Standard MOV Varistor
Round, 5mm

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.

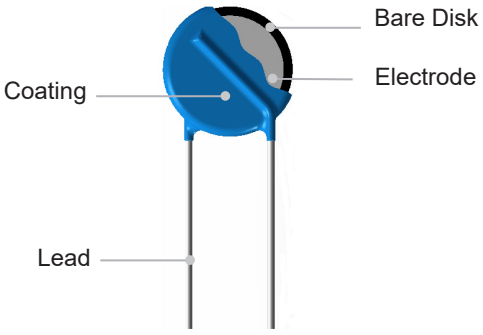
Applications

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

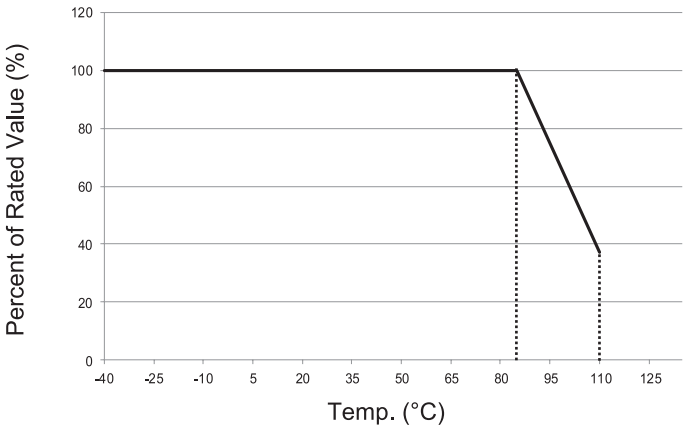
Features

- 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

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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multicomp PRO

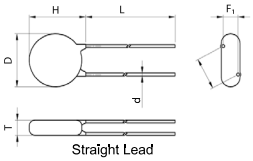
General Technical Data

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

Dimensions

Model	L (Min.)	H (Max.)	T (Max.)	D (Max.)	d	F	F_1	A (Max.)
MPV20D101KNK			5				1.5 - 3	
MPV20D102KNK			9.9				5.9 - 7.9	
MPV20D121KNK			5.2				1.6 - 3.2	
MPV20D151KNK			5.5				1.7 - 3.5	
MPV20D201KNK			5.1				1.5 - 3.2	
MPV20D241KNK			5.3				1.7 - 3.4	
MPV20D271KNK			5.5				1.8 - 3.6	
MPV20D361KNK			6				2.1 - 4.1	
MPV20D391KNK			6.2				2.3 - 4.3	
MPV20D431KNK	20	25.5	6.4	23	1 ±0.0	10 ±0.6	2.5 - 4.5	27.5
MPV20D471KNK			6.7				2.8 - 4.8	
MPV20D511KNK			6.9				3 - 5	
MPV20D561KNK			7.2				3.3 - 5.3	
MPV20D621KNK			7.6				3.6 - 5.6	
MPV20D681KNK			8				4 - 6	
MPV20D751KNK			8.4				4.4 - 6.4	
MPV20D820KNK			4.8				1.4 - 2.8	
MPV20D821KNK			8.8				4.8 - 6.8	
MPV20D911KNK			9.4				5.4 - 7.4	

Diagram



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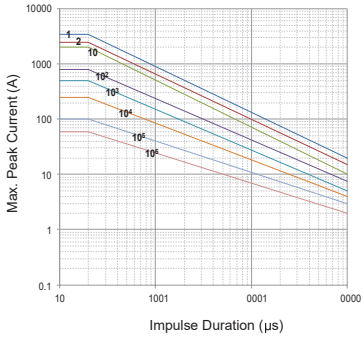
Specification

Model	Max. Continuous Operating Voltage		Varistor Voltage @1 mA DC		Clamping Voltage (Max.)		Max. Peak Current (1 time, 8/20 µs)	Max. Energy (10/1000 µs)	Typical Capacitance (For reference only) @1 kHz	Agency Approvals			
	Vac	Vdc	Min.	Max.	VC	IP	K		(pF)				
	(V)	(V)	(V)	(V)	(V)	(V)	(kA)	(J)		UL	cUL	TUV	CQC
MPV20D101KNK	60	85	90	110	165			70	4000				
MPV20D102KNK	625	825	900	1100	1650			565	400				
MPV20D121KNK	75	100	108	132	200			85	3400				
MPV20D151KNK	95	125	135	165	250			106	2700				
MPV20D201KNK	130	170	180	220	340			140	2000				
MPV20D241KNK	150	200	216	264	395			168	1650				
MPV20D271KNK	175	225	243	297	455			190	1500				
MPV20D361KNK	230	300	324	396	595			255	1100				
MPV20D391KNK	250	320	351	429	650			275	1000				
MPV20D431KNK	275	350	387	473	710	100	10	305	930	•	•	•	•
MPV20D471KNK	300	385	423	517	775			350	850				
MPV20D511KNK	320	415	459	561	845			360	780				
MPV20D561KNK	350	460	504	616	925			380	710				
MPV20D621KNK	385	505	558	682	1025			390	650				
MPV20D681KNK	420	560	612	748	1120			400	600				
MPV20D751KNK	460	615	675	825	1240			420	530				
MPV20D820KNK	50	65	74	90	135			56	4900				
MPV20D821KNK	510	670	738	902	1355			460	500				
MPV20D911KNK	550	745	819	1001	1500			510	440				

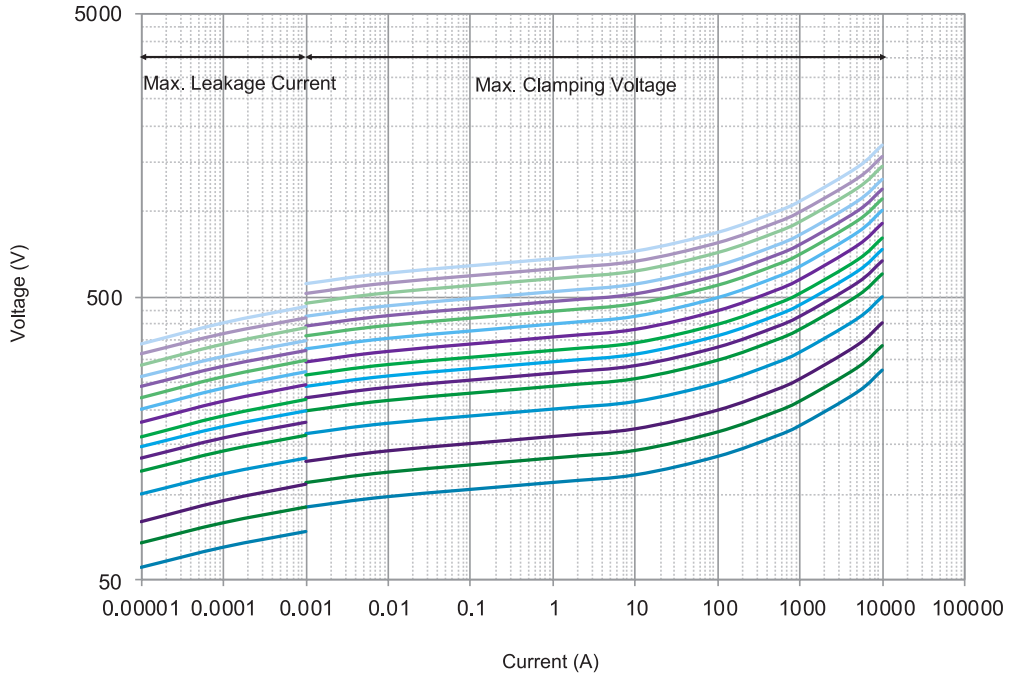
● : Approved ○: Unauthorized

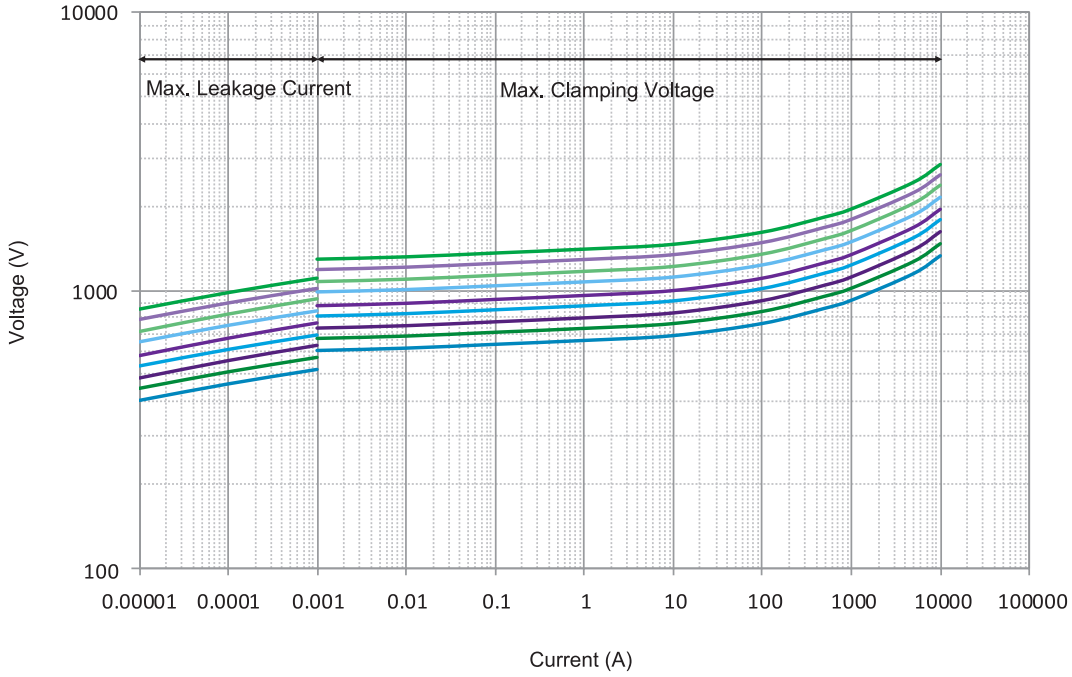
Performance Curve

Max. Peak Current Derating Curves



MPV20D820KNK


5000
500
50
Voltage (V)
Max. Leakage Current
Max. Clamping Voltage
0.00001
0.0001
0.001
0.01
0.1
1
10
100
1000
10000
100000
Current (A)


10000
1000
100
Voltage (V)
Max. Leakage Current
Max. Clamping Voltage
0.00001
0.0001
0.001
0.01
0.1
1
10
100
1000
10000
100000
Current (A)

Part Number Table

Description	Part Number
Varistor, 100V	MPV20D101KNK
Varistor, 1000V	MPV20D102KNK
Varistor, 120V	MPV20D121KNK
Varistor, 150V	MPV20D151KNK
Varistor, 200V	MPV20D201KNK
Varistor, 240V	MPV20D241KNK
Varistor, 270V	MPV20D271KNK
Varistor, 360V	MPV20D361KNK
Varistor, 390V	MPV20D391KNK
Varistor, 430V	MPV20D431KNK
Varistor, 470V	MPV20D471KNK
Varistor, 510V	MPV20D511KNK
Varistor, 560V	MPV20D561KNK
Varistor, 620V	MPV20D621KNK
Varistor, 680V	MPV20D681KNK
Varistor, 750V	MPV20D751KNK
Varistor, 82V	MPV20D820KNK
Varistor, 820V	MPV20D821KNK
Varistor, 910V	MPV20D911KNK