

### Metal Oxide Varistors (MOV)

#### Features

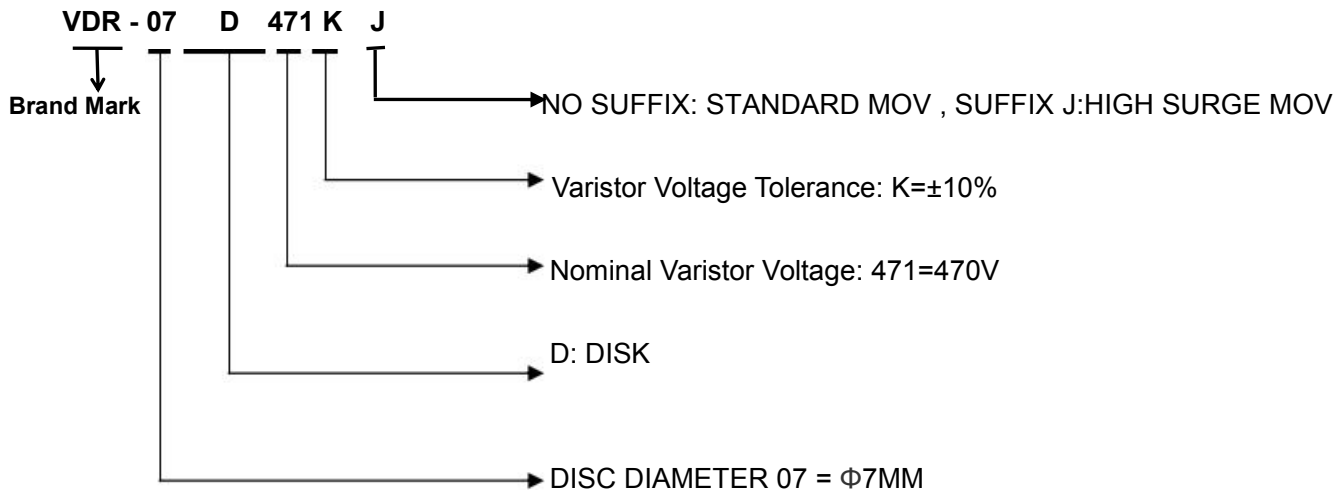
- Wide operating voltage (V1mA) range from 18V to 820V
- Fast responding to transient over-voltage
- Large absorbing transient energy capability
- Low clamping ratio and no follow-on current
- Meets MSL level 1, per J-STD-020
- Operating Temperature: -40°C ~ +85°C
- Storage Temperature: -40°C ~ +125°C
- 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



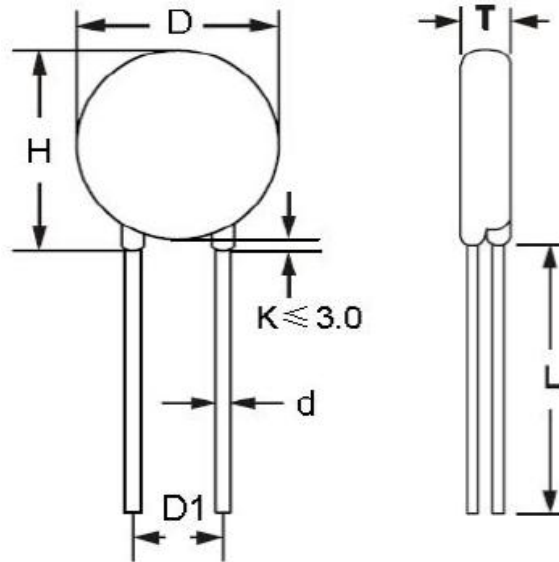
#### Delivery Time

2KV/1KA MOV	Delivery Time
VDR-07D820KEC ~ VDR-07D821KEC	14days

Electrical Characteristics

Part Number	Maximum Allowable Voltage		Varistor Voltage V <sub>1mA</sub> (V)	Maximum Clamping Voltage V <sub>c</sub> (V)	Withstanding Surge Current 1.2/50us & 8/20us combination of wave, 2KV/1KA Sub 0,90,180,270 four phases, Total	Maximum Energy (10/1000 μs) (J)	Typical Capacitance (Reference) 1KHz(pf)	Safety Certification	
	V <sub>AC</sub> (V)	V <sub>DC</sub> (V)						UL / CUL	VDE
VDR-07D820KEC	50	65	82(73.8~90.2)	135	40 times	12	600	√	√
VDR-07D101KEC	60	85	100(90~110)	165	40 times	14	500	√	√
VDR-07D121KEC	75	100	120(108~132)	200	40 times	14	420	√	√
VDR-07D151KEC	95	125	150(135~165)	250	40 times	16	330	√	√
VDR-07D181KEC	115	150	180(162~198)	300	40 times	19	280	√	√
VDR-07D201KEC	130	170	200(180~220)	340	40 times	20	250	√	√
VDR-07D221KEC	140	180	220(198~242)	360	40 times	23	230	√	√
VDR-07D241KEC	150	200	240(216~264)	395	40 times	25	210	√	√
VDR-07D271KEC	175	225	270(243~297)	455	40 times	29	185	√	√
VDR-07D301KEC	190	250	300(270~330)	500	40 times	31	165	√	√
VDR-07D331KEC	210	275	330(297~363)	550	40 times	34	150	√	√
VDR-07D361KEC	230	300	360(324~396)	595	40 times	38	140	√	√
VDR-07D391KEC	250	320	390(351~429)	650	40 times	42	130	√	√
VDR-07D431KEC	275	350	430(387~473)	710	40 times	48	115	√	√
VDR-07D471KEC	300	385	470(423~517)	775	40 times	50	105	√	√
VDR-07D511KEC	320	415	510(459~561)	845	40 times	54	100	√	√
VDR-07D561KEC	350	460	560(504~616)	925	40 times	59	90	√	√
VDR-07D621KEC	385	505	620(558~682)	1025	40 times	66	80	√	-
VDR-07D681KEC	420	560	680(612~748)	1120	40 times	72	75	√	-
VDR-07D751KEC	460	615	750(675~825)	1240	40 times	81	70	√	-
VDR-07D781KEC	485	640	780(702~858)	1290	40 times	81	70	√	-
VDR-07D821KEC	510	670	820(738~902)	1355	40 times	82	60	√	-

**Dimension(mm)      Straight Leads**



**TABLE1**

**TABLE2**

Symbol	Dimensions	Part number	T(±1.0mm)	Part number	T(±1.0mm)
H(Max)	11.0mm	VDR-07D180L	2.5mm	VDR-07D241K	2.6mm
L(Min)	22.0mm	VDR-07D220K	2.6mm	VDR-07D271K	2.9mm
D(Max)	9.0mm	VDR-07D270K	2.7mm	VDR-07D301K	3.0mm
D1(±0.8)	4.5mm	VDR-07D330K	2.9mm	VDR-07D331K	3.1mm
T	TABLE2	VDR-07D390K	2.8mm	VDR-07D361K	3.2mm
d(±0.05)	0.6mm	VDR-07D470K	2.9mm	VDR-07D391K	3.4mm
		VDR-07D560K	3.0mm	VDR-07D431K	3.7mm
		VDR-07D680K	3.2mm	VDR-07D471K	4.0mm
		VDR-07D820K	2.1mm	VDR-07D511K	4.2mm
		VDR-07D101K	2.3mm	VDR-07D561K	4.5mm
		VDR-07D121K	2.5mm	VDR-07D621K	5.1mm
		VDR-07D151K	2.8mm	VDR-07D681K	5.3mm
		VDR-07D181K	2.3mm	VDR-07D751K	5.03mm
		VDR-07D201K	2.4mm	VDR-07D781K	5.24mm
		VDR-07D221K	2.5mm	VDR-07D821K	5.48mm

**Packing Information**

Part Number	Quantity	Packaging Option	Packaging Specification
VDR-07DxxxKEC	1000PCS	Plastic bag	Bulk 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.