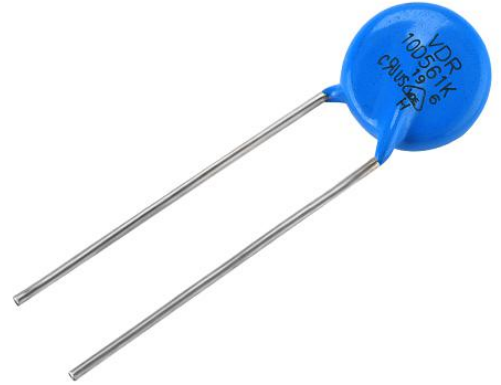


Metal Oxide Varistors (MOV)

Features

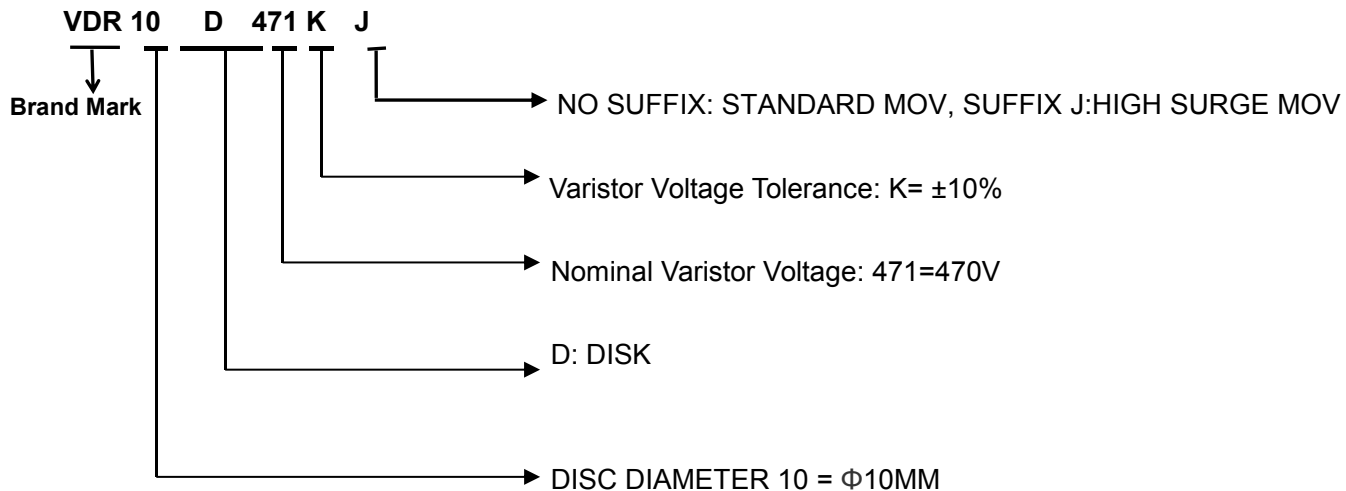
- Wide operating voltage (V1mA) range from 18V to 1100V
- Fast responding to transient over-voltage
- Large absorbing transient energy capability
- Low clamping ratio and no follow-on current
- Meets MSL level 1, per J-STD-020
- Operating Temperature: -40°C ~ +85°C
- Storage Temperature: -40°C ~ +125°C
- Safety certification:



Applications

- Transistor, diode, IC, thyristor or triac semiconductor protection
- Surge protection in consumer electronics
- Surge protection in industrial electronics
- Surge protection in electronic home appliances, gas and petroleum appliances
- Relay and electromagnetic valve surge absorption

Description of Part Number



Delivery Time

Standard MOV	Delivery Time	High Surge MOV	Delivery Time
VDR10D180L ~ VDR10D112K	13days	VDR10D180LJ ~ VDR10D112KJ	14days

Electrical Characteristics



Part Number	Maximum Allowable Voltage		Varistor Voltage	Maximum Clamping Voltage	Max Surge Current 8/20μs	Maximum Energy (10/1000μs)	Typical Capacitance (Reference)	Safety Certification	
Standard MOV	V _{AC} (V)	V _{DC} (V)	V _{1mA} (V)	V _c (V)	I _{max}	(J)	1KHz(pf)	UL / CUL	VDE
				AT 25A	Standard	Standard			
VDR10D180L	11	14	18(15~21.6)	36	500A	2.1	5600	√	√
VDR10D220K	14	18	22(19.5~26)	43	500A	2.5	4500	√	√
VDR10D270K	17	22	27(24~30)	53	500A	3	3700	√	√
VDR10D330K	20	26	33(29.5~36.5)	66	500A	4	3000	√	√
VDR10D390K	25	31	39(35~43)	77	500A	4.6	2400	√	√
VDR10D470K	30	38	47(42~54)	93	500A	5.5	2100	√	√
VDR10D560K	35	45	56(50~62)	100	500A	7	1800	√	√
VDR10D680K	40	56	68(61~75)	135	500A	8.2	1500	√	√
VDR10D820K	50	65	82(74~90)	135	2500A	12	1200	√	√
VDR10D101K	60	85	100(90~110)	165	2500A	15	1000	√	√
VDR10D121K	75	100	120(108~132)	200	2500A	18	830	√	√
VDR10D151K	95	125	150(135~165)	250	2500A	22	670	√	√
VDR10D181K	115	150	180(162~198)	300	2500A	27	560	√	√
VDR10D201K	130	170	200(180~220)	340	2500A	30	500	√	√
VDR10D221K	140	180	220(198~242)	360	2500A	32	450	√	√
VDR10D241K	150	200	240(216~264)	395	2500A	35	420	√	√
VDR10D271K	175	225	270(243~297)	455	2500A	40	370	√	√
VDR10D301K	190	250	300(270~330)	500	2500A	40	330	√	√
VDR10D331K	210	275	330(297~363)	550	2500A	40	300	√	√
VDR10D361K	230	300	360(324~396)	595	2500A	43	280	√	√
VDR10D391K	250	320	390(351~429)	650	2500A	47	260	√	√
VDR10D431K	275	350	430(387~473)	710	2500A	60	230	√	√
VDR10D471K	300	385	470(423~517)	775	2500A	65	210	√	√
VDR10D511K	320	415	510(459~561)	845	2500A	70	200	√	√
VDR10D561K	350	460	560(504~616)	925	2500A	70	180	√	√
VDR10D621K	385	505	620(558~682)	1025	2500A	70	160	√	√
VDR10D681K	420	560	680(612~748)	1120	2500A	70	150	√	√
VDR10D751K	460	615	750(675~825)	1240	2500A	70	130	√	√
VDR10D781K	485	640	780(702~858)	1290	2500A	80	130	√	√
VDR10D821K	510	670	820(738~902)	1355	2500A	85	120	√	√
VDR10D911K	550	745	910(819~1001)	1500	2500A	93	110	√	√
VDR10D102K	625	825	1000(900~1100)	1650	2500A	102	100	√	√
VDR10D112K	680	895	1100(990~1210)	1815	2500A	115	90	√	√

Electrical Characteristics



Part Number	Maximum Allowable Voltage		Varistor Voltage	Maximum Clamping Voltage	Max Surge Current 8/20μs	Maximum Energy (10/1000μs)	Typical Capacitance (Reference)	Safety Certification						
	V _{AC} (V)	V _{DC} (V)						V _{1mA} (V)	V _c (V)	I _{max}	(J)	1KHz(pf)	UL / CUL	VDE
									AT 25A	High Surge	High Surge			
High Surge MOV														
VDR10D180LJ	11	14	18(15~21.6)	36	1000A	3.0	5600	-	-					
VDR10D220KJ	14	18	22(19.5~26)	43	1000A	5.0	4500	-	-					
VDR10D270KJ	17	22	27(24~30)	53	1000A	6.0	3700	-	-					
VDR10D330KJ	20	26	33(29.5~36.5)	66	1000A	7.0	3000	-	-					
VDR10D390KJ	25	31	39(35~43)	77	1000A	9.0	2400	-	-					
VDR10D470KJ	30	38	47(42~54)	93	1000A	11.0	2100	-	-					
VDR10D560KJ	35	45	56(50~62)	100	1000A	13.0	1800	-	-					
VDR10D680KJ	40	56	68(61~75)	135	1000A	15.0	1500	-	-					
VDR10D820KJ	50	65	82(74~90)	135	3500A	17.0	1200	-	-					
VDR10D101KJ	60	85	100(90~110)	165	3500A	18.0	1000	-	-					
VDR10D121KJ	75	100	120(108~132)	200	3500A	21.0	830	-	-					
VDR10D151KJ	95	125	150(135~165)	250	3500A	25.0	670	-	-					
VDR10D181KJ	115	150	180(162~198)	300	3500A	30.0	560	-	-					
VDR10D201KJ	130	170	200(180~220)	340	3500A	35.0	500	-	-					
VDR10D221KJ	140	180	220(198~242)	360	3500A	39.0	450	-	-					
VDR10D241KJ	150	200	240(216~264)	395	3500A	42.0	420	-	-					
VDR10D271KJ	175	225	270(243~297)	455	3500A	49.0	370	-	-					
VDR10D301KJ	190	250	300(270~330)	500	3500A	54.0	330	-	-					
VDR10D331KJ	210	275	330(297~363)	550	3500A	58.0	300	-	-					
VDR10D361KJ	230	300	360(324~396)	595	3500A	65.0	280	-	-					
VDR10D391KJ	250	320	390(351~429)	650	3500A	70.0	260	-	-					
VDR10D431KJ	275	350	430(387~473)	710	3500A	80.0	230	-	-					
VDR10D471KJ	300	385	470(423~517)	775	3500A	85.0	210	√	-					
VDR10D511KJ	320	415	510(459~561)	845	3500A	90.0	200	√	-					
VDR10D561KJ	350	460	560(504~616)	925	3500A	92.0	180	√	-					
VDR10D621KJ	385	505	620(558~682)	1025	3500A	95.0	160	√	-					
VDR10D681KJ	420	560	680(612~748)	1120	3500A	98.0	150	√	-					
VDR10D751KJ	460	615	750(675~825)	1240	3500A	100.0	130	-	-					
VDR10D781KJ	485	640	780(702~858)	1290	3500A	105.0	130	-	-					
VDR10D821KJ	510	670	820(738~902)	1355	3500A	110.0	120	-	-					
VDR10D911KJ	550	745	910(819~1001)	1500	3500A	130.0	110	-	-					
VDR10D102KJ	625	825	1000(900~1100)	1650	3500A	140.0	100	-	-					
VDR10D112KJ	680	895	1100(990~1210)	1815	3500A	155.0	90	-	-					

Dimension(mm)

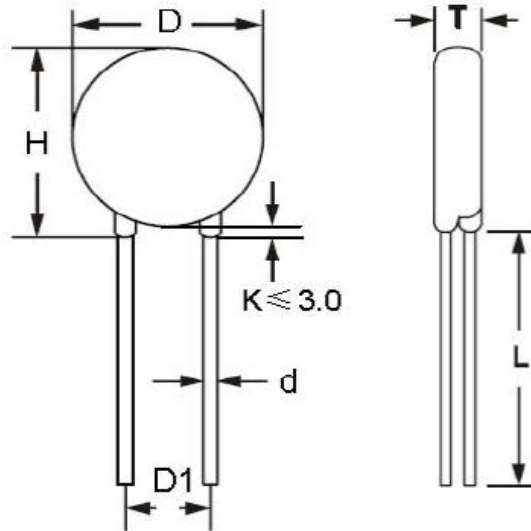


TABLE1

Symbol	Dimensions	Part number	T(±1.0mm)	Part number	T(±1.0mm)
H(Max)	16.5mm	VDR10D180L	2.5mm	VDR10D301K	3.4mm
L(Min)	22.0mm	VDR10D220K	2.6mm	VDR10D331K	3.7mm
D(Max)	12.5mm	VDR10D270K	2.7mm	VDR10D361K	3.9mm
D1(±0.8)	7.5mm	VDR10D330K	2.9mm	VDR10D391K	4.4mm
T	TABLE2	VDR10D390K	3.2mm	VDR10D431K	4.4mm
d(±0.05)	0.8mm	VDR10D470K	3.3mm	VDR10D471K	4.6mm
		VDR10D560K	3.4mm	VDR10D511K	4.7mm
		VDR10D680K	3.5mm	VDR10D561K	4.9mm
		VDR10D820K	2.6mm	VDR10D621K	5.2mm
		VDR10D101K	2.8mm	VDR10D681K	5.5mm
		VDR10D121K	3.0mm	VDR10D751K	5.9mm
		VDR10D151K	3.3mm	VDR10D781K	6.0mm
		VDR10D181K	2.7mm	VDR10D821K	6.2mm
		VDR10D201K	2.9mm	VDR10D911K	6.7mm
		VDR10D221K	3.0mm	VDR10D102K	7.2mm
		VDR10D241K	3.1mm	VDR10D112K	7.8mm
		VDR10D271K	3.3mm	-	-

Packing Information

Part Number	Quantity	Packaging Option	Packaging Specification
VDR10DxxxK	500PCS	Plastic bag	Bulk Pack

Bulk Pack



Ammo Pack



Notice for use

To avoid damage to other equipment due to fire or deterioration caused by varistor, please refer to and observe the following principles:

1) When a high current or high voltage flows into the varistor, the varistor itself may be damaged, heated, smoke, catch fire and burst.

To avoid this, fuses or circuit breakers can be installed at both ends of the varistor or power supply;

The fuses of the following specifications are for reference only:

	Diameter 05D	07D	10D	14D	20D
Rated current of fuse	1-2A	2-3A	3-5A	3-10A	5-15A

2) Do not allow the current and energy flowing into the varistor to exceed its rated value.

3) The marked VDR product brand names and marks are all patent applications of the company.

Customers who use or sell VDR products that are not specifically designated for such applications are at their own risk.

4) All VDR products, product specifications and data are subject to change without notice, please improve. For any data sheet Or any other data sheet. Any errors included. Inaccurate or incomplete shall not be liable.

5) Regarding the suitability of products for specific applications. It is the customer's responsibility to confirm that products with the characteristics described in the product specifications application. The data provided in the parameter data sheets and / or specifications may vary for different applications and performance may vary over time Variety. All operating parameters, including typical parameters, must be provided by the customer 's technical experts. Product specifications will not expand or Modify the VDR procurement terms and conditions in other ways, including but not limited to the guarantees described therein.

6) Do not place flammable substances near the varistor.

7) The varistor can only emit a small amount of heat energy, so it is not suitable for use in equipment that often generates sudden heat.

In addition, the higher the working environment of the varistor, the smaller the proportion of heat dissipated.

Varistors can only dissipate a small amount of heat energy, so they are not suitable for use in equipment that often generates sudden heat.

If a large amount of heat acts on the varistor in an instant, it is possible that the heat energy cannot be dissipated within the pulse time And the varistor is damaged.

8) When welding, please be careful not to melt the welding points of the varistor and the resin coating.

Material category policy

All products of VDR hereby certify that RoHS-compliant products are in accordance with the definitions and Restrictions on June 8, 2011 regarding restrictions on the use of certain hazardous substances (Reach) in electrical and electronic equipment. We confirm All VDR products comply with the IEC 61249-2-21 JEDEC JS709A standard.