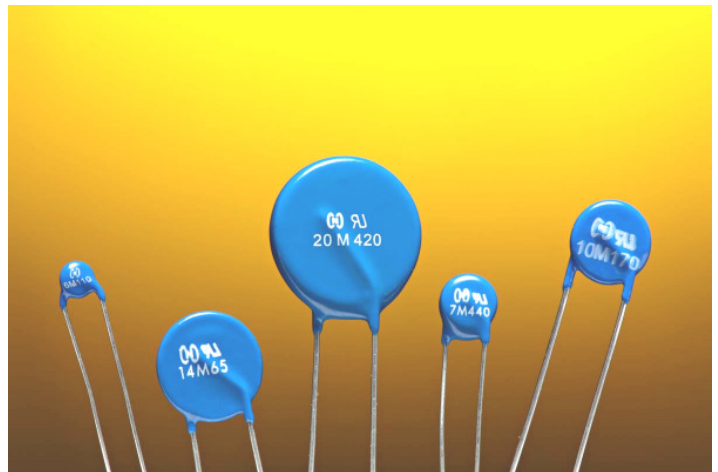


MOV / ZnO Varistors

- 100% Active Material
- Wide Operating Voltage Range
- Large Range of Sizes Available
- Mainly Available from Stock
- Cross Reference Service
- Custom Solutions
- Flexibility



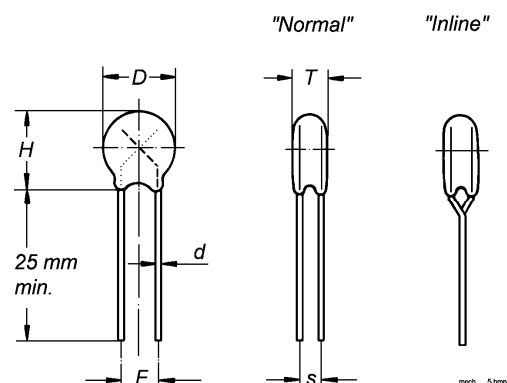
HVR offers a large group of voltage dependent metal-oxide resistors (Varistors). The CONOX range of HVR are metal-oxide varistors (MOV) manufactured with 90% of ZnO as the base ceramic element and 10% additional elements.

The standard area contains the radial lead construction in 5 mm, 7 mm, 10 mm, 14 mm and 20 mm, as well as block varistors in different shapes and single discs up to 53 mm in diameter. A selection of square discs is available as well.

HVR International GmbH former C.Conradty Mechanical & Electrical offers since the 40s a wide range of products for electro-technical and electronic applications. Our components are continuously being developed and improved in accordance with customer requirements. These activities are based on intensive development and field testing combined with expert advice and service for our customers.

Type	VB-value	D _{max}	H _{max}	T _{max}	F±1	S _{max}	d
5M	fm 35VB	6,5	8	3	5	2,5	0,6
	fm 65VB			4		3	
	fm 220VB	7	9,5	5		3,5	
	fm 300VB			6,5		4,5	
7M	fm 35VB	8,5	11	3,5	5	2,5	0,6
	fm 55VB			4		3	
	fm 200VB			5		3,5	
	fm 300VB	9	11,5	6,5		4,5	
	fm 440VB			7		5,5	
10M	fm 35VB	12,5	15	4	7,5	2,5	0,8
	fm 110VB			4,5		3	
	fm 200VB			5,5		3,5	
	fm 300VB		15,5	6,5		5	
	fm 420VB			7,5		6,5	
14M	fm 35VB	16	19	4	7,5	2,5	0,8
	fm 140VB			5		3	
	fm 220VB	16,5	19,5	5,5		3,5	
	fm 300VB			6,5		5	
	fm 420VB			7,5		6,5	
20M	fm 90VB	22	25	4,5	7,5	2,5	0,8
	fm 140VB			5		2,5	
	fm 240VB	22,5	26	6		3,5	
	fm 300VB			7		4,5	
	fm 420VB			7,5		5	
	fm 440VB			8		6,5	

Parts of our standard program (CONOX 5-20 mm radial lead) is listed on the second page. For further information on the block and disc varistors please contact us.



Technical Specifications

If you need assistance by selecting a varistor type please contact us. Datasheets for each individual type and value as well as U/I characteristic curves are available upon request. As stated on the front page we offer a cross reference service.

Type	Operating Voltage [V]			1 x 8/20µs		10000 x 8/20 µs		Class Current	Protection Level	Varistor Voltage		Capacitance	Power Dissipation
	U _{eff}	U _{rms}	U _{dc}	E _{max} [J]	I _{max} [A]	E _{max} [J]	I _{max} [A]	[A]	[V]	min.	max.	[pF]	[W]
5M	35VB	40	56	1,3	100	0,04	5	1	125	61	75	590	0,01
	40	50	65	1,8	400	0,06	20	5	130	73	90	510	0,1
	55	60	85	2,1		0,07			160	90	110	360	
	65	75	100	2,7		0,09			190	108	132	300	
	80	95	125	3,1		0,11			230	135	165	240	
	90	110	140	3,4		0,13			265	162	198	200	
	110	140	180	4,3		0,16			330	198	242	160	
	130	150	200	4,6		0,18			370	216	264	130	
	140	175	225	5,2		0,20			405	243	297	125	
	170	205	270	6,6		0,25			520	297	363	100	
	200	230	300	7,5		0,29			585	351	429	90	
	220	250	325	8,1		0,31			620	378	462	80	
	240	265	345	8,6		0,34			665	405	495	70	
	250	280	364	9,0		0,35			690	423	517	70	

Type	Operating Voltage [V]			1 x 8/20µs		10000 x 8/20 µs		Class Current	Protection Level	Varistor Voltage [V]		Capacitance	Power Dissipation
	U _{eff}	U _{rms}	U _{dc}	E _{max} [J]	I _{max} [A]	E _{max} [J]	I _{max} [A]	[A]	[V]	min.	max.	[pF]	[W]
7M	35VB	40	56	3	1200	0,08	10	2,5	125	61	75	890	0,02
	40	50	65	5,5	1200	0,15	50	13	130	73	90	530	0,25
	55	60	85	7,2		0,19			155	90	110	420	
	65	75	100	8,6		0,22			190	108	132	370	
	80	95	125	9,8		0,28			240	135	165	320	
	90	110	140	11,3		0,33			290	162	198	290	
	110	140	180	14,9		0,41			345	198	242	260	
	130	150	200	16,0		0,44			370	216	264	230	
	140	175	225	17,9		0,50			415	243	297	210	
	170	205	270	20,7		0,61			500	297	363	170	
	200	230	300	22,7		0,72			585	351	429	140	
	220	250	325	26,5		0,78			625	378	462	130	
	240	265	345	29,2		0,83			690	405	495	120	
	250	280	364	30,2		0,87			715	423	517	110	
	300	330	429	33,3		1,00			845	504	616	100	
	340	380	494	39,8		1,20			965	576	704	90	
	380	420	546	42,6		1,30			1040	639	781	0	
	420	460	598	46,5		1,40			1130	702	861	80	
	440	490	637	49,9		1,50			1210	738	902	75	
	540	600	780	60,1		1,80			1460	900	1100	65	

Technical Specifications

Type	Operating Voltage [V]			1 x 8/20µs		10000 x 8/20 µs		Protection Level	Class Current	Varistor Voltage [V]		Capacitance	Power Dissipation
	U _{eff}	U _{rms}	U _{dc}	E _{max} [J]	I _{max} [A]	E _{max} [J]	I _{max} [A]	[A]	[V]	min.	max.	[pF]	[W]
10M	35VB	42	56	6,4	500	0,14	20	5	125	61	75	2050	0,02
	40	50	65	13,3	2500	0,29	100	25	135	73	90	1360	0,4
	55	60	85	15,2		0,36			160	90	110	1110	
	65	75	100	17,3		0,43			190	108	132	940	
	80	95	125	20,0		0,55			230	135	165	760	
	90	110	140	24,3		0,66			280	162	198	630	
	110	140	180	28,0		0,81			335	198	242	520	
	130	150	200	31,1		0,89			365	216	264	480	
	140	175	225	34,7		1,00			410	243	297	430	
	170	205	270	42,2		1,20			500	297	363	350	
	200	230	300	48,7		1,50			575	351	429	310	
	220	250	325	54,5		1,60			645	378	462	280	
	240	265	345	58,1		1,70			685	405	495	260	
	250	280	364	61,4		1,80			725	423	517	260	
	300	330	429	77,0		2,10			880	504	616	210	
	340	380	494	87,1		2,40			990	576	704	200	
	380	420	546	97,1		2,70			1100	639	781	180	
	420	460	598	107		2,90			1210	702	861	160	
	440	490	637	112		3,10			1270	738	902	155	
	540	600	780	142		3,80			1570	900	1100	130	

Type	Operating Voltage [V]			1 x 8/20µs		10000 x 8/20 µs		Protection Level	Class Current	Varistor Voltage [V]		Capacitance	Power Dissipation
	U _{eff}	U _{rms}	U _{dc}	E _{max} [J]	I _{max} [A]	E _{max} [J]	I _{max} [A]	[A]	[V]	min.	max.	[pF]	[W]
14M	35VB	42	56	13,5	1000	0,22	33	10	130	61	75	3500	0,1
	40	50	65	26,5	4500	0,44	150	50	140	73	90	3300	0,6
	55	60	85	30,1		0,54			170	90	110	2700	
	65	75	100	34,4		0,64			195	108	132	2200	
	80	95	125	38,5		0,80			240	135	165	1800	
	90	110	140	44,2		0,97			285	162	198	1530	
	110	140	180	54,3		1,20			350	198	242	1190	
	130	150	200	58,5		1,30			380	216	264	1100	
	140	175	225	64,5		1,50			425	243	297	1020	
	170	205	270	79,5		1,80			525	297	363	770	
	200	230	300	95,0		2,10			620	351	429	700	
	220	250	325	103		2,30			670	378	462	650	
	240	265	345	110		2,40			720	405	495	600	
	250	280	364	115		2,50			740	423	517	580	
	300	330	429	137		3,00			890	504	616	480	
	340	380	494	157		3,40			1030	576	704	425	
	380	420	546	175		3,80			1140	639	781	385	
	420	460	598	191		4,20			1240	702	861	350	
	440	490	637	202		4,40			1310	738	902	340	
	540	600	780	243		5,40			1580	900	1100	270	

Technical Specifications

Type	Operating Voltage [V]			1 x 8/20µs		10000 x 8/20 µs		Class Current	Protection Level	Varistor Voltage		Capacitance	Power Dissipation
	U _{eff}	U _{rms}	U _{dc}	E _{max} [J]	I _{max} [A]	E _{max} [J]	I _{max} [A]	[A]	[V]	min.	max.	[pF]	[W]
20M	90VB	110	140	64,5	6500	1,2	190	100	300	162	198	2450	1,0
	110	140	180	79,3		1,5			365	198	242	2040	
	130	150	200	86,0		1,6			395	216	264	1870	
	140	175	225	96,6		1,8			450	243	297	1700	
	170	205	270	116		2,2			540	297	363	1450	
	200	230	300	136		2,6			630	351	429	1190	
	220	250	325	146		2,8			680	378	462	1150	
	240	265	345	162		3,0			750	405	495	1110	
	250	280	364	163		3,2			780	423	517	1020	
	300	330	429	193		3,8			920	504	616	940	
	340	380	494	224		4,3			1060	576	704	800	
	380	420	546	246		4,8			1170	639	781	730	
	420	460	598	269		5,3			1270	702	861	680	
	440	490	637	283		5,6			1350	738	902	650	
	540	600	780	345		6,8			1630	900	1100	560	

Our further ZnO Varistor range



Block Varistors

Diameter	(mm)	25 to 60
Varistor Voltage	V _N (V)	200 to 4700
Peak Current (8/20µs)	I _{max} (kA)	20 to 70
Energy Absorption (2ms)	W _{max} (J)	150 to 1800
Power Rating	P _{max} (W)	1,0 to 1,6

Round or square Varistor elements

Diameter	(mm)	32 to 53
Varistor Voltage	V _N (V)	200 to 1800
Peak Current (8/20µs)	I _{max} (kA)	25 to 70
Energy Absorption (2ms)	W _{max} (J)	210 to 2278
Power Rating	P _{max} (W)	1,2 to 1,5



The HVR Group with its three departments (Carbon Resistor, Varistor and Wire wound Resistor) has a long-time experience in customer applications and requirements. With this business units we are able to offer the most efficient solution for a large number of applications. Based upon our standard ranges we are able to offer customized designs at low costs.