

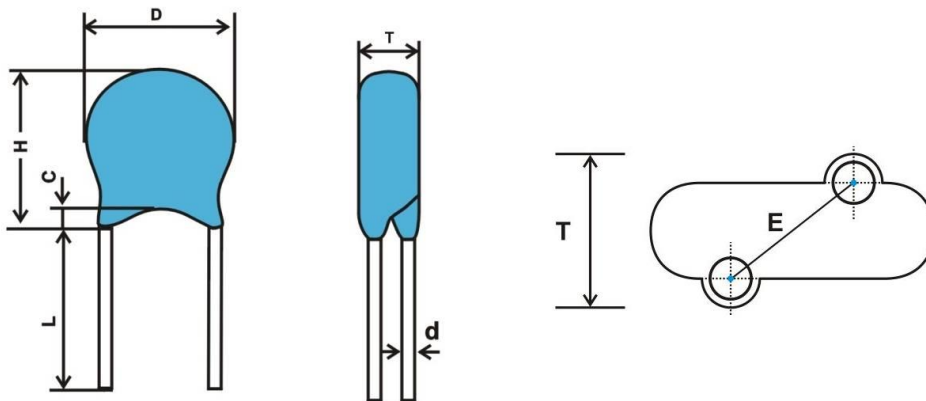
# Zinc Oxide Varistors – JVA



## SPECIFICATIONS

	Varistor Voltage (Threshold Voltage)	18V ~ 1800V
Working Voltage (Max. Allowable Voltage)	AC(rms)	11VAC ~ 1000VAC
	DC	14VDC ~ 1465VDC
Peak Current for 8/20µS Current Wave	General Type	100A ~ 6500A
	Hi-energy Type	250A ~ 10 000A
Energy Range For 10/1000µS Current Wave	General Type	0.4J ~ 625J
	Hi-energy Type	0.6J ~ 990J
Operation Ambient Temperature Range		-40°C ~ +85°C
Storage Temperature Range		-55°C ~ +125°C
Insulation Resistance		>1000 MΩ
Hi-Pot (Leads to Coating)		2500 VDC for 1 min.
Typical Response Time		<25ns
Maximum Voltage-Temperature Coefficient		<-0.05% / °C

## DIMENSION (mm)



SIZE	D max	H max	E ±1.0	L min	d ±0.1	C max
D07	9.5	12.5	5.0	20	0.6	3.0
D10	12.5	16.0	7.5	20	0.8	3.0
D14	16.5	20.0	7.5	20	0.8	3.0
D20	23.0	26.5	10.0	20	1.0	3.0

## Thickness (T) DIMENSION LIST (mm maximum)

Varistor Voltage	07D	10D	14D	20D
180	3.6	4.0	4.1	4.4
220	3.8	4.0	4.3	4.5
270	4.0	4.3	4.5	4.8
330	3.7	4.1	4.2	4.5
390	3.9	4.3	4.4	4.7
470	4.1	4.5	4.6	4.9
560	4.2	4.5	4.7	4.7
680	4.3	5.0	5.0	5.0
820	3.5	3.9	4.0	4.3
101	3.8	4.2	4.3	4.6
121	4.0	4.4	4.5	4.8
151	4.3	4.7	4.8	5.1
181	3.4	3.8	3.9	4.2
201	3.5	3.9	4.0	4.3
221	3.6	4.0	4.1	4.4
241	3.7	4.1	4.2	4.5
271	3.9	4.2	4.3	4.6
301	4.1	4.3	4.4	4.7
331	4.2	4.5	4.6	4.9

Varistor Voltage	07D	10D	14D	20D
361	4.3	4.7	4.8	5.1
391	4.4	4.8	4.9	5.2
431	4.6	5.0	5.1	5.4
471	5.0	5.2	5.5	5.8
511	5.2	5.5	5.6	5.9
561	5.4	5.7	5.8	6.1
621	5.5	5.7	5.8	6.1
681	5.6	5.8	5.9	6.2
751	5.8	6.0	6.1	6.4
781	6.0	6.3	6.4	6.7
821	6.3	6.5	6.6	6.9
911		6.6	6.7	7.0
102		7.0	7.1	7.4
112		7.4	7.5	7.9
122			7.7	9.1
142			8.7	9.1
152			9	9
162			9.7	9.9
182			9.7	10.1

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## Zinc Oxide Varistors – JVA

ZINC OXIDE VARISTOR 07D											
Specs	Varistor Voltage (V1.0mA)	Max. Allowable Voltage		Max. Clamping Voltage		Max. Peak Current (8/20us)		Maximum Energy (10/100us)		Rated Power	Cap. (max)
		ACrms	DC	Vc	Ip	General	Hi-energy	General	Hi-energy		
	Volts	Volts	Volts	Volts	Amps	Watts	Amps	Joules	Joules	Watts	pF@1kHz
<b>07D180K</b>	16.2~19.8	11	14	36	2.5	250 / 125x2	500 / 250x2	0.9	2.0	0.02	2800
<b>07D220K</b>	19.8~24.2	14	18	43				1.1	2.4		2300
<b>07D270K</b>	24.3~29.7	17	22	53				1.4	3.0		1800
<b>07D330K</b>	29.7~36.3	20	26	65				1.7	3.5		1500
<b>07D390K</b>	35.1~42.9	25	31	77				2.1	4.0		1300
<b>07D470K</b>	42.3~51.7	30	38	93				2.5	5.0		1100
<b>07D560K</b>	50.4~61.6	35	45	110				3.1	6.0		890
<b>07D680K</b>	61.2~74.8	40	56	135				3.6	7.0		740
<b>07D820K</b>	73.8~90.2	50	65	135	10	1200 / 600x2	1750 / 1200x2	5.5	10.0	0.25	600
<b>07D101K</b>	90~110	60	85	165				6.5	12		500
<b>07D121K</b>	108~132	75	100	200				7.8	13		420
<b>07D151K</b>	135~165	95	125	250				9.7	15		330
<b>07D181K</b>	162~198	115	150	300				11.7	16		280
<b>07D201K</b>	180~220	130	170	340				13	17		250
<b>07D221K</b>	198~242	140	180	360				14	19		230
<b>07D241K</b>	216~264	150	200	395				15	21		210
<b>07D271K</b>	243~297	175	225	455				18	24		185
<b>07D301K</b>	270~330	190	250	505				20	26		165
<b>07D331K</b>	297~363	210	275	545				23	28		150
<b>07D361K</b>	324~396	230	300	595				24	32		140
<b>07D391K</b>	351~429	250	320	650				26	35		130
<b>07D431K</b>	387~473	275	350	710				28	40		115
<b>07D471K</b>	423~517	300	385	775				29	42		105
<b>07D511K</b>	459~561	320	415	845				31	45		100
<b>07D561K</b>	504~616	350	460	930				35	49		90
<b>07D621K</b>	558~682	385	505	1020				38	55		80
<b>07D681K</b>	612~748	420	560	1120	42	60	75				
<b>07D751K</b>	675~825	460	615	1240	45	64	70				
<b>07D781K</b>	702~858	485	640	1290	48	69	65				
<b>07D821K</b>	738~902	510	670	1355	52	73	60				

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## Zinc Oxide Varistors – JVA

ZINC OXIDE VARISTOR 10D											
Specs	Varistor Voltage (V1.0mA)	Max. Allowable Voltage		Max. Clamping Voltage		Max. Peak Current (8/20us)		Maximum Energy (10/100us)		Rated Power	Cap. (max)
		ACrms	DC	Vc	Ip	General	Hi-energy	General	Hi-energy		
	Volts	Volts	Volts	Volts	Amps	Watts	Amps	Joules	Joules	Watts	pF@1kHz
<b>10D180K</b>	16.2~19.8	11	14	36	5	500 / 250x2	1000 / 500x2	2.1	3.0	0.05	5600
<b>10D220K</b>	19.8~24.2	14	18	43				2.5	5.0		4500
<b>10D270K</b>	24.3~29.7	17	22	53				3.0	6.0		3700
<b>10D330K</b>	29.7~36.3	20	26	65				4.0	7.0		3000
<b>10D390K</b>	35.1~42.9	25	31	77				4.6	9.0		2400
<b>10D470K</b>	42.3~51.7	30	38	93				5.5	11		2100
<b>10D560K</b>	50.4~61.6	35	45	110				7.0	13		1800
<b>10D680K</b>	61.2~74.8	40	56	135				8.2	15		1500
<b>10D820K</b>	73.8~90.2	50	65	135	25	2500 / 1250x2	3500 / 2500x2	12	17	0.40	1200
<b>10D101K</b>	90~110	60	85	165				15	18		1000
<b>10D121K</b>	108~132	75	100	200				18	21		830
<b>10D151K</b>	135~165	95	125	250				22	25		670
<b>10D181K</b>	162~198	115	150	300				27	30		560
<b>10D201K</b>	180~220	130	170	340				30	35		500
<b>10D221K</b>	198~242	140	180	360				32	39		450
<b>10D241K</b>	216~264	150	200	395				35	42		420
<b>10D271K</b>	243~297	175	225	455				37	49		370
<b>10D301K</b>	270~330	190	250	505				40	54		330
<b>10D331K</b>	297~363	210	275	545				43	58		300
<b>10D361K</b>	324~396	230	300	595				47	65		280
<b>10D391K</b>	351~429	250	320	650				60	70		260
<b>10D431K</b>	387~473	275	350	710				65	80		230
<b>10D471K</b>	423~517	300	385	775				67	85		210
<b>10D511K</b>	459~561	320	415	845				69	90		200
<b>10D561K</b>	504~616	350	460	930				70	92		180
<b>10D621K</b>	558~682	385	505	1020				72	95		160
<b>10D681K</b>	612~748	420	560	1120				75	98		150
<b>10D751K</b>	675~825	460	615	1240				77	100		130
<b>10D781K</b>	702~858	485	640	1290				80	105		125
<b>10D821K</b>	738~902	510	670	1355				85	110		120
<b>10D911K</b>	819~1001	550	745	1500				93	130		110
<b>10D102K</b>	900~1100	625	825	1650				102	140		100
<b>10D112K</b>	990~1210	680	895	1815	115	155	90				

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## Zinc Oxide Varistors – JVA

ZINC OXIDE VARISTOR 14D											
Specs	Varistor Voltage (V1.0mA)	Max. Allowable Voltage		Max. Clamping Voltage		Max. Peak Current (8/20us)		Maximum Energy (10/100us)		Rated Power	Cap. (max)
		ACrms	DC	Vc	Ip	General	Hi-energy	General	Hi-energy		
		Volts	Volts	Volts	Amps	Watts	Amps	Joules	Joules		
<b>14D180K</b>	16.2~19.8	11	14	36	10	1000 / 500x2	2000 / 1000x2	4	7	0.10	11100
<b>14D220K</b>	19.8~24.2	14	18	43				5	8		9100
<b>14D270K</b>	24.3~29.7	17	22	53				6	10		7400
<b>14D330K</b>	29.7~36.3	20	26	65				7.5	12		6100
<b>14D390K</b>	35.1~42.9	25	31	77				8.6	13		5100
<b>14D470K</b>	42.3~51.7	30	38	93				10	17		4300
<b>14D560K</b>	50.4~61.6	35	45	110				11	20		3600
<b>14D680K</b>	61.2~74.8	40	56	135				14	24		2900
<b>14D820K</b>	73.8~90.2	50	65	135	50	4500 / 2500x2	6000 / 4500x2	22	27	0.60	2400
<b>14D101K</b>	90~110	60	85	165				28	33		2000
<b>14D121K</b>	108~132	75	100	200				32	40		1700
<b>14D151K</b>	135~165	95	125	250				40	53		1300
<b>14D181K</b>	162~198	115	150	300				50	60		1100
<b>14D201K</b>	180~220	130	170	340				57	70		1000
<b>14D221K</b>	198~242	140	180	360				60	78		900
<b>14D241K</b>	216~264	150	200	395				63	84		830
<b>14D271K</b>	243~297	175	225	455				70	99		740
<b>14D301K</b>	270~330	190	250	505				77	108		670
<b>14D331K</b>	297~363	210	275	545				85	115		610
<b>14D361K</b>	324~396	230	300	595				93	130		560
<b>14D391K</b>	351~429	250	320	650				100	140		510
<b>14D431K</b>	387~473	275	350	710				115	155		460
<b>14D471K</b>	423~517	300	385	775				118	175		430
<b>14D511K</b>	459~561	320	415	845				121	180		390
<b>14D561K</b>	504~616	350	460	930				125	185		360
<b>14D621K</b>	558~682	385	505	1020				128	190		320
<b>14D681K</b>	612~748	420	560	1120				130	200		290
<b>14D751K</b>	675~825	460	615	1240				143	210		270
<b>14D781K</b>	702~858	485	640	1290				148	220		260
<b>14D821K</b>	738~902	510	670	1355				157	235		240
<b>14D911K</b>	819~1001	550	745	1500				175	255		220
<b>14D102K</b>	900~1100	625	825	1650				190	280		200
<b>14D112K</b>	990~1210	680	895	1815	213	310	180				
<b>14D122K</b>	1080~1320	750	990	1980	232	324	160				
<b>14D182K</b>	1620~1980	1100	1465	2970	250	335	130				

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# Zinc Oxide Varistors – JVA

ZINC OXIDE VARISTOR 20D											
Specs	Varistor Voltage (V1.0mA)	Max. Allowable Voltage		Max. Clamping Voltage		Max. Peak Current (8/20us)		Maximum Energy (10/100us)		Rated Power	Cap. (max)
		ACrms	DC	Vc	Ip	General	Hi-energy	General	Hi-energy		
		Volts	Volts	Volts	Amps	Watts	Amps	Joules	Joules		
<b>20D180K</b>	16.2~19.8	11	14	36	20	2000 / 1000x2	3000 / 2000x2	11	13	0.20	28500
<b>20D220K</b>	19.8~24.2	14	18	43				14	16		18500
<b>20D270K</b>	24.3~29.7	17	22	53				16	19		13000
<b>20D330K</b>	29.7~36.3	20	26	65				23	24		11500
<b>20D390K</b>	35.1~42.9	25	31	77				26	28		8500
<b>20D470K</b>	42.3~51.7	30	38	93				30	34		7400
<b>20D560K</b>	50.4~61.6	35	45	110				38	44		6500
<b>20D680K</b>	61.2~74.8	40	56	135				41	49		5800
<b>20D820K</b>	73.8~90.2	50	65	135	100	6500 / 4500x2	10000 / 6500x2	45	56	1.00	4900
<b>20D101K</b>	90~110	60	85	165				50	70		4000
<b>20D121K</b>	108~132	75	100	200				55	85		3300
<b>20D151K</b>	135~165	95	125	250				70	106		2700
<b>20D181K</b>	162~198	115	150	300				85	130		2200
<b>20D201K</b>	180~220	130	170	340				95	140		2000
<b>20D221K</b>	198~242	140	180	360				100	155		1800
<b>20D241K</b>	216~264	150	200	395				108	168		1650
<b>20D271K</b>	243~297	175	225	455				127	190		1500
<b>20D301K</b>	270~330	190	250	505				136	210		1300
<b>20D331K</b>	297~363	210	275	545				150	228		1200
<b>20D361K</b>	324~396	230	300	595				163	255		1100
<b>20D391K</b>	351~429	250	320	650				180	275		1000
<b>20D431K</b>	387~473	275	350	710				190	305		930
<b>20D471K</b>	423~517	300	385	775				204	350		850
<b>20D511K</b>	459~561	320	415	845				210	360		780
<b>20D561K</b>	504~616	350	460	930				215	380		710
<b>20D621K</b>	558~682	385	505	1020				224	390		650
<b>20D681K</b>	612~748	420	560	1120				230	400		600
<b>20D751K</b>	675~825	460	615	1240				255	420		530
<b>20D781K</b>	702~858	485	640	1290				265	440		510
<b>20D821K</b>	738~902	510	670	1355				282	460		500
<b>20D911K</b>	819~1001	550	745	1500				310	510		440
<b>20D102K</b>	900~1100	625	825	1650				342	565		400
<b>20D112K</b>	990~1210	680	895	1815	383	620	360				
<b>20D122K</b>	1080~1320	750	990	1980	408	660	350				
<b>20D182K</b>	1620~1980	1100	1465	2970	625	990	320				

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## Zinc Oxide Varistors – JVA

### SAFETY CERTIFICATION

Certificate Authority	Certificate No.	07D	10D	14D	20D
<b>CUL (Canada)</b>	<b>E518475</b>	180K, 220K, 270K, 330K, 390K, 470K, 560K, 680K, 181K, 201K, 221K, 241K, 271K, 301K, 331K, 361K, 391K, 431K, 471K, 511K, 561K, 621K, 681K, 751K, 781K, 821K	180K, 220K, 270K, 330K, 390K, 470K, 560K, 680K, 820K, 101K, 121K, 151K, 181K, 201K, 221K, 241K, 271K, 301K, 331K, 361K, 391K, 431K, 471K, 511K, 561K, 621K, 681K, 751K, 781K, 821K, 911K, 102K, 112K	180K, 220K, 270K, 330K, 390K, 470K, 560K, 680K, 820K, 101K, 121K, 151K, 181K, 201K, 221K, 241K, 271K, 301K, 331K, 361K, 391K, 431K, 471K, 511K, 561K, 621K, 681K, 751K, 781K, 821K, 911K, 102K, 112K, 122K, 142K, 152K, 162K, 182K	180K, 220K, 270K, 330K, 390K, 470K, 560K, 680K, 820K, 101K, 121K, 151K, 181K, 201K, 221K, 241K, 271K, 301K, 331K, 361K, 391K, 431K, 471K, 511K, 561K, 621K, 681K, 751K, 781K, 821K, 911K, 102K, 112K, 122K, 142K, 152K, 162K, 182K
<b>UL (USA)</b>	<b>E518475</b>	180K, 220K, 270K, 330K, 390K, 470K, 560K, 680K, 181K, 201K, 221K, 241K, 271K, 301K, 331K, 361K, 391K, 431K, 471K, 511K, 561K, 621K, 681K, 751K, 781K, 821K	180K, 220K, 270K, 330K, 390K, 470K, 560K, 680K, 820K, 101K, 121K, 151K, 181K, 201K, 221K, 241K, 271K, 301K, 331K, 361K, 391K, 431K, 471K, 511K, 561K, 621K, 681K, 751K, 781K, 821K, 911K, 102K, 112K	180K, 220K, 270K, 330K, 390K, 470K, 560K, 680K, 820K, 101K, 121K, 151K, 181K, 201K, 221K, 241K, 271K, 301K, 331K, 361K, 391K, 431K, 471K, 511K, 561K, 621K, 681K, 751K, 781K, 821K, 911K, 102K, 112K, 122K, 142K, 152K, 162K, 182K	180K, 220K, 270K, 330K, 390K, 470K, 560K, 680K, 820K, 101K, 121K, 151K, 181K, 201K, 221K, 241K, 271K, 301K, 331K, 361K, 391K, 431K, 471K, 511K, 561K, 621K, 681K, 751K, 781K, 821K, 911K, 102K, 112K, 122K, 142K, 152K, 162K, 182K
<b>VDE (Germany)</b>	<b>40052643</b>	180K, 220K, 270K, 330K, 390K, 470K, 560K, 680K, 820K, 101K, 121K, 151K, 181K, 201K, 221K, 241K, 271K, 301K, 331K, 361K, 391K, 431K, 471K, 511K, 561K, 621K, 681K, 751K, 781K, 821K	180K, 220K, 270K, 330K, 390K, 470K, 560K, 680K, 820K, 101K, 121K, 151K, 181K, 201K, 221K, 241K, 271K, 301K, 331K, 361K, 391K, 431K, 471K, 511K, 561K, 621K, 681K, 751K, 781K, 821K, 911K, 102K, 112K	180K, 220K, 270K, 330K, 390K, 470K, 560K, 680K, 820K, 101K, 121K, 151K, 181K, 201K, 221K, 241K, 271K, 301K, 331K, 361K, 391K, 431K, 471K, 511K, 561K, 621K, 681K, 751K, 781K, 821K, 911K, 102K, 112K, 122K	N/A

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