

Description:

Almost all electronic systems in internal-combustion powered vehicles, e.g., anti-lock brakes, direct ignition, airbag control, wiper motors, etc. are susceptible to damage from destructive voltage transients.

Stackpole/KEKO's AV Series of leaded automotive varistors includes both multilayer and single layer components, defined by W_{LD} capability. Multilayer devices are intended W_{LD} applications requiring up to 50 Joules of energy, and single layer discs are for W_{LD} applications requiring above 50 Joules of energy.



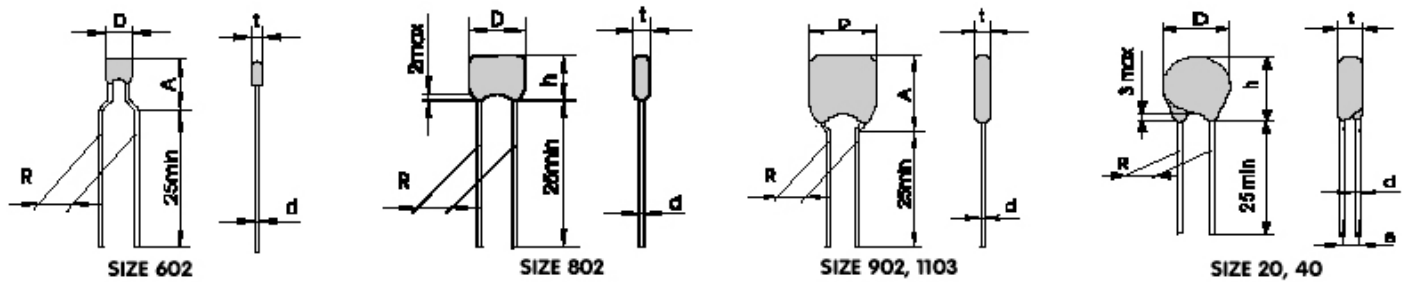
Automotive multilayer varistors offer excellent transient energy absorption due to improved internal energy distribution. Compared to an equivalent automotive disc varistor, they offer better electrical characteristic in much smaller size. Automotive disc varistors are specifically designed and used in applications requiring higher levels of W_{LD} energy absorption, which MLV devices are incapable of handling.

Features:

- AC operating voltage range (V_{rms}) from 14V to 35V
- DC operating voltage (V_{dc}) from 16V to 42V
- Power supply voltages (V_{dc}) 12V, 24V and 42V
- Broad range of current and energy handling capabilities realized with either type of construction
- AVY high temperature product will have performance characteristics different from the AV listed here. Contact factory for specific details.
- In-line leads on automotive MLV varistors
- MLV varistors: +125°C continuous operating temperature (+150°C for AVY)
- W_{LD} up to 50J

General Technical Data		
Specification	MLV	SLV
Operating Ambient Temperature for W_{LD} above 50J - AV	-40°C to +150°C	-40°C to +85°C
Operating Ambient Temperature for W_{LD} above 50J - AVY	-40°C to +150°C	-40°C to +150°C
Storage Temperature Range for W_{LD} above 50J	-40°C to +85°C	-40°C to +125°C
Threshold Voltage Temperature Coefficient	$\leq 0.05\% / ^\circ\text{C}$	
Insulation Resistance	$> 1\text{Gohm}$	
Response Time	$< 25\text{ns}$	
Climatic Category for $W_{LD} \leq 50\text{J}$ - MLV	40/125/56	40/85/56

How to Order									
SEI Type		Lead Style		V_{rms}	Tolerance	Disc Size	Lead Spacing	W_{LD}	Packaging
AV		1		20	K	80	80	201	R1
Type	Description	Model Size	Version	Code Tolerance		Size	Code Spacing	W_{LD}	Code Description
AV	Standard	60 2	1 = Outward crimped	K	10%	60 = 6mm	2 5mm	003 = 3	B Bulk
AVY	High Temp	80 2	1 = Straight leads			80 = 8mm	3 7.5mm	006 = 6	R Reel
		80 2	5 = Straight with kink			90 = 9mm		012 = 12	A Ammo
		90 2	1 = Inward crimped			110 = 11mm		025 = 25	
		110 3	1 = Inward crimped			20 = 20mm		050 = 50	
		20, 40	1 = Straight leads			40 = 40mm		100 = 100	



Standard Packaging Options / Quantities

Series	Voltage Range (Vrms)	Model Size	Packaging Options: 7mm, 10mm, 14mm, 20mm and 23mm		
			B = Bulk; R = Reel; A = Ammo Pack		
			B	R	A
AV, AVY	14 - 40	60 2	1,500	2,000	2,000
	14 - 40	80 2	1,000	1,500	1,500
	14 - 40	90 2	1,000	1,500	1,500
	14 - 20	110 3	700	1,000	1,000
	25 - 40	20	400	700	800
	25 - 40	40	400	700	800

Device Ratings and Dimensions

Part Number	V _{RMS} (volts)	V _{DC} (volts)	V _N (volts)	V _{JUMP} (volts)	V _C (volts)	I _C (amps)	I _P (amps)	W _{MAX} (joules)	W _{LD} (joules)	P _{MAX} (watts)	C _{TYP} (pF)	D _{MAX} (mm)	t _{MAX} (mm)	h _{MAX} (mm)	R (mm)	d (mm)
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12V Power Supply

AV 14 K 602 003	14	16	24	24.5	40	2.5	400	1.6	3	0.010	2.5	7	4.5	7	5	0.6
AV 14 K 802 006	14	16	24	24.5	40	5.0	800	2.4	6	0.015	4.6	8	4.5	9	5	0.6
AV 14 K 902 012	14	16	24	24.5	40	5.0	1,200	4.4	12	0.030	10.5	9	4.5	12	5	0.6
AV 14 K 902 025	14	16	24	24.5	40	10.0	2,000	6.0	25	0.080	22.0	9	5.5	12	5	0.6
AV 14 K 1103 050	14	16	24	24.5	40	10.0	2,000	13.2	50	0.100	29.0	11	6.5	12	7.5	0.6
AV 17 K 602 003	17	20	27	30.0	44	2.5	400	1.8	3	0.010	2.0	7	4.5	7	5	0.6
AV 17 K 802 006	17	20	27	30.0	44	5.0	800	2.9	6	0.015	4.0	8	4.5	9	5	0.6
AV 17 K 902 025	17	20	27	30.0	44	10.0	2,000	7.2	25	0.080	18.0	9	5.5	12	5	0.6
AV 17 K 1103 050	17	20	27	30.0	44	10.0	2,000	15.8	50	0.100	24.0	11	6.5	12	7.5	0.6

24V Power Supply

AV 20 K 602 003	20	26	33	30	54	2.5	400	1.9	3	0.010	1.8	7.0	4.5	7	5	0.6
AV 20 K 802 006	20	26	33	30	54	5.0	800	3.0	6	0.015	3.5	8.0	4.5	9	5	0.6
AV 20 K 902 025	20	26	33	30	54	10.0	2,000	9.0	25	0.080	13.0	9.0	4.5	12	5	0.6
AV 20 K 1103 050	20	26	33	30	54	10.0	2,000	17.0	50	0.100	18.0	11.0	6.5	12	7.5	0.6
AV 25 K 14 050	25	28	39	40	77	20.0	2,000	28.0	50	0.200	14.0	22.5	4.6	24	10	1.0
AV 25 K 20 100	25	28	39	40	77	20.0	2,000	50.0	100	0.300	28.0	22.5	5.6	24	10	1.0
AV 30 K 602 003	30	34	47	50	77	2.5	400	2.3	3	0.010	1.3	7.0	4.5	7	5	0.6
AV 30 K 802 006	30	34	47	50	77	5.0	800	3.8	6	0.015	2.0	8.0	4.5	9	5	0.6
AV 30 K 902 025	30	34	47	50	77	10.0	2,000	18.0	25	0.080	12.0	9.0	4.5	12	5	0.6
AV 30 K 14 050	30	34	47	50	93	20.0	2,000	34.0	50	0.200	13.5	22.5	4.6	24	10	1.0
AV 30 K 20 100	30	34	47	50	93	20.0	2,000	60.0	100	0.300	26.0	22.5	5.6	24	10	1.0

42V Power Supply

AV 40 K 602 003	40	56	68	65	110	2.5	400	2.6	3	0.010	1.1	7.0	4.5	7	5	0.6
AV 40 K 802 006	40	56	68	65	110	5.0	800	4.8	6	0.015	1.8	8.0	4.5	9	5	0.6
AV 40 K 902 025	40	56	68	65	110	10.0	2,000	18.0	25	0.080	6.6	9.0	4.5	12	5	0.6
AV 40 K 14 050	40	56	68	65	135	20.0	2,000	37.0	50	0.200	12.5	22.5	4.6	24	10	1.0
AV 40 K 20 100	40	56	68	65	135	20.0	2,000	76.0	100	0.300	24.0	22.5	5.6	24	10	1.0