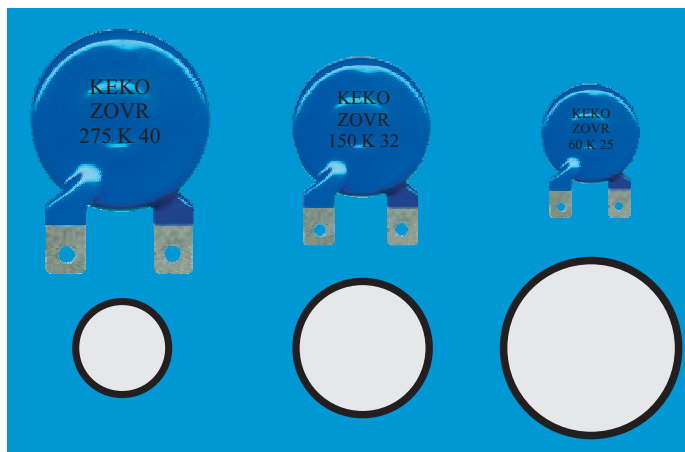


## ROUND SHAPED HIGH ENERGY VARISTORS ZOVR SERIES

### Description

ZOVR Series is series of round shaped high-energy varistors. This series consists of three nominal model sizes 25, 32 and 40. These varistors are available as either epoxy coated with rigid terminals or as metallized varistor discs. The first ones are designed to provide secondary surge protection in the outdoor and service entrance environment (distribution panels), in computers, telecommunications and also in industrial applications for motor controls and power supplies in oil-drilling, mining and transportation field. The second ones are intended for applications with special contact or installation requirements. The electrode finish of these devices is solderable and can also be used with pressure contacts for stacking applications.



### Features

- Operating voltage range  $V_{rms}$  .....60 V to 680 V.
- Operating voltage range  $V_{dc}$  ..... 85 V to 900 V.
- 3 Model sizes available.....25, 32, and 40 mm.
- Broad range of current and energy handling capabilities.
- Low limiting voltages @  $I_{max} / 2$ .
- + 85 °C continuous operating temperature.
- Available either as epoxy coated varistors with rigid - terminals or as metallized varistor blocks.
- In-house testing according to VDE 0675.
- UL1449 & CSA C22.2 file E 221545 Section 2.
- Lead free components.

• In case ZOVR varistor is used as metallized disc without leads and coating, device ratings and characteristics are only valid for professionally soldered and coated components. Improper soldering and further manufacturing steps can lead to : change of characteristics such as reduced long term stability, reduced surge current and energy absorption capability, reduced adhesive strength of electrodes and low climatic strength. In case soldering method is dipping KEKO VARICON can minimise this problem by passivation of varistor block edges.

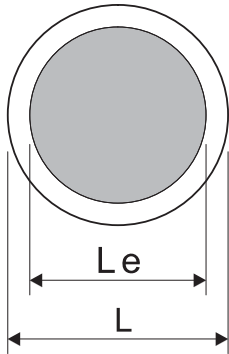
### Absolute Maximum Ratings

	Units	Value
Continuous :		
Steady State Applied Voltage :		
DC Voltage Range ( $V_{dc}$ )	V	85 to 900
AC Voltage Range ( $V_{rms}$ )	V	60 to 680
Transient :		
Peak Single Pulse Surge Current, 8/20 $\mu$ s Waveform, ( $I_{max}$ )	A	18000 to 40000
Single Pulse Surge Energy, 10/1000 $\mu$ s Waveform ( $W_{max}$ )	J	90 to 2590
Operating Ambient Temperature	°C	-40 to +85
Storage Temperature Range	°C	-40 to +125
Threshold Voltage Temperature Coefficient	%/°C	< +0.05
Insulation Resistance *	G $\Omega$	> 1
Isolation Voltage Capability *	kV	> 2.5
Response Time *	ns	< 25
Climatic Category *		40 / 85 / 56

\* Valid in case of epoxy coated components

## Standard Round-shaped High Energy Varistor Types

### Device Ratings and Characteristics



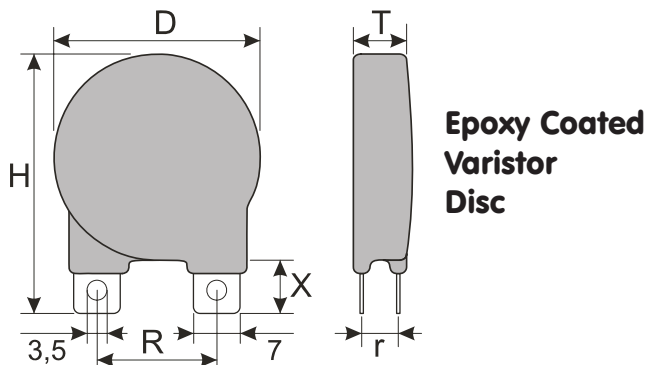
**Metallised  
Varistor  
Disc**

**Size Parameters**

Size	L <sub>max</sub> mm	L <sub>emax</sub> mm
25	22	18
32	33	28
40	39	34

**ZOVR 60 K 25....ZOVR 680 K 40**

Type	V <sub>rms</sub> V	V <sub>dc</sub> V	V <sub>n</sub> @ 1 mA V	V <sub>c</sub> @ I <sub>c</sub> V	I <sub>c</sub> A	W <sub>max</sub> 10/1000 μs J	P max W	I <sub>max</sub> 8/20 μs A	C @ 1kHz pF	t max mm	T max mm	r max mm
<b>ZOVR 60 K 25</b>	60	85	100	165	150	90	1,0	18.000	3.850	1,0	7,7	1,4
<b>ZOVR 60 K 32</b>	60	85	100	165	200	250	1,2	30.000	9.700	1,0	7,7	1,4
<b>ZOVR 60 K 40</b>	60	85	100	165	300	300	1,4	40.000	12.000	1,0	7,7	1,4
<b>ZOVR 75 K 25</b>	75	100	120	200	150	100	1,0	18.000	3.500	1,2	7,9	1,6
<b>ZOVR 75 K 32</b>	75	100	120	200	200	280	1,2	30.000	8.900	1,2	7,9	1,6
<b>ZOVR 75 K 40</b>	75	100	120	200	300	340	1,4	40.000	11.000	1,2	7,9	1,6
<b>ZOVR 95 K 25</b>	95	125	150	250	150	135	1,0	18.000	2.950	1,4	8,1	1,8
<b>ZOVR 95 K 32</b>	95	125	150	250	200	380	1,2	30.000	7.470	1,4	8,1	1,8
<b>ZOVR 95 K 40</b>	95	125	150	250	300	450	1,4	40.000	9.200	1,4	8,1	1,8
<b>ZOVR 130 K 25</b>	130	170	205	340	150	180	1,0	18.000	2.310	1,5	8,1	1,9
<b>ZOVR 130 K 32</b>	130	170	205	340	200	500	1,2	30.000	5.780	1,5	8,1	1,9
<b>ZOVR 130 K 40</b>	130	170	205	340	300	600	1,4	40.000	7.200	1,5	8,1	1,9
<b>ZOVR 150 K 25</b>	150	200	240	395	150	215	1,0	18.000	1.990	1,7	8,3	2,1
<b>ZOVR 150 K 32</b>	150	200	240	395	200	600	1,2	30.000	4.960	1,7	8,3	2,1
<b>ZOVR 150 K 40</b>	150	200	240	395	300	720	1,4	40.000	6.100	1,7	8,3	2,1
<b>ZOVR 230 K 25</b>	230	300	360	595	150	320	1,0	18.000	1.320	2,4	9,0	2,8
<b>ZOVR 230 K 32</b>	230	300	360	595	200	900	1,2	30.000	3.300	2,4	9,0	2,8
<b>ZOVR 230 K 40</b>	230	300	360	595	300	1080	1,4	40.000	4.060	2,4	9,0	2,8
<b>ZOVR 250 K 25</b>	250	320	390	650	150	350	1,0	18.000	1.220	2,6	9,2	3,0
<b>ZOVR 250 K 32</b>	250	320	390	650	200	970	1,2	30.000	3.050	2,6	9,2	3,0
<b>ZOVR 250 K 40</b>	250	320	390	650	300	1160	1,4	40.000	3.760	2,6	9,2	3,0
<b>ZOVR 275 K 25</b>	275	350	430	710	150	380	1,0	18.000	1.100	2,8	9,4	3,2
<b>ZOVR 275 K 32</b>	275	350	430	710	200	1060	1,2	30.000	2.770	2,8	9,4	3,2
<b>ZOVR 275 K 40</b>	275	350	430	710	300	1280	1,4	40.000	3.400	2,8	9,4	3,2



**Size Parameters**

Size	D <sub>max</sub> mm	R <sub>max</sub> mm	H <sub>max</sub> mm	X <sub>max</sub> mm
25	25	19	43	18
32	37	25	55	18
40	44	25	62	18

**ZOVR 300 K 25.....ZOVR 680 K 40**

Type	V <sub>rms</sub> V	V <sub>dc</sub> V	V <sub>n</sub> @ 1 mA V	V <sub>c</sub> @ I <sub>c</sub> V	I <sub>c</sub> A	W <sub>max</sub> 10/1000 μs J	P max W	I <sub>max</sub> 8/20 μs A	C @ 1kHz pF	t max mm	T max mm	r max mm
<b>ZOVR 300 K 25</b>	300	385	470	775	150	440	1,0	15.000	1.010	3,1	9,7	3,5
<b>ZOVR 300 K 32</b>	300	385	470	775	200	1225	1,0	30.000	2.540	3,1	9,7	3,5
<b>ZOVR 300 K 40</b>	300	385	470	775	300	1470	1,2	40.000	3.130	3,1	9,7	3,5
<b>ZOVR 320 K 25</b>	320	420	510	840	150	480	1,0	15.000	990	3,2	9,9	3,6
<b>ZOVR 320 K 32</b>	320	420	510	840	200	1350	1,0	30.000	2.470	3,2	9,9	3,6
<b>ZOVR 320 K 40</b>	320	420	510	840	300	1620	1,2	40.000	3.050	3,2	9,9	3,6
<b>ZOVR 385 K 25</b>	385	505	620	1025	150	500	1,0	15.000	810	3,8	10,6	4,2
<b>ZOVR 385 K 32</b>	385	505	620	1025	200	1390	1,0	30.000	2.040	3,8	10,6	4,2
<b>ZOVR 385 K 40</b>	385	505	620	1025	300	1660	1,2	40.000	2.500	3,8	10,6	4,2
<b>ZOVR 420 K 25</b>	420	560	680	1120	150	530	1,0	15.000	740	4,4	10,9	4,8
<b>ZOVR 420 K 32</b>	420	560	680	1120	200	1480	1,0	30.000	1.850	4,4	10,9	4,8
<b>ZOVR 420 K 40</b>	420	560	680	1120	300	1780	1,2	40.000	2.280	4,4	10,9	4,8
<b>ZOVR 460 K 25</b>	460	615	750	1240	150	580	1,0	15.000	670	4,8	11,4	5,2
<b>ZOVR 460 K 32</b>	460	615	750	1240	200	1610	1,0	30.000	1.680	4,8	11,4	5,2
<b>ZOVR 460 K 40</b>	460	615	750	1240	300	1930	1,2	40.000	2.060	4,8	11,4	5,2
<b>ZOVR 510 K 25</b>	510	670	820	1355	150	600	1,0	15.000	610	5,2	11,8	5,6
<b>ZOVR 510 K 32</b>	510	670	820	1355	200	1680	1,0	30.000	1.530	5,2	11,8	5,6
<b>ZOVR 510 K 40</b>	510	670	820	1355	300	2010	1,2	40.000	1.900	5,2	11,8	5,6
<b>ZOVR 550 K 25</b>	550	745	910	1500	150	650	1,0	15.000	550	5,9	12,5	6,3
<b>ZOVR 550 K 32</b>	550	745	910	1500	200	1810	1,0	30.000	1.380	5,9	12,5	6,3
<b>ZOVR 550 K 40</b>	550	745	910	1500	300	2170	1,2	40.000	1.700	5,9	12,5	6,3
<b>ZOVR 680 K 25</b>	680	895	1100	1815	150	770	1,0	15.000	460	6,9	13,5	7,3
<b>ZOVR 680 K 32</b>	680	895	1100	1815	200	2160	1,0	30.000	1.150	6,9	13,5	7,3
<b>ZOVR 680 K 40</b>	680	895	1100	1815	300	2590	1,2	40.000	1.400	6,9	13,5	7,3