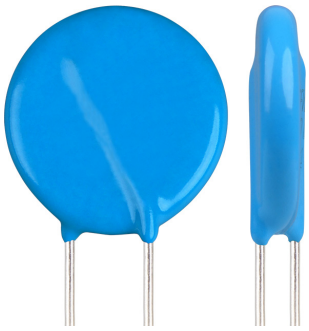
Standard MOV Varistor
Round, 25mm

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. It can also be customized as required.

Approvals

UL1449 4th Edition
TUV EN 61051-1:2008
IEC 61051-1:2007
IEC 61051-2:1991
IEC 61051-2-2:1991
Annex Q of IEC 60950-1:2005+A1:2009+A1:2013

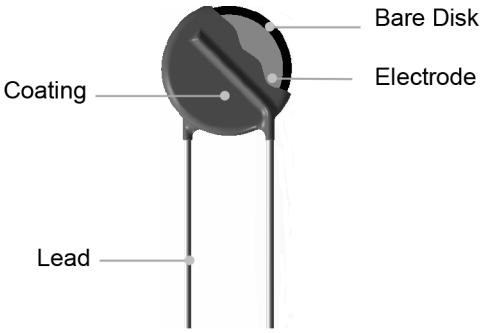
Features

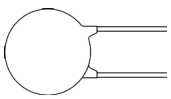
- Epoxy Resin Coating
- Silicone Resin Coating
- Low Leakage Current
- Bidirectional and Symmetrical V/I Characteristics
- Operating Temperature Range
  Low Temperature: -40°C
  High Temperature: +85°C / +105°C

Applications

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

Product Structure



Lead Types		Codes
	Straight Lead	A

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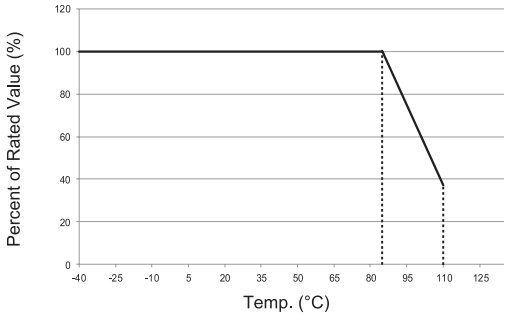
Temp. Derating Curve



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.

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

Item	Description
V_N	**Nominal Varistor Voltage** Voltage, at specified D.C. current used as a reference point in the component characteristics.
I_L	**Leakage Current** Measuring at 75% of varistor voltage.
UCT	**Upper Category Temp.** Max. ambient temp. for which a varistor has been designed to operate continuously.
UCT	**Lower Category Temp.** Minimum ambient temp. at which a varistor has been designed to operate continuously.
Max. Peak Current	**Max. Peak Current** Max. current per pulse, which may be passed by a varistor at an ambient temp. of 25 °C, for a given number of pulses.
V_C	**Clamping Voltage** Peak voltage developed across the varistor terminations under standard atmospheric conditions, when passing an 8/20 µs class current pulse.
Voltage Proof	**Voltage Proof** Max. peak voltage, which may be applied under continuous operating conditions between the varistor terminations and any conducting mounting surface (Applicable only to insulated varistors).
C_V	**Capacitance** Capacitance across the MOV measured at a specified frequency and voltage.
V_{ac}	**Max. Continuous a.c. Voltage** Max. a.c. r.m.s. voltage of a substantially sinusoidal waveform (less than 5% total harmonic distortion) which can be applied to the component under continuous operating conditions at 25°C.
V_{dc}	**Max. Continuous d.c. Voltage** Max. d.c. voltage (with less than 5% ripple) which can be applied to the component under continuous operating conditions at an ambient temp. of 25°C.

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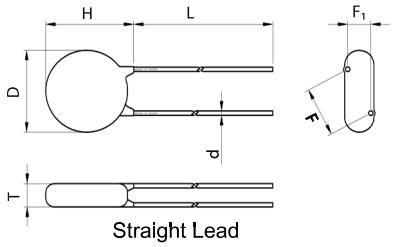
multicomp PRO

Dimensions

Part Number	L (Min.)	H (Max.)	T (Max.)	D (Max.)	d	F	F_1	A (Max.)
MPV25D241KNK	20	32	5.7	28	1.2 ±0.05	10 ±0.6	1.7 - 3.6	35
MPV25D271KNK			5.9				1.8 - 3.8	
MPV25D391KNK			6.7				2.5 - 4.5	
MPV25D431KNK			6.9				2.7 - 4.7	
MPV25D471KNK			7.2				3 - 5	
MPV25D511KNK			7.4				3.2 - 5.2	
MPV25D621KNK			8.1				3.8 - 5.8	
MPV25D681KNK			8.5				4.2 - 6.2	

Diagram



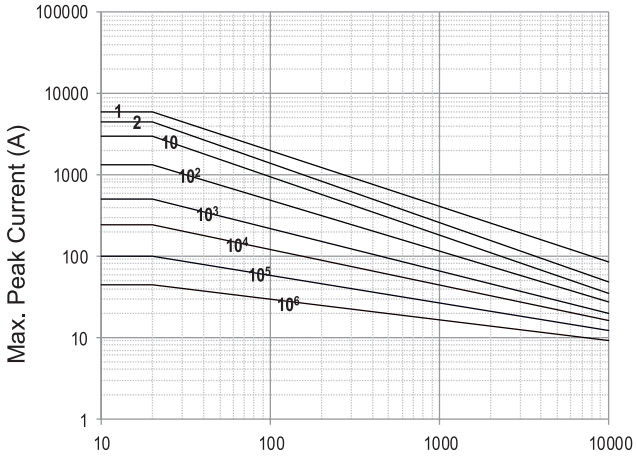
Straight Lead

Specification Table

Part Number	Max. Continuous Operating Voltage		Varistor Voltage @1 mA DC		Clamping Voltage (Max.)		Max. Discharge Current (8/20 µs)		Max. Energy (10/1000 µs)	Typical Capacitance (For reference only) @1 kHz
	Vac	Vdc	Min.	Max.	V_C	I_P	I_n	I_{max}	I_{max}	(pF)
	(V)	(V)	(V)	(V)	(V)	(V)	(kA)		(J)	
MPV25D241KNK	150	200	216	264	395	150	10	20	220	2650
MPV25D271KNK	175	225	243	297	455				255	2400
MPV25D391KNK	250	320	351	429	650				360	1600
MPV25D431KNK	275	350	387	473	710				380	1500
MPV25D471KNK	300	385	423	517	775				400	1400
MPV25D511KNK	320	415	459	561	845				420	1250
MPV25D621KNK	385	505	558	682	1025				450	1050
MPV25D681KNK	420	560	612	748	1120				460	950

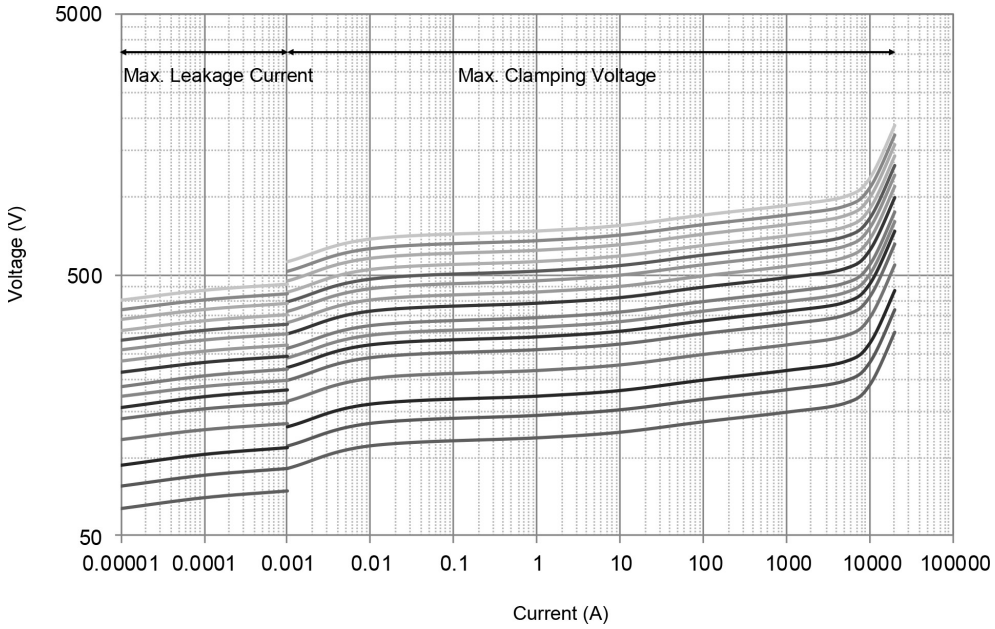
Performance Curve

Max. Peak Current Derating Curves



Note: 1, 2, 10, 10^2, 10^3, 10^4, 10^5, 10^6 Stand for Repetitions.

Voltage-Current Characteristic Curves



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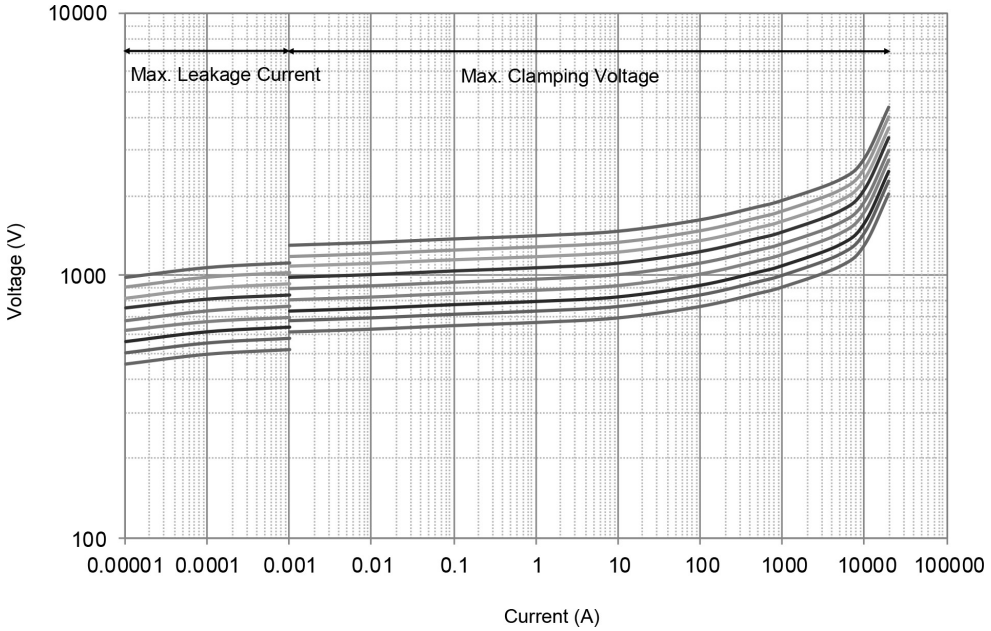

Part Number Table

Description	Part Number
Varistor, MOV, 150V AC, Disc 25mm	MPV25D241KNK
Varistor, MOV, 175V AC, Disc 25mm	MPV25D271KNK
Varistor, MOV, 250V AC, Disc 25mm	MPV25D391KNK
Varistor, MOV, 275V AC, Disc 25mm	MPV25D431KNK
Varistor, MOV, 300V AC, Disc 25mm	MPV25D471KNK
Varistor, MOV, 320V AC, Disc 25mm	MPV25D511KNK
Varistor, MOV, 385V AC, Disc 25mm	MPV25D621KNK
Varistor, MOV, 420V AC, Disc 25mm	MPV25D681KNK