

AVX TransGuard™ Ceramic Transient Voltage Suppressors



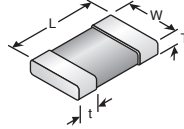
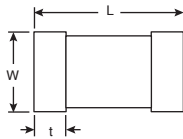
The AVX TransGuard™ Transient Voltage Suppressors (TVS) with unique high-energy multilayer construction represents state-of-the-art overvoltage circuit protection. Monolithic multilayer construction provides protection from voltage transients caused by ESD, lightning, Nuclear Explosion Magnetic Pulse (NEMP), inductive switching, etc. True surface mount product is provided in EIA industry standard packages.

TransGuard products are zinc oxide (ZnO) based ceramic semiconductor devices with non-linear voltage-current characteristics (bi-directional) similar to back-to-back zener diodes. They have the added advantage of greater current and energy handling capabilities as well as EMI/RFI attenuation. Devices are fabricated by ceramic sintering process that yields a structure of conductive ZnO grains surrounded by electrically insulating barriers, creating varistor-like behavior.

Marking
All standard surface mount TransGuard chips are unmarked.

Features:

- Ni/Sn Alloy (Plated)
- Operation temp: -55°C to +125°C
- Meets IEC 1000 -4 specifications



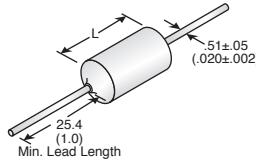
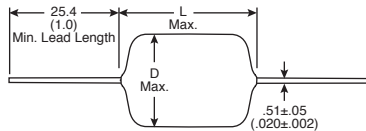
DIMENSIONS mm (IN.)

Size	L	W	T	t
0402	1.00±0.10 (0.040±0.004)	0.50±0.10 (0.020±0.004)	0.6 (0.024)	0.25±0.15 (0.010±0.006)
0603	1.60±0.15 (0.063±0.006)	0.80±0.15 (0.031±0.006)	0.9 (0.035)	0.35±0.15 (0.014±0.006)
0805	2.01±0.20 (0.079±0.008)	1.25±0.20 (0.049±0.008)	1.02 (0.04)	0.71 max. (0.028 max.)
1206	3.20±0.20 (0.126±0.008)	1.60±0.20 (0.063±0.008)	1.02 (0.04)	0.71 max. (0.028 max.)
1210	3.20±0.20 (0.126±0.008)	2.49±0.20 (0.098±0.008)	1.70 (0.067)	0.71 max. (0.028 max.)

Surface Mount

For quantities of 1000 and up, call for quote.

MOUSER STOCK NO.	AVX Part Number	Working Voltage (DC)	Working Voltage (AC)	Breakdown Voltage (V@ImA _{DC})	Clamping Voltage (V@I _{VC})	Test Current For Vc (A, 8x20µS)	Max. Leakage Current mA	Transient Energy Rating Joules (J)	Peak Current Rating A	Typical Cap pF	Freq.	Case Size	Price Each			Qty per Reel	Price Per Reel (ea.)
													1	100	500		
581-VC060303A100DP	VC060303A100DP	3.3	2.3	5.0±20%	12	1	100	0.1	30	1450	K	0603	.28	.24	.23	1000	.22
581-VC080503A100DP	VC080503A100DP	3.3	2.3	5.0±20%	12	1	100	0.1	40	1400	K	0805	.29	.25	.24	1000	.23
581-VC080503C100DP	VC080503C100DP	3.3	2.3	5.0±20%	12	1	100	0.3	120	5000	K	0805	.43	.38	.36	1000	.34
581-VC120603A100DP	VC120603A100DP	3.3	2.3	5.0±20%	12	1	100	0.1	40	1250	K	1206	.36	.32	.30	1000	.29
581-VC120603D100DP	VC120603D100DP	3.3	2.3	5.0±20%	12	1	100	0.4	150	4700	K	1206	.47	.42	.40	1000	.38
581-VC040205X150WP	VC040205X150WP	5.6	4.0	8.5±20%	18	1	35	0.05	20	175	M	0402	.86	.72	.57	10000	.19
581-VC060305A150DP	VC060305A150DP	5.6	4.0	8.5±20%	18	1	35	0.1	30	750	K	0603	.28	.24	.23	1000	.22
581-VC080505A150DP	VC080505A150DP	5.6	4.0	8.5±20%	18	1	35	0.1	40	1100	K	0805	.29	.25	.24	1000	.23
581-VC080505C150DP	VC080505C150DP	5.6	4.0	8.5±20%	18	1	35	0.3	120	3000	K	0805	.43	.38	.36	1000	.34
581-VC120605A150DP	VC120605A150DP	5.6	4.0	8.5±20%	18	1	35	0.1	40	1200	K	1206	.36	.32	.30	1000	.29
581-VC120605D150DP	VC120605D150DP	5.6	4.0	8.5±20%	18	1	35	0.4	150	3000	K	1206	.48	.42	.40	1000	.38
581-VC040209X200WP	VC040209X200WP	9.0	6.4	12.7±15%	22	1	25	0.05	20	175	M	0402	.86	.72	.57	10000	.19
581-VC060309A200DP	VC060309A200DP	9.0	6.4	12.7±15%	22	1	25	0.1	30	550	K	0603	.28	.24	.23	1000	.22
581-VC080509A200DP	VC080509A200DP	9.0	6.4	12.7±15%	22	1	25	0.1	40	750	K	0805	.29	.25	.24	1000	.23
581-VC080512A250DP	VC080512A250DP	12.0	8.5	16±15%	27	1	25	0.1	40	525	K	0805	.29	.25	.24	1000	.23
581-VC040214X300WP	VC040214X300WP	14.0	10.0	18.5±12%	32	1	15	0.05	20	100	M	0402	.43	.36	.32	10000	.21
581-VC060314A300DP	VC060314A300DP	14.0	10.0	18.5±12%	32	1	15	0.1	30	350	K	0603	.28	.24	.23	1000	.22
581-VC080514A300DP	VC080514A300DP	14.0	10.0	18.5±12%	32	1	15	0.1	40	325	K	0805	.29	.25	.24	1000	.23
581-VC080514C300DP	VC080514C300DP	14.0	10.0	18.5±12%	32	1	15	0.3	120	900	K	0805	.43	.36	.32	10000	.21
581-VC120614A300DP	VC120614A300DP	14.0	10.0	18.5±12%	32	1	15	0.1	40	600	K	1206	.36	.32	.30	1000	.29
581-VC120614D300DP	VC120614D300DP	14.0	10.0	18.5±12%	32	1	15	0.4	150	1050	K	1206	.47	.42	.40	1000	.38
581-VC13MA0160KBA	VC13MA0160KBA	16.0	14.0	24.5±10%	40	2.5	25	1.6	400	1800	K	1210	.71	.59	.53	1000	.42
581-VC040218X400WP	VC040218X400WP	18.0	13.0	25.5±10%	42	1	10	0.05	20	65	M	0402	.43	.36	.32	10000	.21
581-VC060318A400DP	VC060318A400DP	18.0	13.0	25.5±10%	42	1	10	0.1	30	150	K	0603	.28	.24	.23	1000	.22
581-VC080518A400DP	VC080518A400DP	18.0	13.0	25.5±10%	42	1	10	0.1	30	225	K	0805	.29	.25	.24	1000	.23
581-VC080518C400DP	VC080518C400DP	18.0	13.0	25.5±10%	42	1	10	0.3	100	550	K	0805	.43	.36	.32	10000	.21
581-VC120618A400DP	VC120618A400DP	18.0	13.0	25.5±10%	42	1	10	0.1	30	350	K	1206	.36	.32	.30	1000	.29
581-VC120618D400DP	VC120618D400DP	18.0	13.0	25.5±10%	42	1	10	0.4	150	900	K	1206	.47	.42	.40	1000	.38
581-VC121018J390DP	VC121018J390DP	18.0	13.0	25.5±10%	42	5	10	1.5	500	3100	K	1210	.72	.63	.59	1000	.57
581-VJ13MC0180KBA	VJ13MC0180KBA	18.0	13.0	24.0±10%	45	10	25	1.5	500	3000	K	1210	.72	.63	.59	1000	.57
581-VC060326A580DP	VC060326A580DP	26.0	18.0	34.5±10%	60	1	10	0.1	30	155	K	0603	.28	.24	.23	1000	.22
581-VC080526A580DP	VC080526A580DP	26.0	18.0	34.5±10%	60	1	10	0.1	30	120	K	0805	.28	.24	.23	1000	.22
581-VC080526C580DP	VC080526C580DP	26.0	18.0	34.5±10%	60	1	10	0.3	100	250	K	0805	.43	.36	.32	10000	.12
581-VC120626D580DP	VC120626D580DP	26.0	18.0	34.5±10%	60	1	10	0.4	120	500	K	1206	.47	.42	.40	1000	.38
581-VC121026H560DP	VC121026H560DP	26.0	18.0	34.5±10%	60	5	10	1.2	300	2150	K	1210	.72	.63	.59	1000	.57
581-VJ13MC0260KBA	VJ13MC0260KBA	26.0	18.0	33.0±10%	62	10	25	1.2	300	1120	K	1210	.72	.63	.59	1000	.57
581-VC060330A650DP	VC060330A650DP	30.0	21.0	41.0±10%	67	1	10	0.1	30	125	K	0603	.28	.24	.23	1000	.22
581-VC080530A650DP	VC080530A650DP	30.0	21.0	41.0±10%	67	1	10	0.1	30	90	M	0805	.29	.25	.24	1000	.23
581-VC120630D650DP	VC120630D650DP	30.0	21.0	41.0±10%	67	1	10	0.4	120	400	K	1206	.47	.42	.40	1000	.38
581-VC121030G620DP	VC121030G620DP	30.0	21.0	41.0±10%	67	5	10	0.9	220	1750	K	1210	.69	.63	.55	1000	.48
581-VC121030H620DP	VC121030H620DP	30.0	21.0	41.0±10%	67	5	10	1.2	280	1850	K	1210	.99	.83	.75	1000	.66
581-VJ13MC0300KBA	VJ13MC0300KBA	30.0	21.0	39.0±10%	73	10	25	0.9	220	1020	K	1210	.79	.66	.59	1000	.55
581-VJ13PC0300KBA	VJ13PC0300KBA	30.0	21.0	39.0±10%	73	10	25	1.2	280	1150	K	1210	.79	.66	.59	1000	.55
581-VC120648D101DP	VC120648D101DP	48.0	34.0	62.0±10%	100	1	10	0.4	100	225	K	1206	.52	.46	.44	1000	.41
581-VC121048G101DP	VC121048G101DP	48.0	34.0	62.0±10%	100	5	10	0.9	220	450	K	1210	.69	.63	.55	1000	.48
581-VC121048H101DP	VC121048H101DP	48.0	34.0	62.0±10%	100	5	10	1.2	250	500	K	1210	.69	.63	.55	1000	.48
581-VJ13MC0480KBA	VJ13MC0480KBA	48.0	34.0	60.5±10%	110	10	25	0.9	220	800	K	1210	.79	.66	.59	1000	.55
581-VJ13PC0480KBA	VJ13PC0480KBA	48.0	34.0	60.5±10%	110	10	25	1.2	250	840	K	1210	.79	.66	.59	1000	.55
581-VC121060J121DP	VC121060J121DP	60.0	42.0	76.0±10%	120	5	10	1.5	250	400	K	1210	.79	.66	.59	1000	.55
581-VJ13MC0600KBA	VJ13MC0600KBA	60.0	42.0	75.0±10%	126	10	25	1.5	250	600	K	1210	.79	.66	.59	1000	.55



DIMENSIONS mm (IN.)

Size	L	D
1000	4.32 (0.170)	2.54 (0.100)
2000	4.83 (0.190)	3.56 (0.140)

Axial

For quantities of 2000 and up, call for quote.

MOUSER STOCK NO.	AVX Part Number	Working Voltage (DC)	Working Voltage (AC)	Breakdown Voltage (V@ImA _{DC})	Clamping Voltage (V@I _{VC})	Test Current For Vc (A, 8x20µS)	Max. Leakage Current µA	Transient Energy Rating Joules (J)	Peak Current Rating (A, 8x20µS)	Typical Cap pF	Freq.	Price Each			
												1	100	500	1000
581-VA100003A100DL	VA100003A100DL	3.3	2.3	5.0±20%	12	1	100	0.1	40	1500	K	.49	.41	.37	.30
581-VA100003D100DL	VA100003D100DL	3.3	2.3	5.0±20%	12	1	100	0.4	150	4700	K	.64	.53	.48	.38
581-VA100005A150DL	VA100005A150DL	5.6	4.0	8.5±20%	18	1	35	0.1	40	1000	K	.49	.41	.37	.30
581-VA100005D150DL	VA100005D150DL	5.6	4.0	8.5±20%	18	1	35	0.4	150	2800	K	.64	.53	.48	.38
581-VA100014A300DL	VA100014A300DL	14.0	10.0	18.5±12%	32	1	15	0.1	40	325	K	.49	.41	.37	.30
581-VA100014D300DL	VA100014D300DL	14.0	10.0	18.5±12%	32	1	15	0.4	150	1100	K	.64	.53	.48	.38
581-VA100018A400DL	VA100018A400DL	18.0	13.0	25.5±10%	42	1	10	0.1	40	350	K	.49	.41	.37	.30
581-VA100018D400DL	VA100018D400DL	18.0	13.0	25.5±10%	42	1	10	0.4	150	900	K	.64	.53	.48	.38
581-VA100026D580DL	VA100026D580DL	26.0	18.0	34.5±10%	60	1	10	0.4	120	650	K	.64	.53	.48	.38
581-VA100030D650DL	VA100030D650DL	30.0	21.0	41.0±10%	67	1	10								