

# Standard MOV Varistor

## Round, 7mm

**multicomp** PRO

**RoHS  
Compliant**



### Description

Metal Oxide Varistor (MOV) as one nonlinear resistance element is mainly made of zinc oxide (ZnO), which has very high surge capacity and big nonlinear coefficient. Below the threshold voltage, its resistance is very high, nearly no current flows through, but above the threshold voltage, the resistance reduces sharply, huge current can be discharged. Due to this characteristic, varistor as a protection component in electronic and electrical equipment can absorb abnormal over-voltage and lightning surge.

Varistor is with High Surge Current Density, Low Clamping Voltage, and Good Surge Capacity.

### Approvals

UL1449 4th Edition  
TUV EN 61051-1:2008  
IEC 61051-1:2007  
IEC 61051-2:1991+A1  
IEC 61051-2-2:1991

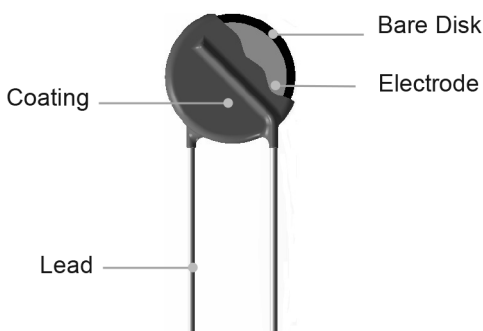
### Features

- Epoxy Resin Coating
- Silicone Resin Coating
- Low Leakage Current
- Bidirectional and Symmetrical V/I Characteristics
- Operating Temperature Range
- Low Temperature: -40°C
- High Temperature: +85°C to +105°C

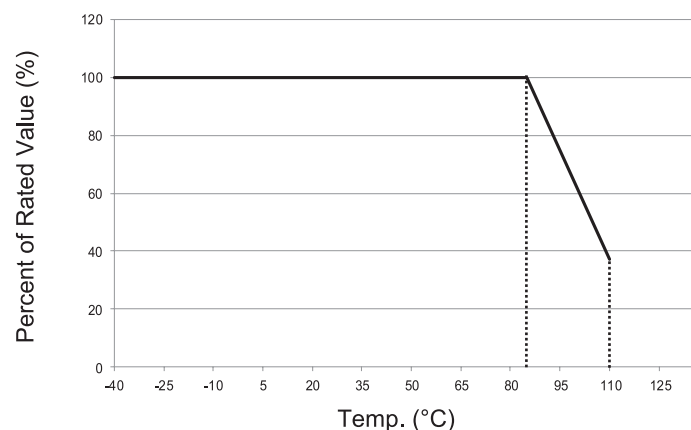
### Applications

- Power Supplies
- Home Electrical Appliances
- Industrial Devices
- Surge Protectors
- Telecom Devices

### Product Structure



### Temp. Derating Curve



For Normal Temp. Series

### Note:

When ambient Temp. exceeds 85°C, the peak surge current and energy rating should be reduced as shown in the left curve.

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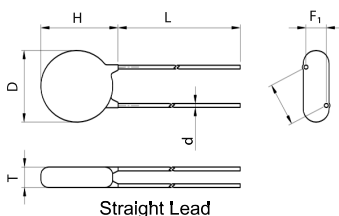
### General Technical Data

Item	Value	Unit
Operating Temperature	-40 to +85	°C
Storage Temperature	-40 to +125	°C
Voltage Proof	≥2500	Vac
Insulation Resistance	≥100	MΩ

### Dimensions

Part Number	L (Min.)	H (Max.)	T (Max.)	D (Max.)	d	F	F <sub>1</sub>	A (Max.)
MPV7D101KNK	20	12	4.2	9	0.6 ±0.05	5 ±0.6	1.2 - 2.6	12.5
MPV7D121KNK			4.4				1.3 - 2.8	
MPV7D181KNK			4				1.1 - 2.5	
MPV7D201KNK			4.2				1.2 - 2.7	
MPV7D221KNK			4.3				1.3 - 2.8	
MPV7D241KNK			4.4				1.3 - 2.9	
MPV7D271KNK			4.5				1.4 - 3	
MPV7D361KNK			5				1.7 - 3.5	
MPV7D391KNK			5.2				1.9 - 3.7	
MPV7D431KNK			5.4				2 - 3.9	
MPV7D471KNK			5.7				2.1 - 4.1	
MPV7D511KMK			5.9				2.3 - 4.3	
MPV7D511KNK			5.9				2.3 - 4.3	
MPV7D621KNK			6.5				2.9 - 4.9	
MPV7D681KNK			6.8				3.2 - 5.2	
MPV7D751KNK			7.2				3.5 - 5.5	
MPV7D820KNK			4				1.1 - 2.4	

### Diagram



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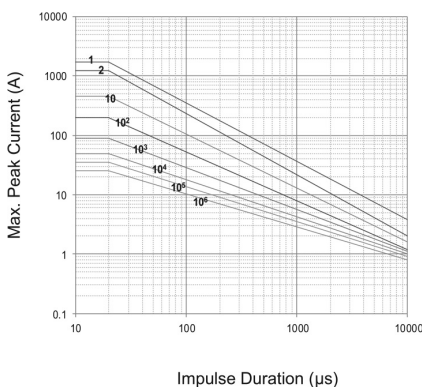
### Specification Table

Part Number	Max. Continuous Operating Voltage		Varistor Voltage @1 mA DC		Clamping Voltage (Max.)		Max. Peak Current (1 time, 8/20 $\mu$ s)	Max. Energy (10/1000 $\mu$ s)	Typical Capacitance (For reference only) @1 kHz	Agency Approvals	
	Vac	Vdc	Min.	Max.	VC	IP	K		(pF)	UL	TUV
	(V)	(V)	(V)	(V)	(V)	(V)	(kA)	(J)			
MPV7D101KNK	60	85	90	110	165	10	1.75	8.5	500	√	√
MPV7D121KNK	75	100	108	132	200			10	420		
MPV7D181KNK	115	150	162	198	300			15	280		
MPV7D201KNK	130	170	180	220	340			17.5	250		
MPV7D221KNK	140	180	198	242	360			19	230		
MPV7D241KNK	150	200	216	264	395			21	210		
MPV7D271KNK	175	225	243	297	455			24	185		
MPV7D361KNK	230	300	324	396	595			32	140		
MPV7D391KNK	250	320	351	429	650			35	130		
MPV7D431KNK	275	350	387	473	710			40	115		
MPV7D471KNK	300	385	423	517	775			42	105		
MPV7D511KMK	320	415	459	561	845			45	100		
MPV7D511KNK	320	415	459	561	845			45	100		
MPV7D621KNK	385	505	558	682	1025			55	80		
MPV7D681KNK	420	560	612	748	1120			60	75		
MPV7D751KNK	460	615	675	825	1240			66	70		
MPV7D820KNK	50	65	74	90	135			7	600		

√: Approved

### Performance Curve

Max. Peak Current Derating Curves



MPV7D820KNK

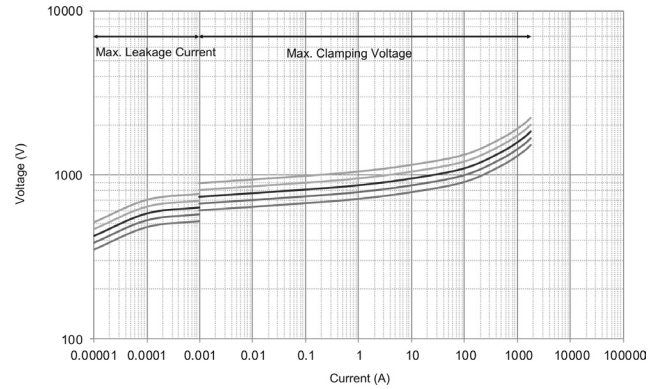
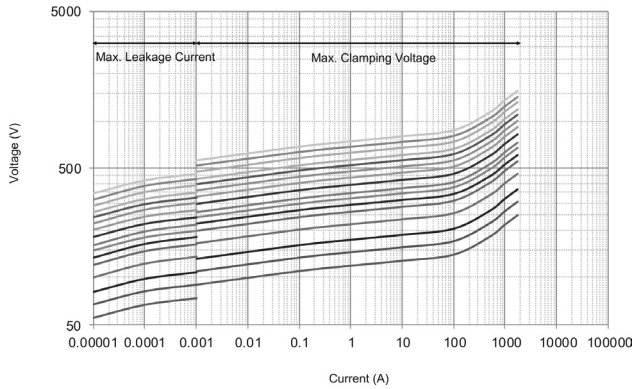
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### Part Number Table

Description	Part Number
Varistor, MOV, 165V, Disc 7mm	MPV7D101KNK
Varistor, MOV, 200V, Disc 7mm	MPV7D121KNK
Varistor, MOV, 300V, Disc 7mm	MPV7D181KNK
Varistor, MOV, 340V, Disc 7mm	MPV7D201KNK
Varistor, MOV, 360V, Disc 7mm	MPV7D221KNK
Varistor, MOV, 395V, Disc 7mm	MPV7D241KNK
Varistor, MOV, 455V, Disc 7mm	MPV7D271KNK
Varistor, MOV, 595V, Disc 7mm	MPV7D361KNK
Varistor, MOV, 650V, Disc 7mm	MPV7D391KNK
Varistor, MOV, 710V, Disc 7mm	MPV7D431KNK
Varistor, MOV, 775V, Disc 7mm	MPV7D471KNK
Varistor, MOV, 845V, Disc 7mm	MPV7D511KMK
Varistor, MOV, 845V, Disc 7mm	MPV7D511KNK
Varistor, MOV, 1.025KV, Disc 7mm	MPV7D621KNK
Varistor, MOV, 1.12KV, Disc 7mm	MPV7D681KNK
Varistor, MOV, 1.24KV, Disc 7mm	MPV7D751KNK
Varistor, MOV, 135V, Disc 7mm	MPV7D820KNK

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