

Metal Oxide Varistor

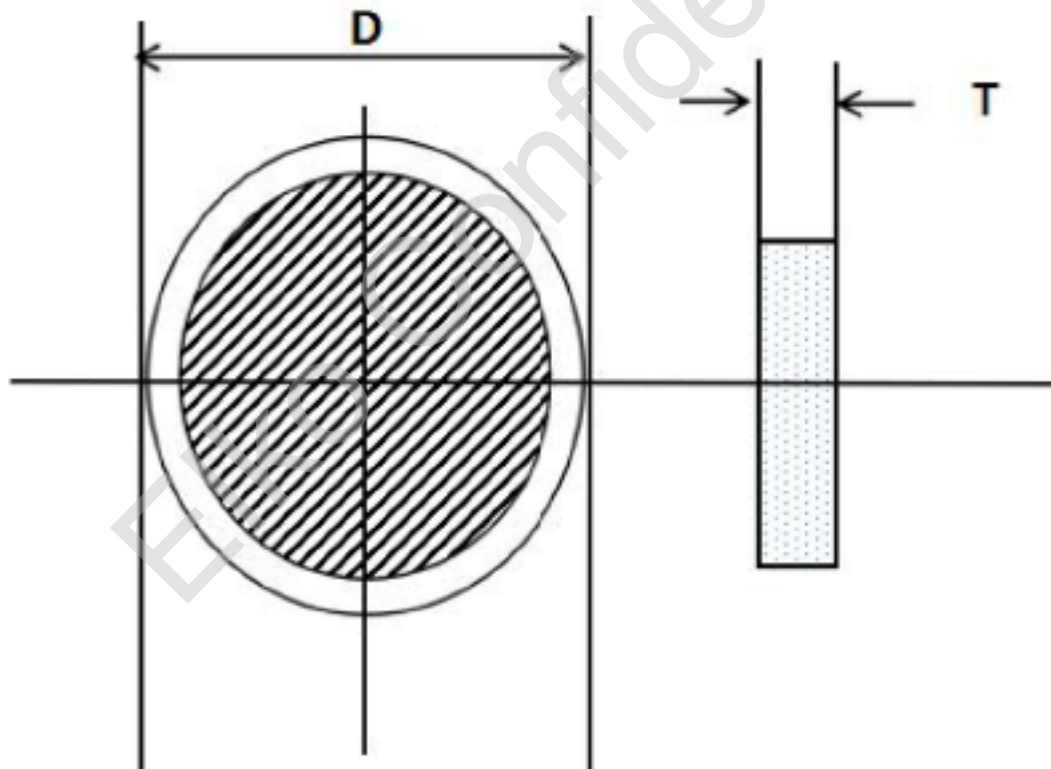
Product Specifications

Features

- RoHS compliant
- Halogen-free series are available
- Body size: $\Phi 10$ and $\Phi 14$ mm
- Wide operating voltage range: 130Vac ~ 680Vac
- Operating temperature range: $-40^{\circ}\text{C} \sim +105^{\circ}\text{C}$

Applications

- Power supply
- Home appliance
- Industrial equipment
- Telecommunication or telephone system
- Smart meter
- PLC (Power line communication)
- Lighting products
- Photovoltaic industry



D: Diameter of Ceramic Element
T: Thickness of Ceramic Element



Standard Types	Varistor Voltage	Max.Allowable Voltage		Max. Clamping Voltage(8/20μS)		Rated Power (W)	Max. Energy (J)				Max. Peak Current(8/20μS)			
		V (V)	ACrms (V)	DC (V)	VC (V)		IP (A)	(10/1000μS)		2ms		1 TIME	2 TIME	1 TIME
	Standard					High Joule		Standard	High Joule	Standard		High Joule		
7D180K	18(16-20)	11	14	38	2.5	0.02	2.1	2.4	0.8	0.9	250	125	500	250
7D220K	22(20-24)	14	18	43	2.5	0.02	2.4	2.8	0.9	1.2	250	125	500	250
7D270K	27(24-30)	17	22	53	2.5	0.02	2.8	3.0	1.1	1.4	250	125	500	250
7D330K	33(30-36)	20	26	65	2.5	0.02	3.5	4.0	1.4	1.7	250	125	500	250
7D390K	39(35-43)	25	31	77	2.5	0.02	4.2	4.6	1.6	2.0	250	125	500	250
7D470K	47(42-52)	30	38	93	2.5	0.02	5.0	5.2	2.0	2.5	250	125	500	250
7D560K	56(50-62)	35	45	110	2.5	0.02	6.2	6.5	2.4	2.9	250	125	500	250
7D680K	68(61-75)	40	56	135	2.5	0.02	7.2	7.5	2.9	3.6	250	125	500	250
7D820K	82(74-90)	50	65	135	10	0.25	9.8	10.0	3.4	4.3	1250	600	1750	1250
7D101K	100(90-110)	60	85	165	10	0.25	11.6	12.0	4.2	5.3	1250	600	1750	1250
7D121K	120(108-132)	75	100	200	10	0.25	14.0	14.2	5.0	6.3	1250	600	1750	1250
7D151K	150(135-165)	95	125	250	10	0.25	16.8	17.0	6.3	7.9	1250	600	1750	1250
7D181K	180(162-198)	115	150	300	10	0.25	18.2	22.0	7.6	9.5	1250	600	1750	1250
7D201K	200(180-220)	130	170	340	10	0.25	25.2	27.0	8.4	10.5	1250	600	1750	1250
7D221K	220(198-242)	140	180	360	10	0.25	26.5	29.0	9.2	11.6	1250	600	1750	1250
7D241K	240(216-264)	150	200	395	10	0.25	28.0	30.0	10.1	12.6	1250	600	1750	1250
7D271K	270(243-297)	175	225	455	10	0.25	32.2	33.0	11.3	14.2	1250	600	1750	1250
7D301K	300(270-330)	195	250	505	10	0.25	35.0	36.0	12.6	15.8	1250	600	1750	1250
7D331K	330(297-363)	210	275	550	10	0.25	37.8	38.0	13.9	17.3	1250	600	1750	1250
7D361K	360(324-396)	230	300	595	10	0.25	42.0	43.0	15.1	18.9	1250	600	1750	1250
7D391K	390(351-429)	250	320	650	10	0.25	46.2	47.0	16.4	20.5	1250	600	1750	1250
7D431K	430(387-473)	275	350	710	10	0.25	50.4	51.0	18.1	22.6	1250	600	1750	1250
7D471K	470(423-517)	300	385	775	10	0.25	56.0	57.0	19.7	24.7	1250	600	1750	1250
7D511K	510(459-561)	320	410	842	10	0.25	57.0	58.0	21.4	26.8	1250	600	1750	1250
7D561K	560(504-616)	350	450	920	10	0.25	58.0	61.0	23.5	29.4	1250	600	1750	1250
7D621K	620(558-682)	395	510	1025	10	0.25	61.6	68.0	26.0	32.6	1250	600	1750	1250
7D681K	680(612-748)	420	560	1120	10	0.25	62.5	75.0	28.6	35.7	1250	600	1750	1250
7D751K	750(675-825)	460	615	1240	10	0.25	67.2	80.0	31.5	39.4	1250	600	1750	1250
7D781K	780(702-858)	485	640	1290	10	0.25	69.0	83.0	32.8	41.0	1250	600	1750	1250
7D821K	820(738-902)	510	670	1355	10	0.25	72.0	87.0	34.4	43.1	1250	600	1750	1250
10D180K	18(16-20)	11	14	38	5.0	0.05	2.8	3.0	1.6	2.0	500	250	1000	500

10D220K	22(20-24)	14	18	43	5.0	0.05	4.5	5.0	2.0	2.5	500	250	1000	500
10D270K	27(24-30)	17	22	53	5.0	0.05	6.0	6.5	2.4	3.0	500	250	1000	500
10D330K	33(30-36)	20	26	65	5.0	0.05	7.4	8.0	3.0	3.7	500	250	1000	500
10D390K	39(35-43)	25	31	77	5.0	0.05	9.1	9.5	3.5	4.4	500	250	1000	500
10D470K	47(42-52)	30	38	93	5.0	0.05	10.8	11.0	4.2	5.3	500	250	1000	500
10D560K	56(50-62)	35	45	110	5.0	0.05	12.9	13.0	5.0	6.3	500	250	1000	500
10D680K	68(61-75)	40	56	135	5.0	0.05	15.4	16.0	6.1	7.7	500	250	1000	500
10D820K	82(74-90)	50	65	135	25	0.4	16.8	17.0	7.4	9.2	2500	1250	3500	2500
10D101K	100(90-110)	60	85	165	25	0.4	18.2	18.5	9.0	11.3	2500	1250	3500	2500
10D121K	120(108-132)	75	100	200	25	0.4	21.0	21.5	10.8	13.5	2500	1250	3500	2500
10D151K	150(135-165)	95	125	250	25	0.4	25.2	26.0	13.5	16.9	2500	1250	3500	2500
10D181K	180(162-198)	115	150	300	25	0.4	30.8	38.0	16.2	20.3	2500	1250	3500	2500
10D201K	200(180-220)	130	170	340	25	0.4	42.0	42.5	18.0	22.5	2500	1250	3500	2500
10D221K	220(198-242)	140	180	360	25	0.4	46.2	46.5	19.8	24.8	2500	1250	3500	2500
10D241K	240(216-264)	150	200	395	25	0.4	50.4	51.0	21.6	27.0	2500	1250	3500	2500
10D271K	270(243-297)	175	225	455	25	0.4	57.4	58.0	24.3	30.4	2500	1250	3500	2500
10D301K	300(270-330)	195	250	505	25	0.4	63.0	63.5	27.0	33.8	2500	1250	3500	2500
10D331K	330(297-363)	210	275	550	25	0.4	68.6	69.0	29.7	37.1	2500	1250	3500	2500
10D361K	360(324-396)	230	300	595	25	0.4	74.2	75.0	32.4	40.5	2500	1250	3500	2500
10D391K	390(351-429)	250	320	650	25	0.4	81.2	82.0	35.12	43.9	2500	1250	3500	2500
10D431K	430(387-473)	275	350	710	25	0.4	88.2	89.0	38.7	48.4	2500	1250	3500	2500
10D471K	470(423-517)	300	385	775	25	0.4	96.0	100	42.3	52.9	2500	1250	3500	2500
10D511K	510(459-561)	320	410	842	25	0.4	98.0	102	42.3	52.9	2500	1250	3500	2500
10D561K	560(504-616)	350	450	920	25	0.4	100	104	42.3	52.9	2500	1250	3500	2500
10D621K	620(558-682)	395	510	1025	25	0.4	102	106	42.3	52.9	2500	1250	3500	2500
10D681K	680(612-748)	420	560	1120	25	0.4	104	108	42.3	52.9	2500	1250	3500	2500
10D751K	750(675-825)	460	615	1240	25	0.4	110	118	42.3	52.9	2500	1250	3500	2500
10D781K	780(702-858)	485	640	1290	25	0.4	118	120	42.3	52.9	2500	1250	3500	2500
10D821K	820(738-902)	510	670	1355	25	0.4	122	125	44.3	55.4	2500	1250	3500	2500
10D911K	910(819-1001)	550	745	1500	25	0.4	128	134	49.1	61.4	2500	1250	3500	2500
10D951K	950(855-1045)	580	780	1570	25	0.4	130	136	51.3	64.1	2500	1250	3500	2500
10D102K	1000(900-1100)	625	825	1650	25	0.4	131	140	54.0	67.5	2500	1250	3500	2500
10D112K	1100(990-1210)	680	895	1815	25	0.4	133	155	59.4	74.3	2500	1250	3500	2500
10D122K	120(1080-1320)	725	975	1980	25	0.4		155			2500	1250	3500	2500
10D142K	1400(1260-1540)	820	1140	2300	25	0.4		160			2500	1250	3500	2500
10D162K	1600(1440-1760)	910	1300	2630	25	0.4		165			2500	1250	3500	2500
10D182K	1800(1620-1980)	1000	1465	2970	25	0.4		185	97.2	121.5	2500	1250	3500	2500



Standard Types	Varistor Voltage	Max. Allowable Voltage		Max. Clamping Voltage(8/20μS)		Rated Power	Max. Energy (J)				Max. Peak Current(8/20μS)			
		V (V)	ACrms (V)	DC (V)	VC (V)		IP (A)	(W)	(10/1000μS)		2ms		1 TIME	2 TIME
	Standard					High Joule			Standard	High Joule	Standard		High Joule	
14D180K	18(16-20)	11	14	38	10	0.1	6.6	7.0	3.2	4.12	1000	500	2000	1000
14D220K	22(20-24)	14	18	43	10	0.1	7.6	8.0	4.0	5.0	1000	500	2000	1000
14D270K	27(24-30)	17	22	53	10	0.1	9.7	10.0	4.9	6.1	1000	500	2000	1000
14D330K	33(30-36)	20	26	65	10	0.1	12.3	12.5	5.9	7.4	1000	500	2000	1000
14D390K	39(35-43)	25	31	77	10	0.1	13.23	13.0	7.0	8.8	1000	500	2000	1000
14D470K	47(42-52)	30	38	93	10	0.1	16.8	17.0	8.5	10.6	1000	500	2000	1000
14D560K	56(50-62)	35	45	110	10	0.1	19.6	20.0	10.1	12.6	1000	500	2000	1000
14D680K	68(61-75)	40	56	135	10	0.1	23.8	24.0	12.2	15.3	1000	500	2000	1000
14D820K	82(74-90)	50	65	135	50	0.6	29.4	30.0	14.8	18.5	4500	2500	6000	4500
14D101K	100(90-110)	60	85	165	50	0.6	33.6	35.0	18.0	22.5	4500	2500	6000	4500
14D121K	120(108-132)	75	100	200	50	0.6	40.6	42.0	21.6	27.0	4500	2500	6000	4500
14D151K	150(135-165)	95	125	250	50	0.6	51.8	53.0	27.0	33.8	4500	2500	6000	4500
14D181K	180(162-198)	115	150	300	50	0.6	58.8	74.0	32.4	40.5	4500	2500	6000	4500
14D201K	200(180-220)	130	170	340	50	0.6	75.2	78.6	36.0	45.0	4500	2500	6000	4500
14D221K	220(198-242)	140	180	360	50	0.6	79.8	80.5	39.6	49.5	4500	2500	6000	4500
14D241K	240(216-264)	150	200	395	50	0.6	82.6	86.0	43.2	54.0	4500	2500	6000	4500
14D271K	270(243-297)	175	225	455	50	0.6	84.0	94.0	48.6	60.8	4500	2500	6000	4500
14D301K	300(270-330)	195	250	505	50	0.6	103	105	54.0	67.5	4500	2500	6000	4500
14D331K	330(297-363)	210	275	550	50	0.6	112	115	59.4	74.3	4500	2500	6000	4500
14D361K	360(324-396)	230	300	595	50	0.6	123	130	64.8	81.0	4500	2500	6000	4500
14D391K	390(351-429)	250	320	650	50	0.6	135	140	70.2	87.8	4500	2500	6000	4500
14D431K	430(387-473)	275	350	710	50	0.6	145	155	77.4	96.8	4500	2500	6000	4500
14D471K	470(423-517)	300	385	775	50	0.6	147	175	84.6	105.8	4500	2500	6000	4500
14D511K	510(459-561)	320	410	842	50	0.6	148	180	84.6	105.8	4500	2500	6000	4500
14D561K	560(504-616)	350	450	920	50	0.6	150	186	84.6	105.8	4500	2500	6000	4500
14D621K	620(558-682)	395	510	1025	50	0.6	155	188	84.6	105.8	4500	2500	6000	4500
14D681K	680(612-748)	420	560	1120	50	0.6	160	190	84.6	105.8	4500	2500	6000	4500
14D751K	750(675-825)	460	615	1240	50	0.6	180	210	90.0	112.5	4500	2500	6000	4500
14D781K	780(702-858)	485	640	1290	50	0.6	190	211	93.6	117.0	4500	2500	6000	4500
14D821K	820(738-902)	510	670	1355	50	0.6	203	235	98.4	123.0	4500	2500	6000	4500
14D911K	910(819-1001)	550	745	1500	50	0.6	208	255	109.2	136.5	4500	2500	6000	4500



14D951K	950(855-1045)	580	780	1570	50	0.6	208	266	113.7	142.1	4500	2500	6000	4500
14D102K	1000(900-1100)	625	825	1650	50	0.6	212	280	120.0	150.0	4500	2500	6000	4500
14D112K	1100(990-1210)	680	895	1815	50	0.6	217	310	132.0	165.0	4500	2500	6000	4500
14D122K	1200(1080-1320)	725	975	1980	50	0.6	240	330	140.0	176.0	4500	2500	6000	4500
14D142K	1400(1260-1540)	820	1140	2300	50	0.6	266	420	179.0	223.0	4500	2500	6000	4500
14D162K	1600(1440-1760)	910	1300	2630	50	0.6	266	420	179.0	223.0	4500	2500	6000	4500
14D182K	1800(1620-1980)	1000	1465	2970	50	0.6	336	510	216.0	270.0	4500	2500	6000	4500

Standard Types	Varistor Voltage	Max. Allowable Voltage		Max. Clamping Voltage(8/20μS)		Rated Power (W)	Max. Energy (J)				Max. Peak Current(8/20μS)			
		V (V)	ACrms (V)	DC (V)	VC (V)		IP (A)	(10/1000μS)		2ms		1 TIME	2 TIME	1 TIME
	Standard					High Joule		Standard	High Joule	High Joule				
	20D180K	18(16-20)	11	14	38	20	0.2	6.1	13.0	5.4	6.8	2000	1000	3000
20D220K	22(20-24)	14	18	43	20	0.2	7.4	16.0	6.6	8.3	2000	1000	3000	1000
20D270K	27(24-30)	17	22	53	20	0.2	9.1	19.0	8.1	10.1	2000	1000	3000	1000
20D330K	33(30-36)	20	26	65	20	0.2	11.2	24.0	9.9	12.4	2000	1000	3000	1000
20D390K	39(35-43)	25	31	77	20	0.2	13.2	28.0	11.7	14.6	2000	1000	3000	1000
20D470K	47(42-52)	30	38	93	20	0.2	16.8	34.0	14.1	17.6	2000	1000	3000	1000
20D560K	56(50-62)	35	45	110	20	0.2	19.6	41.0	16.8	21.0	2000	1000	3000	1000
20D680K	68(61-75)	40	56	135	20	0.2	23.8	49.0	20.4	25.5	2000	1000	3000	1000
20D820K	82(74-90)	50	65	135	100	1.0	37.8	56.0	24.6	30.8	6500	4000	10000	7000
20D101K	100(90-110)	60	85	165	100	1.0	42.0	70.0	30.0	37.5	6500	4000	10000	7000
20D121K	120(108-132)	75	100	200	100	1.0	56.0	85.0	36.0	45.0	6500	4000	10000	7000
20D151K	150(135-165)	95	125	250	100	1.0	70.0	106	45.0	56.3	6500	4000	10000	7000
20D181K	180(162-198)	115	150	300	100	1.0	84.0	130	54.0	67.5	6500	4000	10000	7000
20D201K	200(180-220)	130	170	340	100	1.0	98.0	140	60.0	75.0	6500	4000	10000	7000
20D221K	220(198-242)	140	180	360	100	1.0	105	155	66.0	82.5	6500	4000	10000	7000
20D241K	240(216-264)	150	200	395	100	1.0	112	168	72.0	90.0	6500	4000	10000	7000
20D271K	270(243-297)	175	225	455	100	1.0	126	190	81.0	101.3	6500	4000	10000	7000
20D301K	300(270-330)	195	250	505	100	1.0	133	210	90.0	112.5	6500	4000	10000	7000
20D331K	330(297-363)	210	275	550	100	1.0	140	228	99.0	123.8	6500	4000	10000	7000
20D361K	360(324-396)	230	300	595	100	1.0	168	255	108.0	135.0	6500	4000	10000	7000
20D391K	390(351-429)	250	320	650	100	1.0	182	275	117.0	146.3	6500	4000	10000	7000
20D431K	430(387-473)	275	350	710	100	1.0	196	305	129.0	161.3	6500	4000	10000	7000

20D471K	470(423-517)	300	385	775	100	1.0	202	350	141.0	176.3	6500	4000	10000	7000
20D511K	510(459-561)	320	410	842	100	1.0	207	360	153.0	191.3	6500	4000	10000	7000
20D561K	560(504-616)	350	450	920	100	1.0	210	366	168.0	210.0	6500	4000	10000	7000
20D621K	620(558-682)	395	510	1025	100	1.0	224	372	186.0	232.5	6500	4000	10000	7000
20D681K	680(612-748)	420	560	1120	100	1.0	224	382	186.0	232.5	6500	4000	10000	7000
20D751K	750(675-825)	460	615	1240	100	1.0	230	410	186.0	232.5	6500	4000	10000	7000
20D781K	780(702-858)	485	640	1290	100	1.0	240	421	187.2	234.0	6500	4000	10000	7000
20D821K	820(738-902)	510	670	1355	100	1.0	250	460	196.8	246.0	6500	4000	10000	7000
20D911K	910(819-1001)	550	745	1500	100	1.0	260	510	218.4	273.0	6500	4000	10000	7000
20D951K	950(855-1045)	580	780	1570	100	1.0	260	530	228.0	285.0	6500	4000	10000	7000
20D102K	1000(900-1100)	625	825	1650	100	1.0	270	560	240.0	300.0	6500	4000	10000	7000
20D112K	1100(990-1210)	680	895	1815	100	1.0	280	620	264.0	330.0	6500	4000	10000	7000
20D122K	1200(1080-1320)	725	975	1980	100	1.0	300	650	280.0	350.0	6500	4000	10000	7000
20D142K	1400(1260-1540)	820	1140	2300	100	1.0	420	780	359.0	449.0	6500	4000	10000	7000
20D162K	1600(1440-1760)	910	1300	2630	100	1.0	420	780	359.0	449.0	6500	4000	10000	7000
20D182K	1800(1620-1980)	1000	1465	2970	100	1.0	560	860	432.0	540.0	6500	4000	10000	7000