

# Radial Leaded Automotive Varistors



## Radial Leaded TransGuard®



### GENERAL DESCRIPTION

AVX Radial Leaded Multi-Layer Varistors are AEC-Q200 Qualified and are designed for durability in harsh environments or applications where leaded component is preferred. The MLV advantage is bi-directional transient voltage protection and 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 +125°C
- Working Voltage:  
18-48Vdc


### 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

- Harsh environment
- Inductive switching
- DC Motors
- Water pump
- Fuel pump
- Relays and more

### HOW TO ORDER

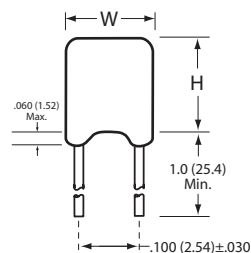
<b>VR20</b>	<b>AS</b>	<b>18</b>	<b>F</b>	<b>390</b>	<b>R</b>	<b>TR2</b>	
AVX Style VR20	Series AS = Automotive	Voltage 18 = 18V 26 = 26V 48 = 48V	Energy F = 0.7J H = 1.2J J = 1.6J	Clamping Voltage 390 = 42V 540 = 54V 560 = 60V 101 = 100V	Leads R = RoHS Compliant	Packaging Blank = Bulk TR1 = T&R Standard 1 TR2 = T&R Standard 2	

### ELECTRICAL CHARACTERISTICS

AVX Part Number	V <sub>WDC</sub>	V <sub>WAC</sub>	V <sub>B</sub>	V <sub>C</sub>	I <sub>VC</sub>	I <sub>L</sub>	E <sub>T</sub>	E <sub>LD</sub>	I <sub>P</sub>	Cap	Freq	V <sub>JUMP</sub>	P <sub>DISS</sub>
VR20AS18J390	18.0	13.0	25.5±10%	42	5	10	1.6	3	500	3100	K	27.5	0.030
VR20AS26F540	26.0	18.0	33.0±10%	54	1	10	0.7	1.5	200	600	K	27.5	0.008
VR20AS26H560	26.0	18.0	34.5±10%	60	5	10	1.2	3	300	1200	K	27.5	0.018
VR20AS48H101	48.0	34.0	62.0±10%	100	1	10	1.2	-	250	500	K	48	0.022

V <sub>W(DC)</sub>	DC Working Voltage [V]	E <sub>T</sub>	Transient Energy Rating [J, 10x1000µS]
V <sub>W(AC)</sub>	AC Working Voltage [V]	E <sub>LD</sub>	Load Dump Energy (x10) [J]
V <sub>B</sub>	Typical Breakdown Voltage [V @ 1mA <sub>DC</sub> ]	I <sub>P</sub>	Peak Current Rating [A, 8x20µS]
V <sub>C</sub>	Clamping Voltage [V @ I <sub>C</sub> ]	Cap	Typical capacitance [pF] @ frequency specified and 0.5V <sub>RMS</sub>
I <sub>VC</sub>	Test Current for V <sub>C</sub>	V <sub>JUMP</sub>	Jump Start (V)
I <sub>L</sub>	Maximum leakage current at the working voltage [µA]	P <sub>DISS</sub>	Power Dissipation (W)

### PHYSICAL DIMENSIONS

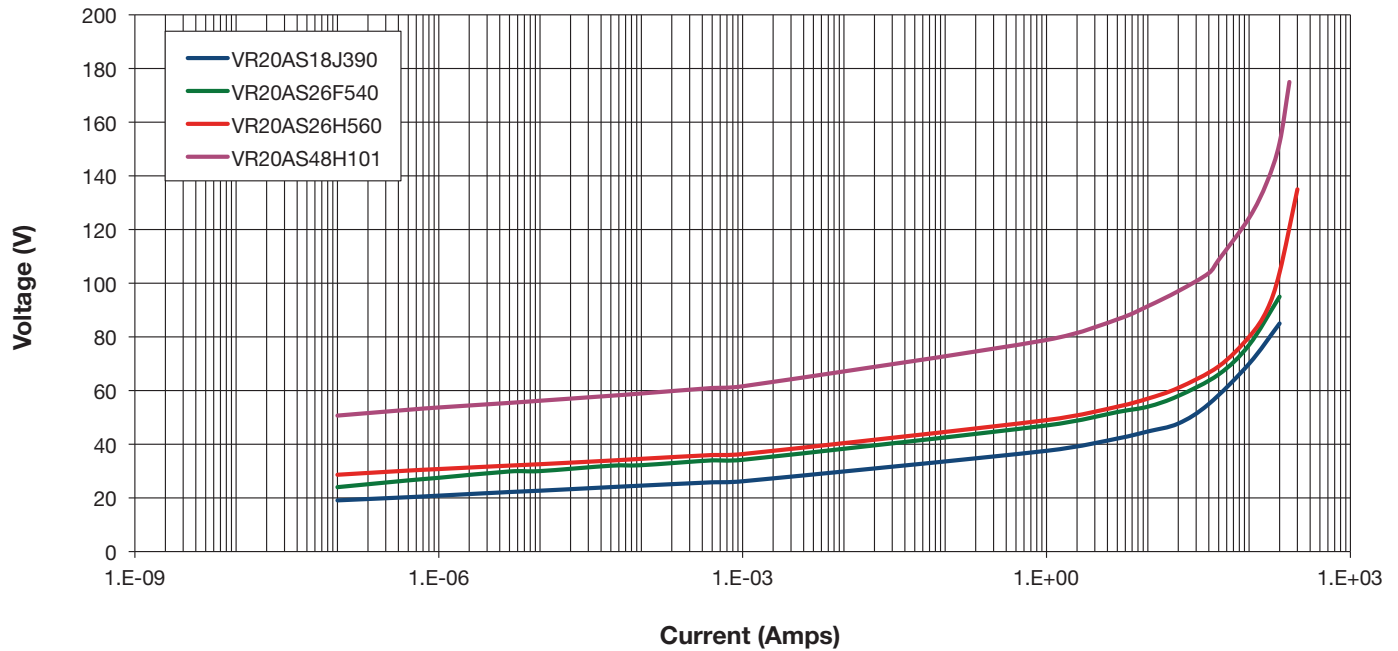


AVX Style	Width (W)	Height (H)	Thickness (T)	Lead Spacing	Lead Diameter
VR20	5.59 Max (0.220)	5.08 Max (0.200)	3.175 Max (0.125)	2.54 (0.100)	0.508 (0.020)



### TYPICAL PERFORMANCE CURVES

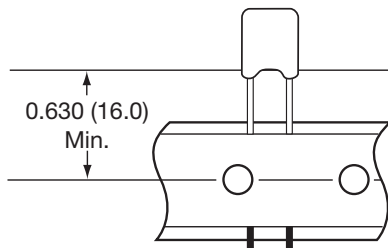
Typical Voltage Current Characteristics



### TAPE & REEL PACKAGING OPTIONS

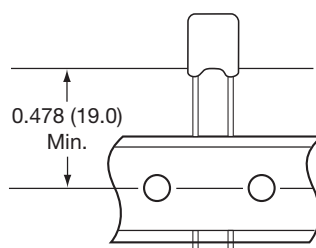
#### TR1

Tape & Reel Standard 1



#### TR2

Tape & Reel Standard 2



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