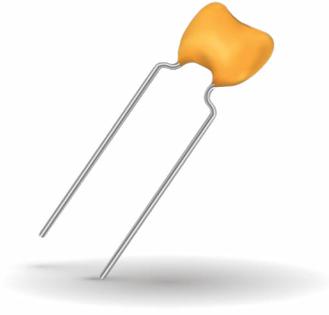


Radial Leaded High Temp. Automotive TransGuard®

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

Style
VR15
VR20

AT

Series
AT = 150°C
Automotive

18

Voltage
14 = 14V
18 = 18V
26 = 26V
48 = 48V

A

Energy
A = 0.1J
D = 0.4J
S = 2.0J

650

Clamping Voltage
580 = 60V
650 = 67V
101 = 100V
151 = 150V

R

Leads
R = RoHS
Compliant

TR2

Packaging
Blank = Bulk
TR1 = T&R Standard 1
TR2 = T&R Standard 2



ELECTRICAL CHARACTERISTICS

Part Number	V _{WDC}	V _{WAC}	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

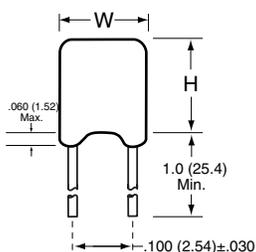
V_W(DC)
V_W(AC)
V_B
V_C
I_{VC}
I_L

DC Working Voltage [V]
AC Working Voltage [V]
Typical Breakdown Voltage [V @ 1mA_{DC}]
Clamping Voltage [V @ I_{VC}]
Test Current for V_C
Maximum leakage current at the working voltage [μA]

E_T
E_{LD}
I_P
Cap
V_{JUMP}
P_{DISS}

Transient Energy Rating [J, 10x1000μS]
Load Dump Energy (x10) [J]
Peak Current Rating [A, 8x20μS]
Typical capacitance [pF] @ frequency specified and 0.5V_{RMS}
Jump Start (V)
Power Dissipation (W)

PHYSICAL DIMENSIONS



Style	mm (inches)				
	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)

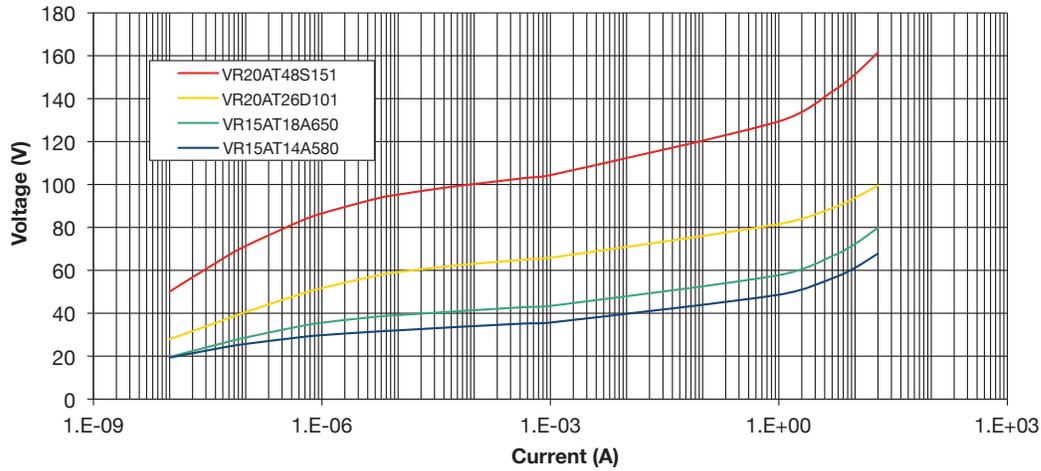
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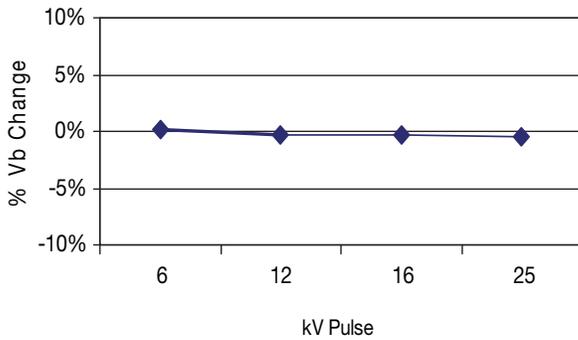


TYPICAL PERFORMANCE CURVES

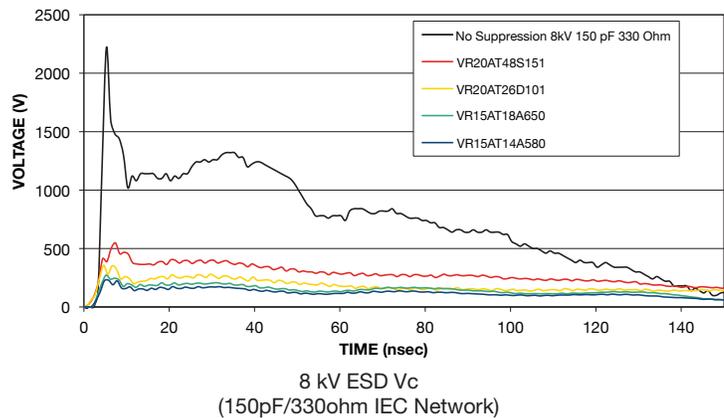
Typical Voltage Current Characteristics



AEC-Q200-002 ESD Characteristics



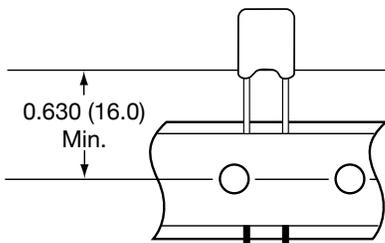
ESD Wave Absorption Characteristics



TAPE & REEL PACKAGING OPTIONS

TR1

Tape & Reel Standard 1



TR2

Tape & Reel Standard 2

