

**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.



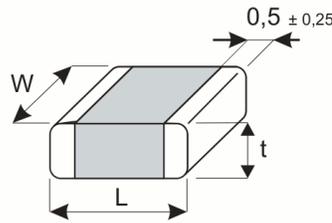
AV varistors are TVS chips that have suppression characteristics enabling protection from -55°C to +125°C (+150°C for AVY). These multilayer varistors offer excellent transient energy absorption in a small package due to improved internal energy distribution. AV series parts require significantly smaller 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 40V
- DC operating voltage (Vdc) from 16V to 56V
- 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. Contact factory for specific details.
- 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
- RoHS conform components complying to 2002/95/EC and 2003/11/EC

Standard Packaging Options / Quantities													
Series	Voltage Range (Vrms)	Chip Size											
		1206			1210			1812		2220		3225	
		Packaging Code			Packaging Code			Packaging Code		Packaging Code		Packaging Code	
		K	T	G	K	T	G	T	G	T	G	T	G
		180mm	180mm	330mm	180mm	180mm	330mm	180mm	330mm	180mm	330mm	180mm	330mm
		7"	7"	13"	7"	7"	13"	7"	13"	7"	13"	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 to 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

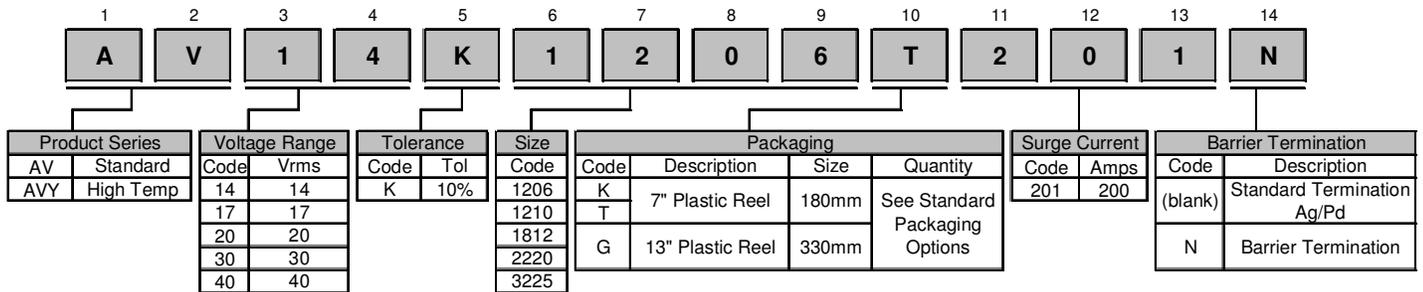
General Technical Data		
Operating Temperature Range - AV	-55°C to +125°C	In accordance to CECC 42 000
Operating Temperature Range - AVY	-55°C to +150°C	
Storage Temperature Range	-55°C to +150°C	
Threshold Voltage Temperature Coefficient	<+0.05% / °C	
Response Time	< 2ns	
Standard Termination - Ag/Pd	Recommended and suitable for Pb-containing soldering	
Barrier Termination ("N" Type)	Recommended and suitable for Pb-containing and Pb-free soldering	



**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)	1mA	5 min.	(volts)	8/20 $\mu$ s	8/20 $\mu$ s	10/1000 $\mu$ s	10 x	(watts)	1kHz			
<b>12V Power Supply</b>														
AV14K1206...201	14	16	24	24.5	40	1	200	0.6	1.5	0.008	1.00	3.2 ± 0.30	1.60 ± 0.20	1.2
AV14K1210...401	14	16	24	24.5	40	2.5	400	1.6	3.0	0.010	2.35	3.2 ± 0.30	2.50 ± 0.25	1.3
AV14K1812...801	14	16	24	24.5	40	5	800	2.4	6.0	0.015	4.50	4.7 ± 0.40	3.20 ± 0.30	1.3
AV14K2220...122	14	16	24	24.5	40	10	1200	5.8	12.0	0.030	10.00	5.7 ± 0.50	5.00 ± 0.40	1.4
AV14K3225...202	14	16	24	24.5	40	20	2000	12.5	25.0	0.040	16.00	8.0 ± 0.50	6.30 ± 0.40	1.5
AV17K1206...201	17	20	27	30	44	1	200	1.1	1.5	0.008	0.81	3.2 ± 0.30	1.60 ± 0.20	1.2
AV17K1210...401	17	20	27	30	44	2.5	400	1.8	3.0	0.010	2.00	3.2 ± 0.30	2.50 ± 0.25	1.3
AV17K1812...801	17	20	27	30	44	5	800	2.9	6.0	0.015	3.80	4.7 ± 0.40	3.20 ± 0.30	1.3
AV17K2220...202	17	20	27	30	44	10	1200	7.2	12.0	0.030	8.00	5.7 ± 0.50	5.00 ± 0.40	1.4
AV17K3225...202	17	20	27	30	44	20	2000	13.8	25.0	0.040	13.20	8.0 ± 0.50	6.30 ± 0.40	1.5
<b>24V Power Supply</b>														
AV20K1206...201	20	26	33	30	54	1	200	1.6	1.5	0.008	0.78	3.2 ± 0.30	1.60 ± 0.20	1.2
AV20K1210...401	20	26	33	30	54	2.5	400	1.9	3.0	0.010	1.65	3.2 ± 0.30	2.50 ± 0.25	1.3
AV20K1812...801	20	26	33	30	54	5	800	3.0	6.0	0.015	3.30	4.7 ± 0.40	3.20 ± 0.30	1.3
AV20K2220...202	20	26	33	30	54	10	1200	8.0	12.0	0.030	7.00	5.7 ± 0.50	5.00 ± 0.40	1.4
AV20K3225...202	20	26	33	30	54	20	2000	15.0	25.0	0.040	11.00	8.0 ± 0.50	6.30 ± 0.40	1.5
AV30K1206...201	30	34	47	50	77	1	200	2.0	1.5	0.008	0.53	3.2 ± 0.30	1.60 ± 0.20	1.2
AV30K1210...401	30	34	47	50	77	2.5	400	2.3	3.0	0.010	1.10	3.2 ± 0.30	2.50 ± 0.25	1.3
AV30K1812...801	30	34	47	50	77	5	800	3.8	6.0	0.015	2.20	4.7 ± 0.40	3.20 ± 0.30	1.3
AV30K2220...122	30	34	47	50	77	10	1200	10.0	12.0	0.030	6.50	5.7 ± 0.50	5.00 ± 0.40	1.4
AV30K3225...202	30	34	47	50	77	20	2000	17.0	25.0	0.040	6.60	8.0 ± 0.50	6.30 ± 0.40	1.5
<b>42V Power Supply</b>														
AV40K1206...201	40	56	68	65	110	1	200	2.2	1.5	0.008	0.40	3.2 ± 0.30	1.60 ± 0.20	1.2
AV40K1210...401	40	56	68	65	110	2.5	400	2.6	3.0	0.010	0.90	3.2 ± 0.30	2.50 ± 0.25	1.3
AV40K1812...801	40	56	68	65	110	5	800	4.8	6.0	0.015	1.80	4.7 ± 0.40	3.20 ± 0.30	1.3
AV40K2220...122	40	56	68	65	110	10	1200	10.5	12.0	0.030	5.50	5.7 ± 0.50	5.00 ± 0.40	1.4
AV40K3225...202	40	56	68	65	110	20	2000	21.0	25.0	0.040	6.20	8.0 ± 0.50	6.30 ± 0.40	1.5

**How to Order**



Legacy Part Number before January 3<sup>rd</sup>, 2011:

SEI Type		Vrms	Tolerance		Chip Size	Surge Current (Amps)	Barrier Type End Termination	Packaging	
<b>AV</b>		<b>14</b>	<b>K</b>		<b>1206</b>	<b>201</b>	<b>N</b>	<b>R1</b>	
Type	Description		Code	Tolerance	Size		Code	SEI Types	Pkg Qty
AV	Standard		K	10%	1206		N	R0, R1	180mm (7") Plastic Reel
AVY	High Temp				1210			R2	330mm (13") Plastic Reel
					1812				
					2220				
					3225				