reliable device.

GENERAL CHARACTERISTICS

- Operating Temperatures: -55°C to +150°C
- Working Voltage: 14-48Vdc

FEATURES

- Rated at 150°C
- AEC Q200 qualified
- ESD rated to 25kV (HBM ESD Level 6)
- EMI/RFI attenuation in off state
- Excellent current and energy handling

APPLICATIONS

- Under hood
- Down Hole Drilling
- DC Motors
- Relays
- Inductive Loads
- High Temperature/ Harsh environment and more

HOW TO ORDER

VR15	AT	18	A	650	R	TR2
Style VR15 VR20	**Series** AT = 150°C Automotive	**Voltage** 14 = 14V 18 = 18V 26 = 26V 48 = 48V	**Energy** A = 0.1J D = 0.4J S = 2.0J	**Clamping Voltage** 580 = 60V 650 = 67V 101 = 100V 151 = 150V	**Leads** R = RoHS Compliant	**Packaging** Blank = Bulk TR1 = T&R Standard 1 TR2 = T&R Standard 2

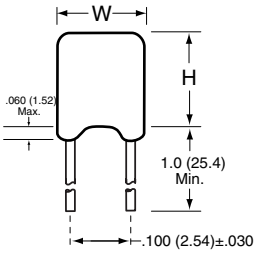
RoHS COMPLIANT

ELECTRICAL CHARACTERISTICS

Part Number	$V_{W\,DC}$	$V_{W\,AC}$	V_B	V_C	I_{VC}	I_L	E_T	E_{LD}	I_P	Cap	Freq	V_{JUMP}	P_{DISS}
VR15AT14A580	14.0	10.0	34.5±10%	60	1	10	0.1	0.15	30	120	K	27.5	0.002
VR15AT18A650	18.0	13.0	41.0±10%	67	1	10	0.1	0.15	30	90	M	29	0.002
VR20AT26D101	26.0	18.0	62.0±10%	100	1	10	0.4	1.5	100	225	K	48	0.008
VR20AT48S151	48.0	34.0	100.0±10%	150	1	10	2.0	3.5	250	275	K	48	0.040

V_W(DC)	DC Working Voltage [V]	E_t	Transient Energy Rating [J, 10x1000µS]
V_W(AC)	AC Working Voltage [V]	E_{LD}	Load Dump Energy (x10) [J]
V_B	Typical Breakdown Votage [V @ 1mA$_{DC}$]	I_P	Peak Current Rating [A, 8x20µS]
V_C	Clamping Voltage [V @ I_{IV}]	Cap	Typical capacitance [pF] @ frequency specified and 0.5V_{RMS}
I_{VC}	Test Current for V_C	V_{Jump}	Jump Start (V)
I_L	Maximum leakage current at the working voltage [µA]	P_{DISS}	Power Dissipation (W)

PHYSICAL DIMENSIONS

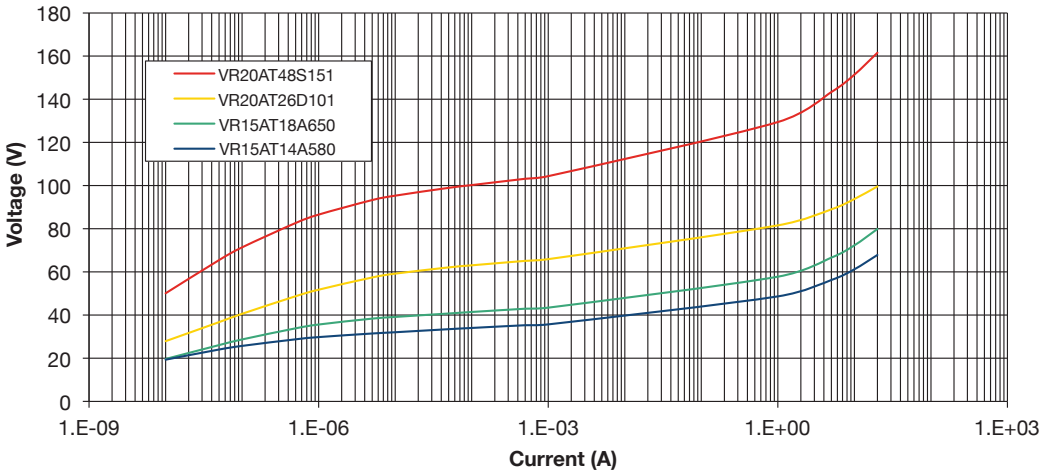


mm (inches)

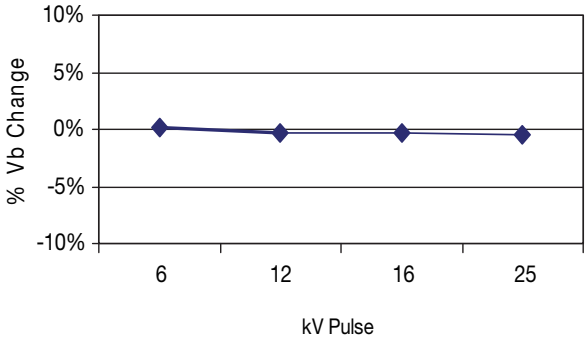
Style	Width (W)	Height (H)	Thickness (T)	Lead Spacing	Lead Diameter
VR15	4.32 Max. (0.170)	3.81 Max. (0.150)	2.54 Max. (0.100)	2.54 (0.100)	0.508 (0.020)
VR20	5.59 Max (0.220)	5.08 Max (0.200)	3.175 Max (0.125)	2.54 (0.100)	0.508) (0.020

TYPICAL PERFORMANCE CURVES

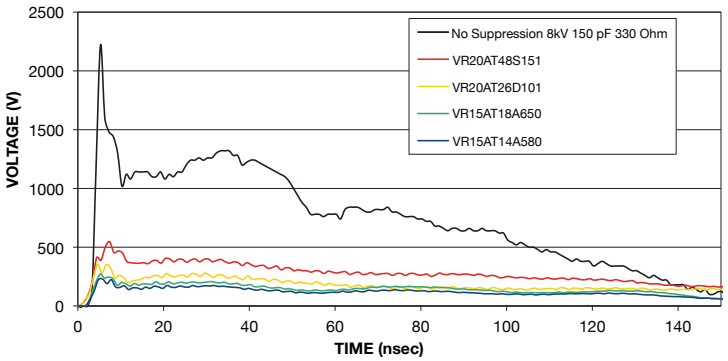
Typical Voltage Current Characteristics



AEC-Q200-002 ESD Characteristics



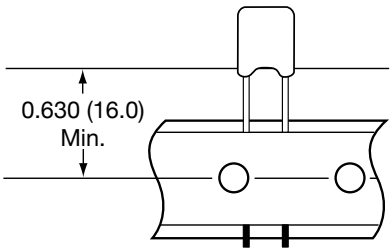
ESD Wave Absorption Characteristics



8 kV ESD Vc
(150pF/330ohm IEC Network)

TAPE & REEL PACKAGING OPTIONS

TR1
Tape & Reel Standard 1



TR2
Tape & Reel Standard 2