MOV-07D---K Series - Metal Oxide Varistor ZOV:

General Information

The MOV-07D---K Series of 7 mm radial leaded varistor devices protects against overvoltage transients such as lightning, power contact and power induction. The metal oxide varistors offer a choice of varistor voltages from 18 V to 820 V and V_{rms} voltages from 11 V to 510 V.

The devices have a high current handling, high energy absorption capability and fast response times to protect against transient faults up to rated limits.

Absolute Maximum Ratings (@ T_A = 25 °C Unless Otherwise Noted)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Operating Temperature	T_{OPR}	-40	25	+105	˚C
Storage Temperature	T_{STG}	-40	25	+125	˚C
Rated Wattage	P_W			0.25	Watt
Varistor Voltage Temperature Coefficient	V_{TC}	0	0.1	0.05	% / ˚C
Response Time	T_r		10	25	ns
Varistor Voltage Tolerance	V_{tol}	-10	0	10	%

Electrical Characteristics (@ T_A = 25 °C Unless Otherwise Noted)

ZOV Part No.	Max. Continuous Voltage (V)		Voltage @ 1 mA DC (V)			Voltage @ Class Current (8/20 μs)		Max. Peak Current (8/20 μs)	Max. Energy (J)	Typ. Cap. (pF)
	r.m.s.	d.c.	Min.	Nom.	Max.	Class Current (A)	Max. Clamping Voltage (V)	One Time	8/20 μs	1 kHz
MOV-07D180K	11	14	16	18	20	2.5	36	250	0.9	3840
MOV-07D220K	14	18	20	22	24	2.5	43	250	1.1	3360
MOV-07D270K	17	22	24	27	30	2.5	53	250	1.4	3120
MOV-07D330K	20	26	30	33	36	2.5	65	250	1.7	2640
MOV-07D390K	25	31	35	39	43	2.5	77	250	2.1	2400
MOV-07D470K	30	38	42	47	52	2.5	93	250	2.5	1680
MOV-07D560K	35	45	50	56	62	2.5	110	250	3.1	1440
MOV-07D680K	40	56	61	68	75	2.5	135	250	3.6	1200
MOV-07D820K	50	65	74	82	90	10	135	1200	5.5	720
MOV-07D101K	60	85	90	100	110	10	165	1200	6.5	600
MOV-07D121K	75	100	108	120	132	10	200	1200	7.8	504
MOV-07D151K	95	125	135	150	165	10	250	1200	9.7	396
MOV-07D181K	115	150	162	180	198	10	300	1200	11.7	336
MOV-07D201K	130	170	185	200	225	10	340	1200	13	300
MOV-07D221K	140	180	198	220	242	10	360	1200	14	276
MOV-07D241K	150	200	216	240	264	10	395	1200	15	252
MOV-07D271K	175	225	243	270	297	10	455	1200	18	222
MOV-07D301K	190	250	270	300	330	10	500	1200	20	198
MOV-07D331K	210	275	297	330	363	10	550	1200	23	180
MOV-07D361K	230	300	324	360	396	10	595	1200	25	168
MOV-07D391K	250	320	351	390	429	10	650	1200	25	156
MOV-07D431K	275	350	387	430	473	10	710	1200	28	138
MOV-07D471K	300	385	423	470	517	10	775	1200	30	126
MOV-07D511K	320	415	459	510	561	10	845	1200	30	120
MOV-07D561K	350	460	504	560	616	10	925	1200	30	108
MOV-07D621K	385	505	558	620	682	10	1025	1200	33	96
MOV-07D681K	420	560	612	680	748	10	1120	1200	33	90
MOV-07D751K	460	620	675	750	825	10	1240	1200	38	84
MOV-07D781K	480	640	702	780	858	10	1290	1200	38	84
MOV-07D821K	510	675	738	820	902	10	1355	1200	40	72

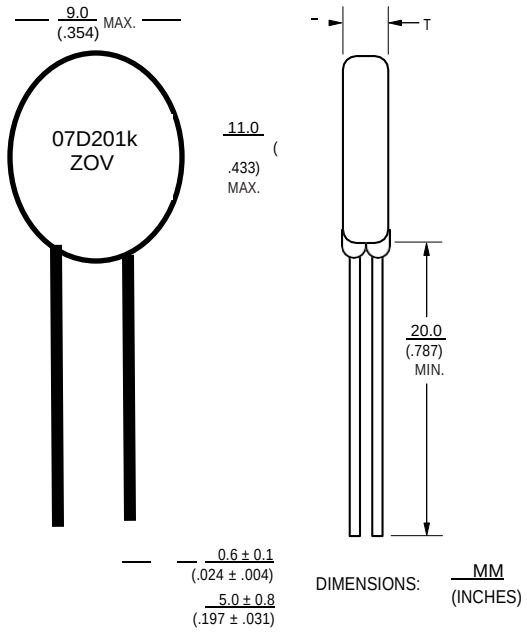
Applications

- Power supplies
- Power systems
- Line voltage
- Telecom systems
- White goods / appliances

MOV-07D---K Series - Metal Oxide Varistor ZOV:

Product Dimensions

This is an RoHS compliant molded radial package with 100 % Sn plating on the terminations.



ZOV Part Number	Dim. T (Max.)
MOV-07D180K	3.4 (.134)
MOV-07D220K	3.5 (.138)
MOV-07D270K	3.8 (.150)
MOV-07D330K	3.4 (.134)
MOV-07D390K	3.6 (.142)
MOV-07D470K	3.8 (.150)
MOV-07D560K	3.9 (.154)
MOV-07D680K	4.0 (.157)
MOV-07D820K	3.4 (.134)
MOV-07D101K	3.6 (.142)
MOV-07D121K	3.8 (.150)
MOV-07D151K	4.0 (.157)
MOV-07D181K	3.2 (.126)
MOV-07D201K	3.4 (.134)
MOV-07D221K	3.5 (.138)

ZOV Part Number	Dim. T (Max.)
MOV-07D241K	3.6 (.142)
MOV-07D271K	3.8 (.150)
MOV-07D301K	4.0 (.157)
MOV-07D331K	4.2 (.165)
MOV-07D361K	4.4 (.173)
MOV-07D391K	4.6 (.181)
MOV-07D431K	4.8 (.189)
MOV-07D471K	5.0 (.197)
MOV-07D511K	5.1 (.201)
MOV-07D561K	5.4 (.213)
MOV-07D621K	5.8 (.228)
MOV-07D681K	6.0 (.236)
MOV-07D751K	6.2 (.244)
MOV-07D781K	6.4 (.252)
MOV-07D821K	6.8 (.268)

Typical Part Marking

ZOV Part Number	ZOV Part Marking
MOV-07D180K	07D180K
MOV-07D220K	07D220K
MOV-07D270K	07D270K
MOV-07D330K	07D330K
MOV-07D390K	07D390K
MOV-07D470K	07D470K
MOV-07D560K	07D560K
MOV-07D680K	07D680K
MOV-07D820K	07D820K
MOV-07D101K	07D101K
MOV-07D121K	07D121K
MOV-07D151K	07D151K
MOV-07D181K	07D181K
MOV-07D201K	07D201K
MOV-07D221K	07D221K
MOV-07D241K	07D241K
MOV-07D271K	07D271K
MOV-07D301K	07D301K
MOV-07D331K	07D331K
MOV-07D361K	07D361K
MOV-07D391K	07D391K
MOV-07D431K	07D431K
MOV-07D471K	07D471K
MOV-07D511K	07D511K
MOV-07D561K	07D561K
MOV-07D621K	07D621K
MOV-07D681K	07D681K
MOV-07D751K	07D751K
MOV-07D781K	07D781K
MOV-07D821K	07D821K

How to Order

MOV - 07D nn (n) K (TR)

Model Designator
MOV = Metal Oxide Varistor

Disc Diameter
07D = 7 mm

Nominal Varistor Voltage
See Electrical Characteristics Table

Multiplier of Voltage Digits
0 = No multiplier
1 = nn * 10^1

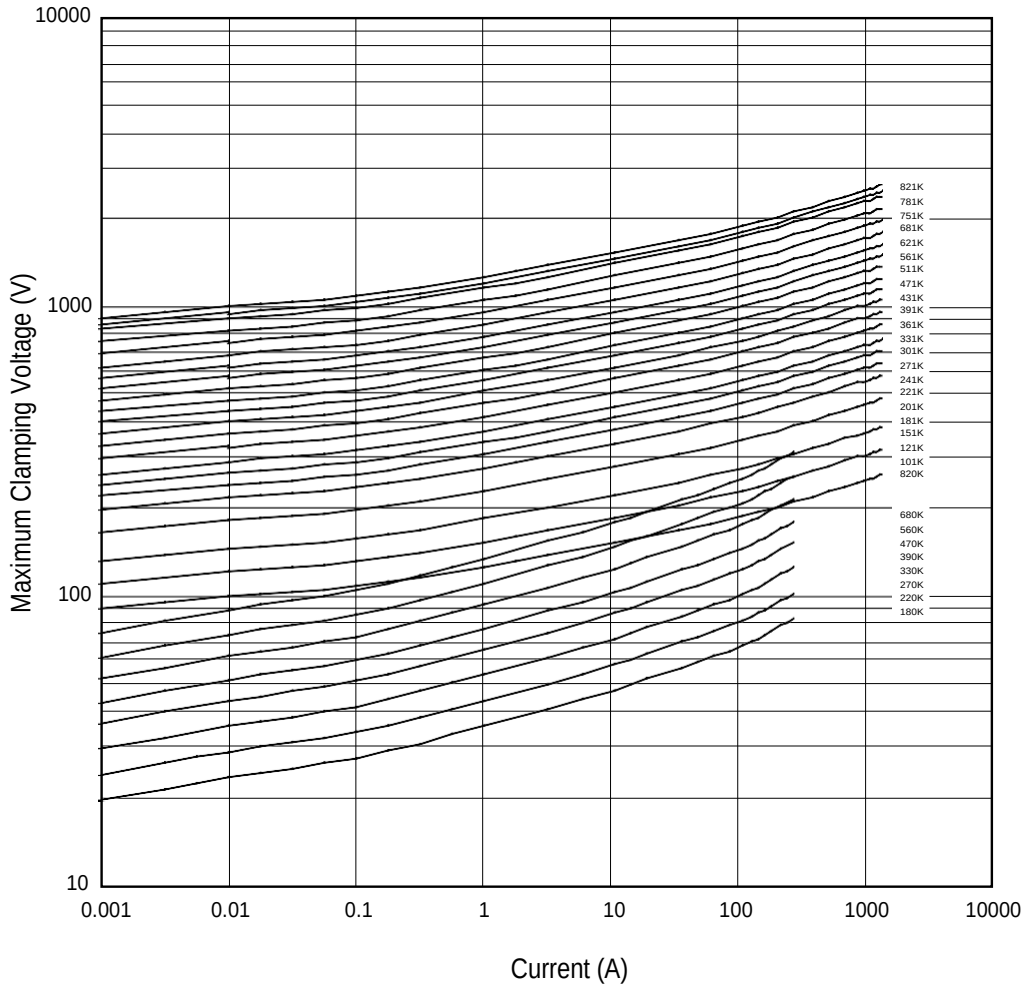
Varistor Voltage Tolerance
K = 10 %

Packaging
Blank = Bulk
TR = Tape & Reel

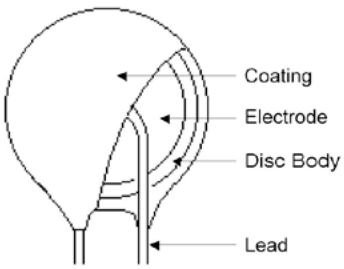
Examples: MOV-07D270K = 27 V, Bulk Pack
MOV-07D331KTR = 330 V, Tape & Reel

MOV-07D---K Series - Metal Oxide Varistor ZOV:

Performance Graphs



Internal Construction

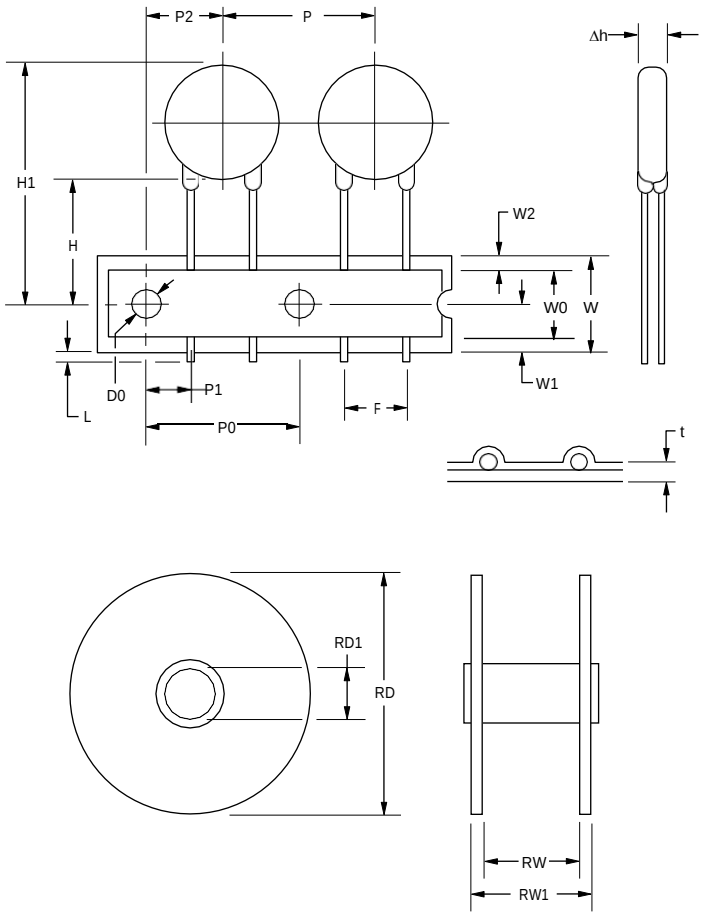


Environmental Specifications

Moisture Sensitivity Level 1
ESD Classification (HBM)..... 6

Packaging Information

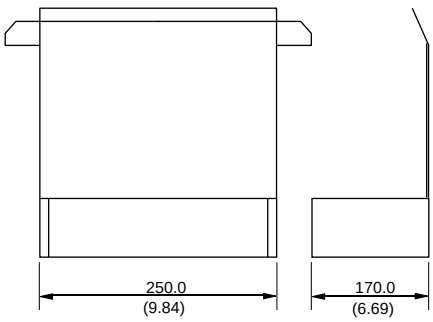
TAPE & REEL



DIMENSIONS: MM / (INCHES)

Item	Symbol	7 mm Disc
Reel Outside Diameter	RD	355 (13.98)
Reel Inner Diameter	RD1	30 (1.181)
Tape Width	RW	47 (18.50)
Reel Width	RW1	53 (20.87)
Pitch of Component	P	12.7 ± 1.0 (0.50 ± 0.04)
Feed Hole Pitch	P0	12.7 ± 1.0 (0.50 ± 0.04)
Feed Hole Center to Pitch	P1	3.85 ± 0.7 (0.15 ± 0.03)
Feed Hole Center to Component Center	P2	6.35 ± 1.0 (0.25 ± 0.04)
Lead to Lead Distance	F	5.00 ± 0.8 (0.20 ± 0.03)
Component Alignment	Δh	2.0 (0.79) max.
Tape Width	W	18.0 ± 0.5 (0.71 ± 0.02)
Hole Down Tape Width	W0	12.0 ± 0.8 (0.47 ± 0.03)
Hole Position	W1	9.0 ± 0.5 (0.35 ± 0.02)
Hole Down Tape Position	W2	3.0 (0.12) max.
Height From Center to Component Base	H	19.0 ± 1.0 (0.75 ± 0.04)
Seating Plane Height	H0	16.0 ± 0.5 (0.63 ± 0.02)
Component Height	H1	32.0 (1.26) max.
Crimp Length	C	2.60 (0.10) typ.
Feed Hole Diameter	D0	4.0 ± 0.2 (0.16 ± 0.08)
Total Tape Thickness	t	0.6 ± 0.3 (0.02 ± 0.01)
Length of Clippped Height	L	1.0 (0.04) max.
Quantity per Reel (07D180K – 07D391K)	-	2000
Quantity per Reel (07D431K – 07D561K)	-	1500
Quantity per Reel (07D621K – 07D821K)	-	1000

BULK



QUANTITY:
MOV-07D181K – 07D561K = 2000 PCS. PER BOX
MOV-07D621K – 07D821K = 1600 PCS. PER BOX