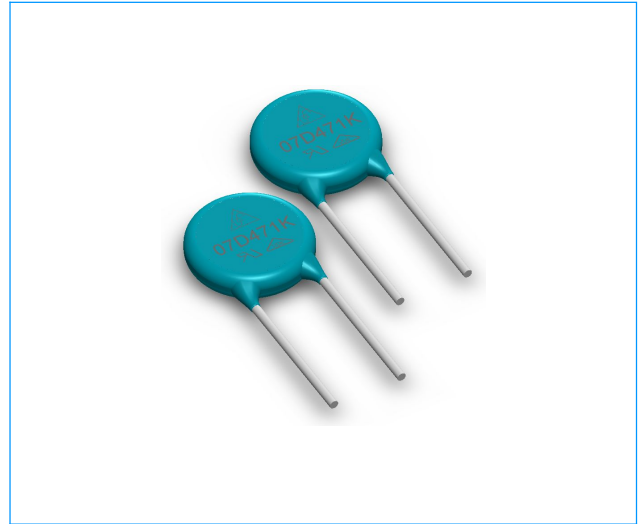


Radial Lead Metal Oxide Varistor (MOV)

07D Series

Features

- ◆ Wide operating voltage (V1mA) range from 18V to 820V
- ◆ Fast responding to transient over-voltage
- ◆ Large absorbing transient energy capability
- ◆ Low clamping ratio and no following-on current
- ◆ Meets MSL level 1, per J-STD-020



Dimensions Unit: mm

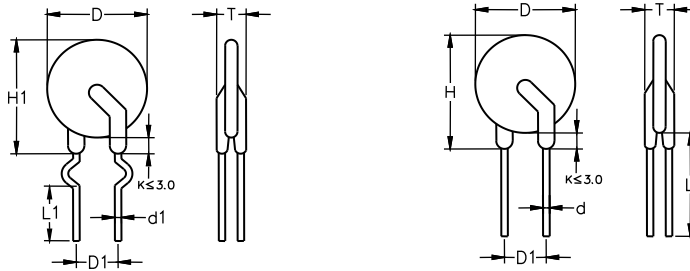


TABLE1	
Symbol	Dimensions
H(max.)	12.0
H1(max.)	13.5
L(min.)	20.0
L1(min.)	15.0
D(max.)	9.0
D1(±0.8)	5.0
T(max.)	TABLE2
d(±0.05)	0.6
d1(±0.4)	1.2

TABLE2			
Model	T(max.)	Model	T(max.)
180K	4.50	241K	4.60
220K	4.60	271K	4.90
270K	4.70	301K	5.00
330K	4.90	331K	5.10
390K	4.80	361K	5.20
470K	4.90	391K	5.40
560K	5.00	431K	5.70
680K	5.20	471K	6.00
820K	4.10	511K	6.20
101K	4.30	561K	6.50
121K	4.50	621K	7.10
151K	4.80	681K	7.30
181K	4.30	751K	7.06
201K	4.40	781K	7.24
221K	4.50	821K	7.28



Specifications – General Characteristics (25±5° C)

Type Number		Maximum Allowable voltage		Varistor Voltage	Maximum Clamping Voltage		Withstanding Surge Current				Maximum Energy (10/1000µs)		Rated Power	Typical Capacitance (Reference)
Standard	High Surge	V _{AC} (V)	V _{DC} (V)	V _{1mA} (V)	I _P (A)	V _C (V)	I(A) Standard		I(A) High Surge		(J) Standard	(J) High Surge	(W)	@1KHZ (pf)
							1 Time	2 Times	1 Time	2 Times				
07D180K	07D180KJ	11	14	18(15~21.6)	2.5	36	250	125	500	250	0.9	2.0	0.02	2800
07D220K	07D220KJ	14	18	22(19.5~26)	2.5	43	250	125	500	250	1.1	2.4	0.02	2300
07D270K	07D270KJ	17	22	27(24~30)	2.5	53	250	125	500	250	1.4	3.0	0.02	1800
07D330K	07D330KJ	20	26	33(29.5~36.5)	2.5	66	250	125	500	250	1.7	3.5	0.02	1500
07D390K	07D390KJ	25	31	39(35~43)	2.5	77	250	125	500	250	2.1	4.0	0.02	1300
07D470K	07D470KJ	30	38	47(42~54)	2.5	93	250	125	500	250	2.5	5.0	0.02	1100
07D560K	07D560KJ	35	45	56(50~62)	2.5	110	250	125	500	250	3.1	6.0	0.02	900
07D680K	07D680KJ	40	56	68(61~75)	2.5	135	250	125	500	250	3.6	7.0	0.02	740
07D820K	07D820KJ	50	65	82(74~90)	10	135	1200	600	1750	1250	5.5	10.0	0.25	600
07D101K	07D101KJ	60	85	100(90~110)	10	165	1200	600	1750	1250	6.5	12.0	0.25	500
07D121K	07D121KJ	75	100	120(108~132)	10	200	1200	600	1750	1250	7.8	13.0	0.25	420
07D151K	07D151KJ	95	125	150(135~165)	10	250	1200	600	1750	1250	9.7	13.0	0.25	330
07D181K	07D181KJ	115	150	180(162~198)	10	300	1200	600	1750	1250	11.7	16.0	0.25	280
07D201K	07D201KJ	130	170	200(180~220)	10	340	1200	600	1750	1250	13.0	17.0	0.25	250
07D221K	07D221KJ	140	180	220(198~242)	10	360	1200	600	1750	1250	14.0	19.0	0.25	230
07D241K	07D241KJ	150	200	240(216~264)	10	395	1200	600	1750	1250	15.0	21.0	0.25	210
07D271K	07D271KJ	175	225	270(243~297)	10	455	1200	600	1750	1250	18.0	24.0	0.25	185
07D301K	07D301KJ	190	250	300(270~330)	10	500	1200	600	1750	1250	20.0	26.0	0.25	165
07D331K	07D331KJ	210	275	330(297~363)	10	550	1200	600	1750	1250	23.0	28.0	0.25	150
07D361K	07D361KJ	230	300	360(324~396)	10	595	1200	600	1750	1250	25.0	32.0	0.25	140
07D391K	07D391KJ	250	320	390(351~429)	10	650	1200	600	1750	1250	25.0	35.0	0.25	130
07D431K	07D431KJ	275	350	430(387~473)	10	710	1200	600	1750	1250	28.0	40.0	0.25	115
07D471K	07D471KJ	300	335	470(423~517)	10	775	1200	600	1750	1250	30.0	42.0	0.25	105
07D511K	07D511KJ	320	415	510(459~561)	10	845	1200	600	1750	1250	30.0	45.0	0.25	100
07D561K	07D561KJ	350	460	560(504~616)	10	925	1200	600	1750	1250	30.0	49.0	0.25	90
07D621K	07D621KJ	385	505	620(558~682)	10	1025	1200	600	1750	1250	33.0	55.0	0.25	80
07D681K	07D681KJ	420	560	680(612~748)	10	1120	1200	600	1750	1250	33.0	60.0	0.25	75
07D751K	07D751KJ	460	615	750(675~825)	10	1240	1200	600	1750	1250	67.2	65.0	0.25	70
07D781K	07D781KJ	485	640	780(702~858)	10	1290	1200	600	1750	1250	67.2	65.0	0.25	70
07D821K	07D821KJ	510	670	820(738~902)	10	1355	1200	600	1750	1250	67.2	70.0	0.25	60

Remark: Voltage>33V, K is ±10%



Radial Lead Metal Oxide Varistor (MOV)

10D Series

Features

- ◆ Wide operating voltage (V1mA) range from 18V to 1800V
- ◆ Fast responding to transient over-voltage
- ◆ Large absorbing transient energy capability
- ◆ Low clamping ratio and no following-on current
- ◆ Meets MSL level 1, per J-STD-020



Dimensions Unit: mm

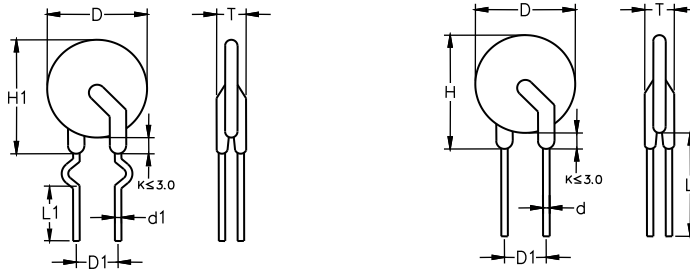


TABLE1	
Symbol	Dimensions
H(max.)	20.0
H1(max.)	21.0
L(min.)	20.0
L1(min.)	15.0
D(max.)	16.5
D1(±0.8)	7.5
T(max.)	TABLE2
d(±0.05)	0.8
d1(±0.4)	1.4

TABLE2			
Model	T(max.)	Model	T(max.)
180K	4.6	301K	5.5
220K	4.7	331K	5.8
270K	4.8	361K	6.0
330K	5.0	391K	6.2
390K	5.3	431K	6.5
470K	5.4	471K	6.7
560K	5.5	511K	6.8
680K	5.6	561K	7.0
820K	4.7	621K	7.3
101K	4.9	681K	7.6
121K	5.1	751K	8.0
151K	5.4	781K	8.1
181K	4.8	821K	8.3
201K	5.0	911K	8.8
221K	5.1	102K	9.3
241K	5.2	112K	9.9
271K	5.4	182K	12.5



Specifications – General Characteristics (25±5° C)

Type Number		Maximum Allowable voltage		Varistor Voltage	Maximum Clamping Voltage		Withstanding Surge Current				Maximum Energy (10/1000µs)		Rated Power	Typical Capacitance (Reference)
Standard	High Surge	V _{AC} (V)	V _{DC} (V)	V _{1mA} (V)	I _P (A)	V _C (V)	I(A) Standard		I(A) High Surge		(J) Standard	(J) High Surge	(W)	@1KHZ (pf)
							1 Time	2 Times	1 Time	2 Times				
10D180K	10D180KJ	11	14	18(15~21.6)	5	36	500	250	2000	1000	2.1	3.0	0.05	5600
10D220K	10D220KJ	14	18	22(19.5~26)	5	43	500	250	2000	1000	2.5	5.0	0.05	4500
10D270K	10D270KJ	17	22	27(24~30)	5	53	500	250	2000	1000	3.0	6.0	0.05	3700
10D330K	10D330KJ	20	26	33(29.5~36.5)	5	66	500	250	2000	1000	4.0	7.0	0.05	3000
10D390K	10D390KJ	25	31	39(35~43)	5	77	500	250	2000	1000	4.6	9.0	0.05	2400
10D470K	10D470KJ	30	38	47(42~54)	5	93	500	250	2000	1000	5.5	11.0	0.05	2100
10D560K	10D560KJ	35	45	56(50~62)	5	100	500	250	2000	1000	7.0	13.0	0.05	1800
10D680K	10D680KJ	40	56	68(61~75)	5	135	500	250	2000	1000	8.2	15.0	0.05	1500
10D820K	10D820KJ	50	65	82(74~90)	25	135	2500	1250	3500	2500	12.0	17.0	0.4	1200
10D101K	10D101KJ	60	85	100(90~110)	25	165	2500	1250	3500	2500	15.0	18.0	0.4	1000
10D121K	10D121KJ	75	100	120(108~132)	25	200	2500	1250	3500	2500	18.0	21.0	0.4	830
10D151K	10D151KJ	95	125	150(135~165)	25	250	2500	1250	3500	2500	22.0	25.0	0.4	670
10D181K	10D181KJ	115	150	180(162~198)	25	300	2500	1250	3500	2500	27.0	30.0	0.4	560
10D201K	10D201KJ	130	170	200(180~220)	25	340	2500	1250	3500	2500	30.0	35.0	0.4	500
10D221K	10D221KJ	140	180	220(198~242)	25	360	2500	1250	3500	2500	32.0	39.0	0.4	450
10D241K	10D241KJ	150	200	240(216~264)	25	395	2500	1250	3500	2500	35.0	42.0	0.4	420
10D271K	10D271KJ	175	225	270(243~297)	25	455	2500	1250	3500	2500	40.0	49.0	0.4	370
10D301K	10D301KJ	190	250	300(270~330)	25	500	2500	1250	3500	2500	40.0	54.0	0.4	330
10D331K	10D331KJ	210	275	330(297~363)	25	550	2500	1250	3500	2500	40.0	58.0	0.4	300
10D361K	10D361KJ	230	300	360(324~396)	25	595	2500	1250	3500	2500	43.0	65.0	0.4	280
10D391K	10D391KJ	250	320	390(351~429)	25	650	2500	1250	3500	2500	47.0	70.0	0.4	260
10D431K	10D431KJ	275	350	430(387~473)	25	710	2500	1250	3500	2500	60.0	80.0	0.4	230
10D471K	10D471KJ	300	335	470(423~517)	25	775	2500	1250	3500	2500	65.0	85.0	0.4	210
10D511K	10D511KJ	320	415	510(459~561)	25	845	2500	1250	3500	2500	70.0	90.0	0.4	200
10D561K	10D561KJ	350	460	560(504~616)	25	925	2500	1250	3500	2500	70.0	92.0	0.4	180
10D621K	10D621KJ	385	505	620(558~682)	25	1025	2500	1250	3500	2500	70.0	95.0	0.4	160
10D681K	10D681KJ	420	560	680(612~748)	25	1120	2500	1250	3500	2500	70.0	98.0	0.4	150
10D751K	10D751KJ	460	615	750(675~825)	25	1240	2500	1250	3500	2500	70.0	100.0	0.4	130
10D781K	10D781KJ	485	640	780(702~858)	25	1290	2500	1250	3500	2500	80.0	105.0	0.4	130
10D821K	10D821KJ	510	670	820(738~902)	25	1355	2500	1250	3500	2500	85.0	110.0	0.4	120
10D911K	10D911KJ	550	745	910(819~1001)	25	1500	2500	1250	3500	2500	93.0	130.0	0.4	110
10D102K	10D102KJ	625	825	1000(900~1100)	25	1650	2500	1250	3500	2500	102.0	140.0	0.4	100
10D112K	10D112KJ	680	895	1100(990~1210)	25	1814	2500	1250	3500	2500	115.0	155.0	0.4	90
10D182K	10D182KJ	1000	1465	1800(1620~1980)	25	2970	2500	1250	3500	2500	133.0	250.0	0.4	70

Remark: Voltage>33V, K is ±10%

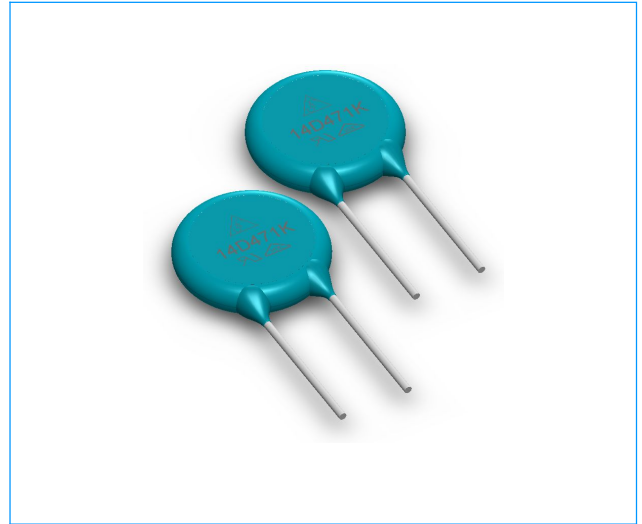


Radial Lead Metal Oxide Varistor (MOV)

14D Series

Features

- ◆ Wide operating voltage (V1mA) range from 18V to 1800V
- ◆ Fast responding to transient over-voltage
- ◆ Large absorbing transient energy capability
- ◆ Low clamping ratio and no following-on current
- ◆ Meets MSL level 1, per J-STD-020



Dimensions Unit: mm

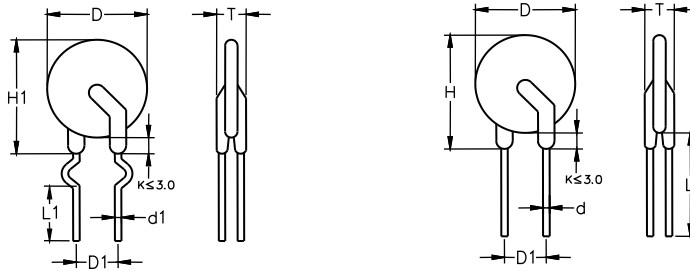


TABLE1	
Symbol	Dimensions
H(max.)	20.0
H1(max.)	21.0
L(min.)	20.0
L1(min.)	15.0
D(max.)	16.5
D1(±0.8)	7.5
T(max.)	TABLE2
d(±0.05)	0.8
d1(±0.4)	1.4

TABLE2			
Model	T(max.)	Model	T(max.)
180K	4.6	331K	5.8
220K	4.7	361K	6.0
270K	4.8	391K	6.2
330K	5.0	431K	6.5
390K	5.3	471K	6.7
470K	5.4	511K	6.8
560K	5.5	561K	7.0
680K	5.6	621K	7.3
820K	4.7	681K	7.6
101K	4.9	751K	8.0
121K	5.1	781K	8.1
151K	5.4	821K	8.3
181K	4.8	911K	8.8
201K	5.0	102K	9.3
221K	5.1	112K	9.9
241K	5.2	122K	10.4
271K	5.4	182K	13.0
301K	5.5	-	-



Specifications – General Characteristics (25±5° C)

Type Number		Maximum Allowable voltage		Varistor Voltage	Maximum Clamping Voltage		Withstanding Surge Current				Maximum Energy (10/1000µs)		Rated Power	Typical Capacitance (Reference)
Standard	High Surge	V _{AC} (V)	V _{DC} (V)	V _{1mA} (V)	I _P (A)	V _C (V)	I(A) Standard		I(A) High Surge		(J) Standard	(J) High Surge	(W)	@1KHZ (pf)
							1 Time	2 Times	1 Time	2 Times				
14D180K	14D180KJ	11	14	18(15~21.6)	10	36	1000	500	2000	1000	4.0	7.0	0.1	11100
14D220K	14D220KJ	14	18	22(19.5~26)	10	43	1000	500	2000	1000	5.0	8.0	0.1	9100
14D270K	14D270KJ	17	22	27(24~30)	10	53	1000	500	2000	1000	6.0	10.0	0.1	7400
14D330K	14D330KJ	20	26	33(29.5~36.5)	10	66	1000	500	2000	1000	7.5	12.0	0.1	6100
14D390K	14D390KJ	25	31	39(35~43)	10	77	1000	500	2000	1000	8.6	13.0	0.1	5100
14D470K	14D470KJ	30	38	47(42~54)	10	93	1000	500	2000	1000	10.0	17.0	0.1	4300
14D560K	14D560KJ	35	45	56(50~62)	10	100	1000	500	2000	1000	11.0	20.0	0.1	3600
14D680K	14D680KJ	40	56	68(61~75)	10	135	1000	500	2000	1000	14.0	24.0	0.1	2900
14D820K	14D820KJ	50	65	82(74~90)	50	135	4500	2500	6000	5000	22.0	27.0	0.6	2400
14D101K	14D101KJ	60	85	100(90~110)	50	165	4500	2500	6000	5000	28.0	33.0	0.6	2000
14D121K	14D121KJ	75	100	120(108~132)	50	200	4500	2500	6000	5000	32.0	40.0	0.6	1700
14D151K	14D151KJ	95	125	150(135~165)	50	250	4500	2500	6000	5000	40.0	53.0	0.6	1300
14D181K	14D181KJ	115	150	180(162~198)	50	300	4500	2500	6000	5000	50.0	60.0	0.6	1100
14D201K	14D201KJ	130	170	200(180~220)	50	340	4500	2500	6000	5000	57.0	70.0	0.6	1000
14D221K	14D221KJ	140	180	220(198~242)	50	360	4500	2500	6000	5000	60.0	78.0	0.6	900
14D241K	14D241KJ	150	200	240(216~264)	50	395	4500	2500	6000	5000	63.0	84.0	0.6	830
14D271K	14D271KJ	175	225	270(243~297)	50	455	4500	2500	6000	5000	70.0	99.0	0.6	740
14D301K	14D301KJ	190	250	300(270~330)	50	500	4500	2500	6000	5000	77.0	108	0.6	670
14D331K	14D331KJ	210	275	330(297~363)	50	550	4500	2500	6000	5000	85.0	115	0.6	610
14D361K	14D361KJ	230	300	360(324~396)	50	595	4500	2500	6000	5000	93.0	130	0.6	560
14D391K	14D391KJ	250	320	390(351~429)	50	650	4500	2500	6000	5000	100	140	0.6	510
14D431K	14D431KJ	275	350	430(387~473)	50	710	4500	2500	6000	5000	115	155	0.6	460
14D471K	14D471KJ	300	335	470(423~517)	50	775	4500	2500	6000	5000	125	175	0.6	430
14D511K	14D511KJ	320	415	510(459~561)	50	845	4500	2500	6000	5000	125	180	0.6	390
14D561K	14D561KJ	350	460	560(504~616)	50	925	4500	2500	6000	5000	125	185	0.6	360
14D621K	14D621KJ	385	505	620(558~682)	50	1025	4500	2500	6000	5000	125	190	0.6	320
14D681K	14D681KJ	420	560	680(612~748)	50	1120	4500	2500	6000	5000	130	200	0.6	290
14D751K	14D751KJ	460	615	750(675~825)	50	1240	4500	2500	6000	5000	143	210	0.6	270
14D781K	14D781KJ	485	640	780(702~858)	50	1290	4500	2500	6000	5000	148	220	0.6	260
14D821K	14D821KJ	510	670	820(738~902)	50	1355	4500	2500	6000	5000	157	235	0.6	240
14D911K	14D911KJ	550	745	910(819~1001)	50	1500	4500	2500	6000	5000	175	255	0.6	220
14D102K	14D102KJ	625	825	1000(900~1100)	50	1650	4500	2500	6000	5000	190	280	0.6	200
14D112K	14D112KJ	680	895	1100(990~1210)	50	1814	4500	2500	6000	5000	213	310	0.6	180
14D122K	14D122KJ	750	990	1200(1080~1320)	50	1980	4500	2500	6000	5000	213	310	0.6	150
14D182K	14D182KJ	1000	1465	1800(1620~1980)	50	2970	4500	2500	6000	5000	250	335	0.6	130

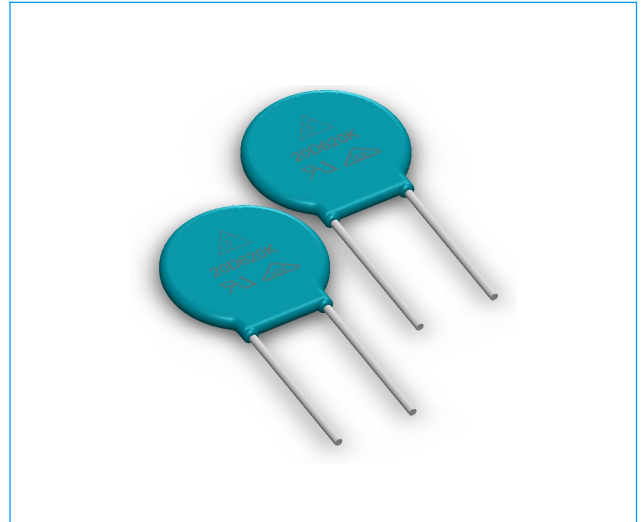


Radial Lead Metal Oxide Varistor (MOV)

20D Series

Features

- ◆ Wide operating voltage (V1mA) range from 18V to 1800V
- ◆ Fast responding to transient over-voltage
- ◆ Large absorbing transient energy capability
- ◆ Low clamping ratio and no following-on current
- ◆ Meets MSL level 1, per J-STD-020



Dimensions Unit: mm

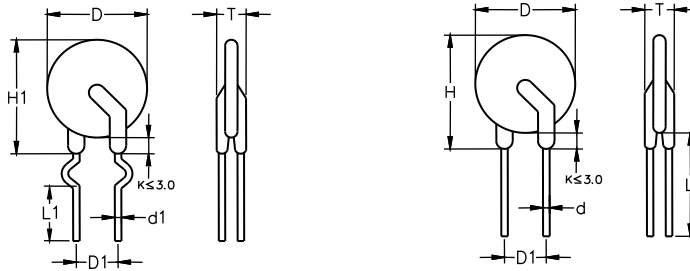


TABLE1	
Symbol	Dimensions
H(max.)	26.5
H1(max.)	28.0
L(min.)	20.0
L1(min.)	15.0
D(max.)	23.0
D1(±0.8)	7.5+0.8/10.0+1.0
T(max.)	TABLE2
d(±0.05)	0.8
d1(±0.4)	1.4

TABLE2			
Model	T(max.)	Model	T(max.)
180K	4.8	331K	5.8
220K	4.9	361K	6.0
270K	5.0	391K	6.2
330K	5.2	431K	6.5
390K	5.5	471K	6.7
470K	5.6	511K	6.9
560K	5.7	561K	7.0
680K	5.08	621K	7.2
820K	4.9	681K	7.5
101K	5.1	751K	8.2
121K	5.3	781K	5.3
151K	5.6	821K	8.5
181K	5.0	911K	9.0
201K	5.2	102K	9.5
221K	5.3	112K	10.1
241K	5.4	122K	10.6
271K	5.6	182K	13.2
301K	5.7	-	-



Specifications – General Characteristics (25±5° C)

Type Number		Maximum Allowable voltage		Varistor Voltage	Maximum Clamping Voltage		Withstanding Surge Current				Maximum Energy (10/1000µs)		Rated Power	Typical Capacitance (Reference)
Standard	High Surge	V _{AC} (V)	V _{DC} (V)	V _{1mA} (V)	I _P (A)	V _C (V)	I(A) Standard		I(A) High Surge		(J) Standard	(J) High Surge	(W)	@1KHZ (pf)
							1 Time	2 Times	1 Time	2 Times				
20D180K	20D180KJ	11	14	18(15~21.6)	20	36	2000	1000	3000	1000	11	13	0.2	28500
20D220K	20D220KJ	14	18	22(19.5~26)	20	43	2000	1000	3000	1000	14	16	0.2	18500
20D270K	20D270KJ	17	22	27(24~30)	20	53	2000	1000	3000	1000	16	19	0.2	13000
20D330K	20D330KJ	20	26	33(29.5~36.5)	20	66	2000	1000	3000	1000	23	24	0.2	11500
20D390K	20D390KJ	25	31	39(35~43)	20	77	2000	1000	3000	1000	26	28	0.2	8500
20D470K	20D470KJ	30	38	47(42~54)	20	93	2000	1000	3000	1000	30	34	0.2	7400
20D560K	20D560KJ	35	45	56(50~62)	20	100	2000	1000	3000	1000	41	41	0.2	6500
20D680K	20D680KJ	40	56	68(61~75)	20	135	2000	1000	3000	1000	46	49	0.2	5800
20D820K	20D820KJ	50	65	82(74~90)	100	135	6500	4000	10000	7000	38	56	1.0	4900
20D101K	20D101KJ	60	85	100(90~110)	100	165	6500	4000	10000	7000	45	70	1.0	4000
20D121K	20D121KJ	75	100	120(108~132)	100	200	6500	4000	10000	7000	55	85	1.0	3300
20D151K	20D151KJ	95	125	150(135~165)	100	250	6500	4000	10000	7000	70	106	1.0	2700
20D181K	20D181KJ	115	150	180(162~198)	100	300	6500	4000	10000	7000	85	130	1.0	2200
20D201K	20D201KJ	130	170	200(180~220)	100	340	6500	4000	10000	7000	95	140	1.0	2000
20D221K	20D221KJ	140	180	220(198~242)	100	360	6500	4000	10000	7000	100	155	1.0	1800
20D241K	20D241KJ	150	200	240(216~264)	100	395	6500	4000	10000	7000	108	168	1.0	1650
20D271K	20D271KJ	175	225	270(243~297)	100	455	6500	4000	10000	7000	127	190	1.0	1500
20D301K	20D301KJ	190	250	300(270~330)	100	500	6500	4000	10000	7000	136	210	1.0	1300
20D331K	20D331KJ	210	275	330(297~363)	100	550	6500	4000	10000	7000	150	228	1.0	1200
20D361K	20D361KJ	230	300	360(324~396)	100	595	6500	4000	10000	7000	163	255	1.0	1100
20D391K	20D391KJ	250	320	390(351~429)	100	650	6500	4000	10000	7000	180	275	1.0	1000
20D431K	20D431KJ	275	350	430(387~473)	100	710	6500	4000	10000	7000	190	305	1.0	930
20D471K	20D471KJ	300	335	470(423~517)	100	775	6500	4000	10000	7000	220	350	1.0	850
20D511K	20D511KJ	320	415	510(459~561)	100	845	6500	4000	10000	7000	220	360	1.0	780
20D561K	20D561KJ	350	460	560(504~616)	100	925	6500	4000	10000	7000	220	380	1.0	710
20D621K	20D621KJ	385	505	620(558~682)	100	1025	6500	4000	10000	7000	220	390	1.0	650
20D681K	20D681KJ	420	560	680(612~748)	100	1120	6500	4000	10000	7000	230	400	1.0	600
20D751K	20D751KJ	460	615	750(675~825)	100	1240	6500	4000	10000	7000	255	420	1.0	530
20D781K	20D781KJ	485	640	780(702~858)	100	1290	6500	4000	10000	7000	265	440	1.0	510
20D821K	20D821KJ	510	670	820(738~902)	100	1355	6500	4000	10000	7000	282	460	1.0	500
20D911K	20D911KJ	550	745	910(819~1001)	100	1500	6500	4000	10000	7000	310	510	1.0	440
20D102K	20D102KJ	625	825	1000(900~1100)	100	1650	6500	4000	10000	7000	342	565	1.0	400
20D112K	20D112KJ	680	895	1100(990~1210)	100	1814	6500	4000	10000	7000	383	620	1.0	460
20D122K	20D122KJ	750	990	1200(1080~1320)	100	1980	6500	4000	10000	7000	408	660	1.0	320
20D182K	20D182KJ	1000	1465	1800(1620~1980)	100	2970	6500	4000	10000	7000	625	660	1.0	320

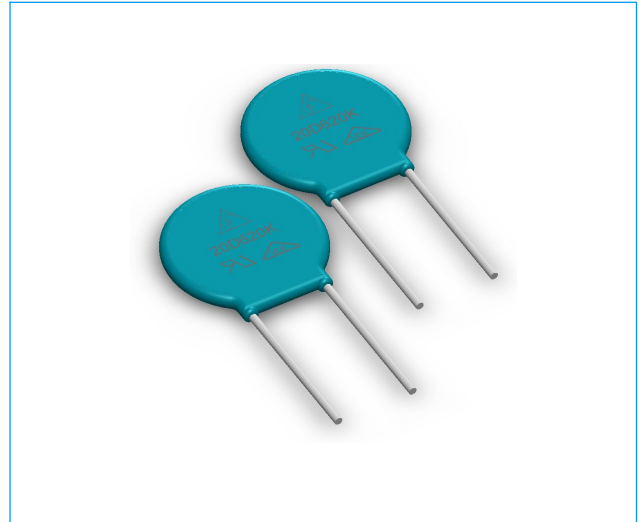


Radial Lead Metal Oxide Varistor (MOV)

25D Series

Features

- ◆ Wide operating voltage (V1mA) range from 82V to 1200V
- ◆ Fast responding to transient over-voltage
- ◆ Large absorbing transient energy capability
- ◆ Low clamping ratio and no following-on current
- ◆ Meets MSL level 1, per J-STD-020



Dimensions Unit: mm

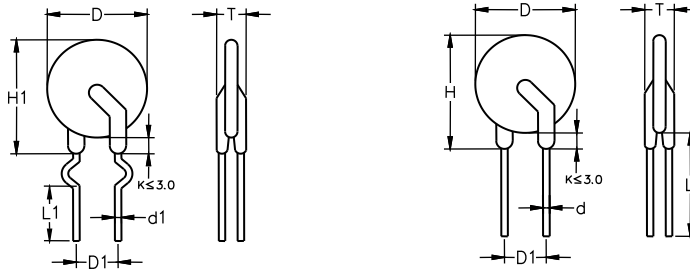


TABLE1	
Symbol	Dimensions
H(max.)	31.0
H1(max.)	34.0
L(min.)	20.0
L1(min.)	15.0
D(max.)	26.0
D1(±0.8)	10.0±1.0
T(max.)	TABLE2
d(±0.05)	0.8
d1(±0.4)	1.0

TABLE2			
Model	T(max.)	Model	T(max.)
180K	4.8	331K	6.3
220K	4.9	361K	6.6
270K	5.0	391K	6.8
330K	5.2	431K	7.1
390K	5.4	471K	7.4
470K	5.7	511K	7.8
560K	6.0	561K	8.1
680K	6.4	621K	8.5
820K	4.9	681K	8.6
101K	5.1	751K	9.1
121K	5.2	781K	9.3
151K	5.6	821K	9.6
181K	5.3	911K	10.2
201K	5.5	102K	10.8
221K	5.6	112K	11.5
241K	5.7	122K	12.2
271K	5.9	182K	13.4
301K	6.1	-	-



Type Number	Maximum Allowable voltage		Varistor Voltage V 1mA (V)	Maximum Clamping Voltage		Withstanding Surge Current		Maximum Energy (10/1000µs) (J)	Rated Power (W)	Typical Capacitance (Reference) @1KHZ (pf)
	V _{AC} (V)	V _{DC} (V)		I _P (A)	V _C (V)	1 Time	2 Times			
Standard						I(A)				
25D201K	130	170	200(180~220)	150	340	20000	14000	155	1.0	3200
25D221K	140	180	220(198~242)	150	360	20000	14000	170	1.0	2900
25D241K	150	200	240(216~264)	150	395	20000	14000	190	1.0	2650
25D271K	175	225	270(243~297)	150	455	20000	14000	210	1.0	2400
25D301K	190	250	300(270~330)	150	500	20000	14000	220	1.0	2100
25D331K	210	275	330(297~363)	150	550	20000	14000	230	1.0	1900
25D361K	230	300	360(324~396)	150	595	20000	14000	245	1.0	1750
25D391K	250	320	390(351~429)	150	650	20000	14000	300	1.0	1600
25D431K	275	350	430(387~473)	150	710	20000	14000	335	1.0	1500
25D471K	300	335	470(423~517)	150	775	20000	14000	385	1.0	1400
25D511K	320	415	510(459~561)	150	845	20000	14000	420	1.0	1250
25D561K	350	460	560(504~616)	150	925	20000	14000	420	1.0	1150
25D621K	385	505	620(558~682)	150	1025	20000	14000	425	1.0	1050
25D681K	420	560	680(612~748)	150	1120	20000	14000	430	1.0	950
25D751K	460	615	750(675~825)	150	1240	20000	14000	460	1.0	850
25D781K	485	640	780(702~858)	150	1290	20000	14000	485	1.0	850
25D821K	510	670	820(738~902)	150	1355	20000	14000	505	1.0	800
25D911K	550	745	910(819~1001)	150	1500	20000	14000	560	1.0	700
25D102K	625	825	1000(900~1100)	150	1650	20000	14000	620	1.0	650
25D112K	680	895	1100(990~1210)	150	1814	20000	14000	685	1.0	600
25D122K	750	990	1200(1080~1320)	150	1980	20000	14000	785	1.0	550
25D152K	900	1200	1500(1350~1650)	150	2475	20000	14000	950	1.0	500
25D182K	1000	1465	1800(1620~1980)	150	2970	20000	14000	1100	1.0	400



Radial Lead Metal Oxide Varistor (MOV)

32D Series

Type Number	Maximum Allowable voltage		Varistor Voltage V 1mA (V)	Maximum Clamping Voltage		Withstanding Surge Current		Maximum Energy (10/1000µs) (J)	Rated Power (W)	Typical Capacitance (Reference) @1KHZ (pf)
	V _{AC} (V)	V _{DC} (V)		I _P (A)	V _C (V)	1 Time	2 Times			
Standard						I(A)				
32D201K	130	170	200(180~220)	150	340	20000	14000	155	1.0	3200
32D221K	140	180	220(198~242)	150	360	20000	14000	170	1.0	2900
32D241K	150	200	240(216~264)	150	395	20000	14000	190	1.0	2650
32D271K	175	225	270(243~297)	150	455	20000	14000	210	1.0	2400
32D301K	190	250	300(270~330)	150	500	20000	14000	220	1.0	2100
32D331K	210	275	330(297~363)	150	550	20000	14000	230	1.0	1900
32D361K	230	300	360(324~396)	150	595	20000	14000	245	1.0	1750
32D391K	250	320	390(351~429)	150	650	20000	14000	300	1.0	1600
32D431K	275	350	430(387~473)	150	710	20000	14000	335	1.0	1500
32D471K	300	335	470(423~517)	150	775	20000	14000	385	1.0	1400
32D511K	320	415	510(459~561)	150	845	20000	14000	420	1.0	1250
32D561K	350	460	560(504~616)	150	925	20000	14000	420	1.0	1150
32D621K	385	505	620(558~682)	150	1025	20000	14000	425	1.0	1050
32D681K	420	560	680(612~748)	150	1120	20000	14000	430	1.0	950
32D751K	460	615	750(675~825)	150	1240	20000	14000	460	1.0	850
32D781K	485	640	780(702~858)	150	1290	20000	14000	485	1.0	850
32D821K	510	670	820(738~902)	150	1355	20000	14000	505	1.0	800
32D911K	550	745	910(819~1001)	150	1500	20000	14000	560	1.0	700
32D102K	625	825	1000(900~1100)	150	1650	20000	14000	620	1.0	650
32D112K	680	895	1100(990~1210)	150	1814	20000	14000	685	1.0	600
32D122K	750	990	1200(1080~1320)	150	1980	20000	14000	785	1.0	550
32D152K	900	1200	1500(1350~1650)	150	2475	20000	14000	950	1.0	500



Type Number	Maximum Allowable voltage		Varistor Voltage	Maximum Clamping Voltage		Withstanding Surge Current	Maximum Energy (10/1000µs)	Rated Power
	V _{AC} (V)	V _{DC} (V)		V 1mA (V)	I _P (A)			
34S201K	130	170	200(180~220)	150	340	40000	310	1.4
34S221K	140	180	220(198~242)	150	360	40000	330	1.4
34S241K	150	200	240(216~264)	150	395	40000	360	1.4
34S271K	175	225	270(243~297)	150	455	40000	390	1.4
34S301K	190	250	300(270~330)	150	500	40000	410	1.4
34S331K	210	275	330(297~363)	150	550	40000	430	1.4
34S361K	230	300	360(324~396)	150	595	40000	460	1.4
34S391K	250	320	390(351~429)	150	650	40000	490	1.4
34S431K	275	350	430(387~473)	150	710	40000	550	1.4
34S471K	300	335	470(423~517)	150	775	40000	600	1.4
34S511K	320	415	510(459~561)	150	845	40000	640	1.4
34S561K	350	460	560(504~616)	150	925	40000	660	1.4
34S621K	385	505	620(558~682)	150	1025	40000	700	1.4
34S681K	420	560	680(612~748)	150	1120	40000	740	1.4
34S751K	460	615	750(675~825)	150	1240	40000	780	1.4
34S781K	485	640	780(702~858)	150	1290	40000	820	1.4
34S821K	510	670	820(738~902)	150	1355	40000	900	1.4
34S911K	550	745	910(819~1001)	150	1500	40000	960	1.4
34S102K	625	825	1000(900~1100)	150	1650	40000	1040	1.4
34S112K	680	895	1100(990~1210)	150	1814	40000	1100	1.4
34S122K	750	990	1200(1080~1320)	150	1980	40000	1150	1.4
34S152K	900	1200	1500(1350~1650)	150	2475	40000	1200	1.4
34S182K	1000	1465	1800(1620~1980)	150	2970	40000	1500	1.4



Radial Lead Metal Oxide Varistor (MOV)

40D Series

Type Number	Maximum Allowable voltage		Varistor Voltage	Maximum Clamping Voltage		Withstanding Surge Current	Maximum Energy (10/1000µs)	Rated Power
	V _{AC} (V)	V _{DC} (V)		V 1mA (V)	I _P (A)			
40D201K	130	170	200(180~220)	150	340	40000	310	1.4
40D221K	140	180	220(198~242)	150	360	40000	330	1.4
40D241K	150	200	240(216~264)	150	395	40000	360	1.4
40D271K	175	225	270(243~297)	150	455	40000	390	1.4
40D301K	190	250	300(270~330)	150	500	40000	410	1.4
40D331K	210	275	330(297~363)	150	550	40000	430	1.4
40D361K	230	300	360(324~396)	150	595	40000	460	1.4
40D391K	250	320	390(351~429)	150	650	40000	490	1.4
40D431K	275	350	430(387~473)	150	710	40000	550	1.4
40D471K	300	335	470(423~517)	150	775	40000	600	1.4
40D511K	320	415	510(459~561)	150	845	40000	640	1.4
40D561K	350	460	560(504~616)	150	925	40000	660	1.4
40D621K	385	505	620(558~682)	150	1025	40000	700	1.4
40D681K	420	560	680(612~748)	150	1120	40000	740	1.4
40D751K	460	615	750(675~825)	150	1240	40000	780	1.4
40D781K	485	640	780(702~858)	150	1290	40000	820	1.4
40D821K	510	670	820(738~902)	150	1355	40000	900	1.4
40D911K	550	745	910(819~1001)	150	1500	40000	960	1.4
40D102K	625	825	1000(900~1100)	150	1650	40000	1040	1.4
40D112K	680	895	1100(990~1210)	150	1814	40000	1100	1.4
40D122K	750	990	1200(1080~1320)	150	1980	40000	1150	1.4
40D152K	900	1200	1500(1350~1650)	150	2475	40000	1200	1.4
40D182K	1000	1465	1800(1620~1980)	150	2970	40000	1500	1.4



Type Number	Maximum Allowable voltage		Varistor Voltage	Maximum Clamping Voltage		Withstanding Surge Current	Maximum Energy (10/1000µs)	Rated Power
	V _{AC} (V)	V _{DC} (V)		V 1mA (V)	I _P (A)			
53D201K	130	170	200(180~220)	150	340	70000	550	1.6
53D221K	140	180	220(198~242)	150	360	70000	600	1.6
53D241K	150	200	240(216~264)	150	395	70000	650	1.6
53D271K	175	225	270(243~297)	150	455	70000	700	1.6
53D301K	190	250	300(270~330)	150	500	70000	765	1.6
53D331K	210	275	330(297~363)	150	550	70000	825	1.6
53D361K	230	300	360(324~396)	150	595	70000	850	1.6
53D391K	250	320	390(351~429)	150	650	70000	885	1.6
53D431K	275	350	430(387~473)	150	710	70000	990	1.6
53D471K	300	335	470(423~517)	150	775	70000	1080	1.6
53D511K	320	415	510(459~561)	150	845	70000	1150	1.6
53D561K	350	460	560(504~616)	150	925	70000	1200	1.6
53D621K	385	505	620(558~682)	150	1025	70000	1300	1.6
53D681K	420	560	680(612~748)	150	1120	70000	1350	1.6
53D751K	460	615	750(675~825)	150	1240	70000	1400	1.6
53D781K	485	640	780(702~858)	150	1290	70000	1450	1.6
53D821K	510	670	820(738~902)	150	1355	70000	1600	1.6
53D911K	550	745	910(819~1001)	150	1500	70000	1700	1.6
53D102K	625	825	1000(900~1100)	150	1650	70000	1890	1.6
53D112K	680	895	1100(990~1210)	150	1814	70000	2050	1.6
53D122K	750	990	1200(1080~1320)	150	1980	70000	2050	1.6
53D152K	900	1200	1500(1350~1650)	150	2475	70000	2300	1.6
53D182K	1000	1465	1800(1620~1980)	150	2970	70000	2500	1.6