

**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.

AV varistors are TVS chips that have suppression characteristics enabling protection from -55°C to +125°C (+150°C for AVY). These multilayer varistors offer excellent transient energy absorption in a small package due to improved internal energy distribution. AV series parts require significantly smaller space and pad area than silicon TVS diodes, offering greater circuit board layout flexibility for designer.



**Features:**

- AC operating voltage range (Vrms) from 14V to 35V
- DC operating voltage (Vdc) from 16V to 42V
- Power supply voltages (Vdc) 12V, 24V and 42V
- Broad range of current and energy handling capabilities
- 6 model sizes available: 1206, 1210, 1812, 2220 and 3225
- AVY high temperature product will have performance characteristics different from the AV listed here.
- No plastic coating guarantees better flammability rating
- Dimensional and weight savings on PC board
- AgPd end terminations
- Ultra-low inductance, leadless chip guarantees the fastest response time to transient surges

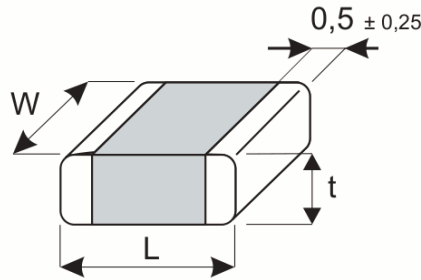
General Technical Data		
Operating Temperature Range - AV	-55°C to +125°C	In accordance to CECC 42 000
Operating Temperature Range - AVY	-55°C to +150°C	
Storage Temperature Range	-55°C to +150°C	
Threshold Voltage Temperature Coefficient	<-0.05% / °C	
Response Time	< 2ns	

Standard Packaging Options / Quantities																
Series	Voltage Range (Vrms)	Chip Size														
		1206			1210			1812			2220			3225		
		R0	R1	R2	R0	R1	R2	R0	R1	R2	R0	R1	R2	R0	R1	R2
		180mm	180mm	330mm	180mm	180mm	330mm	180mm	180mm	330mm	180mm	180mm	330mm	180mm	180mm	330mm
		7"	7"	13"	7"	7"	13"	7"	7"	13"	7"	7"	13"	7"	7"	13"
AV, AVY	14	1,000	2,500	15,000	1,000	2,500	15,000	-	1,000	6,000	-	1,000	4,000	-	1,000	2,500
	17	1,000	2,500	14,000	1,000	2,500	14,000	-	1,000	6,000	-	1,000	4,000	-	1,000	2,500
	20 - 40	1,000	2,500	10,000	1,000	2,500	9,000	-	1,000	4,000	-	1,000	4,000	-	1,000	2,500

**How to Order**

SEI Type	Vrms	Tolerance	Chip Size	Surge Current (Amps)	Barrier Type End Termination	Packaging	
<b>AV</b>	<b>17</b>	<b>K</b>	<b>1206</b>	<b>201</b>	<b>N</b>	<b>R1</b>	
<b>Type</b>	<b>Description</b>	<b>Code</b>	<b>Tolerance</b>	<b>Size</b>	<b>Code</b>	<b>SEI Types</b>	<b>Pkg Qty</b>
AV	Standard	K	10%	1206	N	R0, R1	180mm (7") Plastic Reel
AVY	High Temp			1210		R2	330mm (13") Plastic Reel
				1812			
				2220			
				3225			

Note: For Pb-Free soldering, customer should use barrier type end termination (N).



**Device Ratings and Dimensions**

Part Number	$V_{RMS}$	$V_{DC}$	$V_N$	$V_{JUMP}$	$V_C$	$I_C$	$I_{MAX}$	$W_{MAX}$	$W_{LD}$	$P_{MAX}$	$C_{TYP}$	$L$	$W$	$t_{MAX}$
	(volts)	(volts)	(volts)	(volts)	(volts)	(amps)	(amps)	(joules)	(joules)	(watts)	(nF)	(mm)	(mm)	(mm)
<b>12V Power Supply</b>														
AV 14 K 0805 121	14	16	24	24.5	40	1	120	0.3	1.0	0.008	0.44	$2.0 \pm 0.25$	$1.25 \pm 0.20$	1.0
AV 14 K 1206 201	14	16	24	24.5	40	1	200	0.6	1.5	0.008	1.00	$3.2 \pm 0.30$	$1.60 \pm 0.20$	1.2
AV 14 K 1210 401	14	16	24	24.5	40	2.5	400	1.6	3.0	0.010	2.35	$3.2 \pm 0.30$	$2.50 \pm 0.25$	1.3
AV 14 K 1812 801	14	16	24	24.5	40	5	800	2.4	6.0	0.015	4.50	$4.7 \pm 0.40$	$3.20 \pm 0.30$	1.3
AV 14 K 2220 122	14	16	24	24.5	40	10	1200	5.8	12.0	0.030	10.00	$5.7 \pm 0.50$	$5.00 \pm 0.40$	1.4
AV 14 K 3225 202	14	16	24	24.5	40	20	2000	12.5	25.0	0.040	16.00	$8.0 \pm 0.50$	$6.30 \pm 0.40$	1.5
AV 17 K 0805 121	17	20	27	30	44	1	120	0.5	1.0	0.008	0.37	$2.0 \pm 0.25$	$1.25 \pm 0.20$	1.0
AV 17 K 1206 201	17	20	27	30	44	1	200	1.1	1.5	0.008	0.81	$3.2 \pm 0.30$	$1.60 \pm 0.20$	1.2
AV 17 K 1210 401	17	20	27	30	44	2.5	400	1.8	3.0	0.010	2.00	$3.2 \pm 0.30$	$2.50 \pm 0.25$	1.3
AV 17 K 1812 801	17	20	27	30	44	5	800	2.9	6.0	0.015	3.80	$4.7 \pm 0.40$	$3.20 \pm 0.30$	1.3
AV 17 K 2220 202	17	20	27	30	44	10	1200	7.2	12.0	0.030	8.00	$5.7 \pm 0.50$	$5.00 \pm 0.40$	1.4
AV 17 K 3225 202	17	20	27	30	44	20	2000	13.8	25.0	0.040	13.20	$8.0 \pm 0.50$	$6.30 \pm 0.40$	1.5
<b>24V Power Supply</b>														
AV 20 K 1206 201	20	26	33	30	54	1	200	1.6	1.5	0.008	0.78	$3.2 \pm 0.30$	$1.60 \pm 0.20$	1.2
AV 20 K 1210 401	20	26	33	30	54	2.5	400	1.9	3.0	0.010	1.65	$3.2 \pm 0.30$	$2.50 \pm 0.25$	1.3
AV 20 K 1812 801	20	26	33	30	54	5	800	3.0	6.0	0.015	3.30	$4.7 \pm 0.40$	$3.20 \pm 0.30$	1.3
AV 20 K 2220 202	20	26	33	30	54	10	1200	8.0	12.0	0.030	7.00	$5.7 \pm 0.50$	$5.00 \pm 0.40$	1.4
AV 20 K 3225 202	20	26	33	30	54	20	2000	15.0	25.0	0.040	11.00	$8.0 \pm 0.50$	$6.30 \pm 0.40$	1.5
AV 30 K 1206 201	30	34	47	50	77	1	200	2.0	1.5	0.008	0.53	$3.2 \pm 0.30$	$1.60 \pm 0.20$	1.2
AV 30 K 1210 401	30	34	47	50	77	2.5	400	2.3	3.0	0.010	1.10	$3.2 \pm 0.30$	$2.50 \pm 0.25$	1.3
AV 30 K 1812 801	30	34	47	50	77	5	800	3.8	6.0	0.015	2.20	$4.7 \pm 0.40$	$3.20 \pm 0.30$	1.3
AV 30 K 2220 122	30	34	47	50	77	10	1200	10.0	12.0	0.030	6.50	$5.7 \pm 0.50$	$5.00 \pm 0.40$	1.4
AV 30 K 3225 202	30	34	47	50	77	20	2000	17.0	25.0	0.040	6.60	$8.0 \pm 0.50$	$6.30 \pm 0.40$	1.5
<b>42V Power Supply</b>														
AV 35 K 1206 121	35	42	56	59	90	1	120	0.6	1.5	0.008	0.40	$3.2 \pm 0.30$	$1.60 \pm 0.20$	1.2
AV 35 K 1210 251	35	42	56	59	90	3	250	2.2	3.0	0.010	0.95	$3.2 \pm 0.30$	$2.50 \pm 0.25$	1.4
AV 35 K 1812 601	35	42	56	59	90	5	600	4.2	6.0	0.015	1.50	$4.5 \pm 0.35$	$3.20 \pm 0.30$	1.6
AV 35 K 2220 102	35	42	56	59	90	10	1000	7.6	12.0	0.020	3.00	$5.7 \pm 0.50$	$5.00 \pm 0.40$	1.8
AV 40 K 1206 201	40	56	68	65	110	1	200	2.2	1.5	0.008	0.40	$3.2 \pm 0.30$	$1.60 \pm 0.20$	1.2
AV 40 K 1210 401	40	56	68	65	110	2.5	400	2.6	3.0	0.010	0.90	$3.2 \pm 0.30$	$2.50 \pm 0.25$	1.3
AV 40 K 1812 801	40	56	68	65	110	5	800	4.8	6.0	0.015	1.80	$4.7 \pm 0.40$	$3.20 \pm 0.30$	1.3
AV 40 K 2220 122	40	56	68	65	110	10	1200	10.5	12.0	0.030	5.50	$5.7 \pm 0.50$	$5.00 \pm 0.40$	1.4
AV 40 K 3225 202	40	56	68	65	110	20	2000	21.0	25.0	0.040	6.20	$8.0 \pm 0.50$	$6.30 \pm 0.40$	1.5