

Description:

The ZV Series of low voltage leaded multilayer varistors (MLVs) is designed to protect sensitive electronic devices operating in the low voltage region against high voltage / current surges. They offer excellent transient energy absorption due to improved energy volume distribution and power dissipation. Low voltage MLVs cover a wide DC operating voltage range from 3 to 56V.



Features:

- AC operating voltage (Vrms) from 2V to 40V
- DC operating voltage (Vdc) from 3V to 56V
- 5 model sizes available 05, 07, 10, 14, 20
- Available with straight or crimped leads
- Broad range of current and energy handling capabilities
- +125°C continuous operating temperature (+150°C for ZVY)
- Dimensional and weight savings on PC board
- Bi-directional, lower clamping voltages than disc type varistors
- ZVY high temperature product will have performance characteristics different from the ZV. Contact Factory for specific details.

Applications:

- Suppression of inductive switching or other transient events at the circuit board level
- Provides on-board transient voltage protection for ICs and transistors
- Used to help achieve electromagnetic compliance of end products
- Replace larger TVS Zener diodes in many applications

General Technical Data

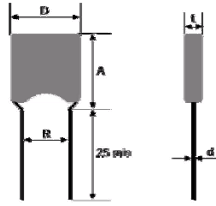
Operating Temperature - ZV	-40°C to +85°C	In accordance with CECC 42 000
Operating Temperature - ZVY	-40°C to +150°C	
Storage Temperature Range	-40°C to +125°C	
Threshold Voltage Temperature Coefficient	< -0.05% / °C	
Insulation Resistance	> 1Gohm	
Isolation Voltage Capability	> 1kV	
Response Time	< 25 nS	

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)
ZV, ZVY	2 - 40	05	2,000	2,000	2,000
	2 - 40	07	1,500	2,000	2,000
	2 - 40	10	1,000	1,500	1,000
	2 - 40	14	700	1,500	1,000
	2 - 40	20	500	1,500	800

How to Order

SEI Type		Lead Style		Vrms	Tolerance		Model Size	Packaging	
ZV		1		14	K		10	R	
Type	Description	Model Size	Version		Code	Tolerance	Size (mm)	Code	Description
ZV	Standard	05, 07, 10	1 = Outward Crimped Leads		K	10%	05	B	Bulk
ZVY	High Temp	14	1 = Straight Leads		L	15%	07	R	Reel
		14	5 = Straight Leads, Kinked		M	20%	10	A	Ammo Pack
		20	1 = Inward Crimped Leads				14		
							20		



Device Ratings and Dimensions														
Part Number	V _{RMS} (volts)	V _{DC} (volts)	V _N (volts)	V _C (volts)	I _C (amps)	W _{MAX} (joules)	P _{MAX} (watts)	I _{MAX} (amps)	C _{TYP} (pF)	D _{MAX} (nH)	t _{MAX} (mm)	R (mm)	d (mm)	h/A _{MAX} (mm)
ZV 2 M 5	2	3	4	10	1	0.10	0.005	100	1,300	6.0	3.50	5	0.6	7
ZV 2 M 7	2	3	4	10	2.5	0.20	0.008	200	5,000	7.0	3.50	5	0.6	8
ZV 4 M 5	4	5.5	8	14	1	0.10	0.005	100	1,066	6.0	3.50	5	0.6	7
ZV 4 M 7	4	5.5	8	14	2.5	0.30	0.008	200	3,720	7.0	3.50	5	0.6	8
ZV 4 M 10	4	5.5	8	14	5	0.40	0.010	300	5,000	7.0	3.50	5	0.6	9
ZV 4 M 14	4	5.5	8	14	10	0.80	0.015	500	10,000	8.0	3.50	5	0.6	12
ZV 4 M 20	4	5.5	8	14	20	1.50	0.020	1,000	17,000	9.0	3.50	5	0.6	12
ZV 6 M 5	6	8	11	21	1	0.20	0.005	100	831	6.0	3.50	5	0.6	7
ZV 6 M 7	6	8	11	21	2.5	0.50	0.008	200	2,770	7.0	3.50	5	0.6	8
ZV 6 M 10	6	8	11	21	5	0.80	0.010	300	4,070	7.0	3.50	5	0.6	9
ZV 6 M 14	6	8	11	21	10	1.00	0.015	500	7,630	8.0	3.50	5	0.6	12
ZV 6 M 20	6	8	11	21	20	3.80	0.020	1,000	13,400	9.0	3.50	5	0.6	12
ZV 8 L 5	8	11	15	25	1	0.20	0.005	100	650	6.0	3.50	5	0.6	7
ZV 8 L 7	8	11	15	25	2.5	0.60	0.008	250	2,020	7.0	3.50	5	0.6	8
ZV 8 L 10	8	11	15	25	5	1.10	0.010	500	3,200	7.0	3.50	5	0.6	9
ZV 8 L 14	8	11	15	25	10	1.90	0.015	800	6,260	8.0	3.50	5	0.6	12
ZV 8 L 20	8	11	15	25	20	4.30	0.020	1,500	11,070	9.0	3.50	5	0.6	12
ZV 11 K 5	11	14	18	33	1	0.30	0.005	100	480	6.0	3.50	5	0.6	7
ZV 11 K 7	11	14	18	33	2.5	0.80	0.008	250	1,400	7.0	3.50	5	0.6	8
ZV 11 K 10	11	14	18	33	5	1.70	0.010	500	2,420	7.0	3.50	5	0.6	9
ZV 11 K 14	11	14	18	33	10	3.30	0.015	1,000	5,000	8.0	3.50	5	0.6	12
ZV 11 K 20	11	14	18	33	20	10.50	0.020	2,000	9,270	9.0	3.50	5	0.6	12
ZV 14 K 5	14	18	22	38	1	0.40	0.005	100	377	6.0	3.50	5	0.6	7
ZV 14 K 7	14	18	22	38	2.5	0.90	0.008	250	1,050	7.0	3.50	5	0.6	8
ZV 14 K 10	14	18	22	38	5	2.20	0.010	500	1,770	7.0	3.50	5	0.6	9
ZV 14 K 14	14	18	22	38	10	4.20	0.015	1,000	3,850	8.0	3.50	5	0.6	12
ZV 14 K 20	14	18	22	38	20	12.00	0.020	2,000	7,670	9.0	3.50	5	0.6	12
ZV 17 K 5	17	22	27	44	1	0.50	0.005	100	335	6.0	3.50	5	0.6	7
ZV 17 K 7	17	22	27	44	2.5	1.20	0.008	250	850	7.0	3.50	5	0.6	8
ZV 17 K 10	17	22	27	44	5	2.60	0.010	500	1,370	7.0	3.50	5	0.6	9
ZV 17 K 14	17	22	27	44	10	5.20	0.015	1,000	3,050	8.0	3.50	5	0.6	12
ZV 17 K 20	17	22	27	44	20	14.20	0.020	2,000	6,600	9.0	3.50	5	0.6	12
ZV 20 K 5	20	26	33	54	1	0.60	0.005	100	325	6.0	4.50	5	0.6	7
ZV 20 K 7	20	26	33	54	2.5	1.40	0.008	250	790	7.0	4.50	5	0.6	8
ZV 20 K 10	20	26	33	54	5	3.20	0.010	500	1,090	7.0	4.50	5	0.6	9
ZV 20 K 14	20	26	33	54	10	6.40	0.015	1,000	2,490	8.0	4.50	5	0.6	12
ZV 20 K 20	20	26	33	54	20	18.20	0.020	2,000	5,670	9.0	4.50	5	0.6	12
ZV 25 K 5	25	31	39	65	1	0.70	0.005	100	315	6.0	4.50	5	0.6	7
ZV 25 K 7	25	31	39	65	2.5	1.60	0.008	250	790	7.0	4.50	5	0.6	8
ZV 25 K 10	25	31	39	65	5	3.80	0.010	500	870	7.0	4.50	5	0.6	9
ZV 25 K 14	25	31	39	65	10	7.20	0.015	1,000	1,890	8.0	4.50	5	0.6	12
ZV 25 K 20	25	31	39	65	20	22.40	0.020	2,000	4,670	9.0	4.50	5	0.6	12
ZV 30 K 5	30	38	47	77	1	0.90	0.005	100	315	6.0	4.50	5	0.6	7
ZV 30 K 7	30	38	47	77	2.5	2.20	0.008	250	790	7.0	4.50	5	0.6	8
ZV 30 K 10	30	38	47	77	5	4.40	0.010	500	770	7.0	4.50	5	0.6	9
ZV 30 K 14	30	38	47	77	10	9.40	0.015	1,000	1,530	8.0	4.50	5	0.6	12
ZV 30 K 20	30	38	47	77	20	25.80	0.020	2,000	3,870	9.0	4.50	5	0.6	12
ZV 35 K 5	35	45	56	90	1	1.20	0.005	100	315	6.0	4.50	5	0.6	7
ZV 35 K 7	35	45	56	90	2.5	2.60	0.008	250	790	7.0	4.50	5	0.6	8
ZV 35 K 10	35	45	56	90	5	5.40	0.010	500	680	7.0	4.50	5	0.6	9
ZV 35 K 14	35	45	56	90	10	10.20	0.015	1,000	1,260	8.0	4.50	5	0.6	12
ZV 35 K 20	35	45	56	90	20	33.40	0.020	2,000	3,470	9.0	4.50	5	0.6	12
ZV 40 K 5	40	56	68	110	1	1.40	0.005	100	315	6.0	4.50	5	0.6	7
ZV 40 K 7	40	56	68	110	2.5	3.20	0.008	250	790	7.0	4.50	5	0.6	8
ZV 40 K 10	40	56	68	110	5	6.40	0.010	500	660	7.0	4.50	5	0.6	9
ZV 40 K 14	40	56	68	110	10	13.40	0.015	1,000	1,070	8.0	4.50	5	0.6	12
ZV 40 K 20	40	56	68	110	20	37.80	0.020	2,000	3,130	9.0	4.50	5	0.6	12