

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.

The varistor is with High Surge Current Density, Low Clamping Voltage, and Good Surge Capacity. It can also be customized as required.

## 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

## General Technical Data

Operating Temperature : -40°C to +85°C  
 Storage Temperature : -40°C to +125°C  
 Voltage Proof : ≥2500V AC  
 Insulation Resistance : ≥100MΩ

## Specification Table

Surge Level	Max. Continuous Operating Voltage		Varistor Voltage @ 1mA DC		Clamping Voltage (Max.)		Max. Peak Current (1 time, 8/20μs)	Max. Energy (10/1000μs)	Typical Capacitance (RFor reference only) @1kHz
	V AC	V DC	Min.	Max.	Vc	Ip	S	J	pF
	V	V	V	V	V	A			
Standard Type	50	65	74	90	135	10	1.75	7	600

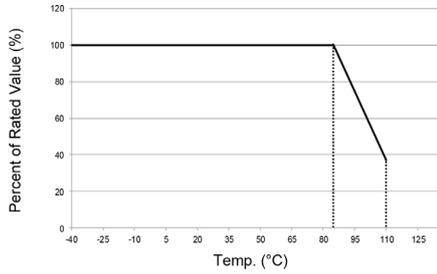
### IL : Leakage Current

Measuring at 75% of varistor voltage.

### Vc : Clamping Voltage

Peak voltage developed across the varistor terminations under standard atmospheric conditions, when passing an 8/20μs class current pulse.

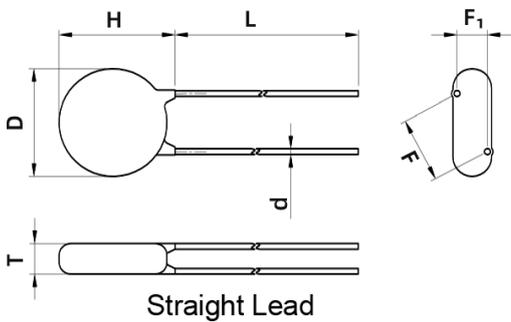
## Temperature Derating Curve



**Note:**

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

## Diagram

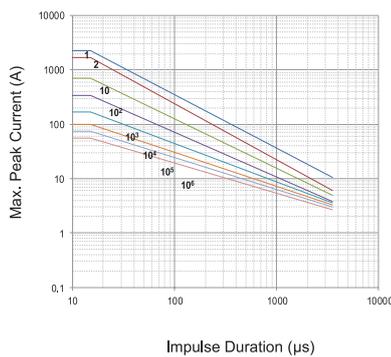


L Min.	H Max.	T Max.	D Max.	d	F	F <sub>1</sub>	A Max.
20	12	4	9	0.6 ±0.05	5 ±0.6	1.1 - 2.4	12.5

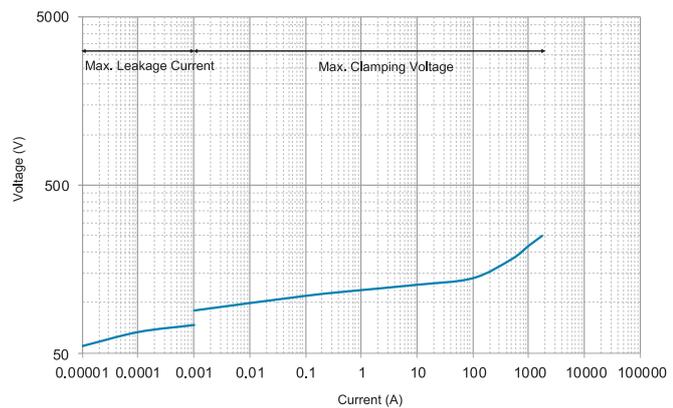
Dimensions : Millimetres

## Performance Curve

Max. Peak Current Derating Curves



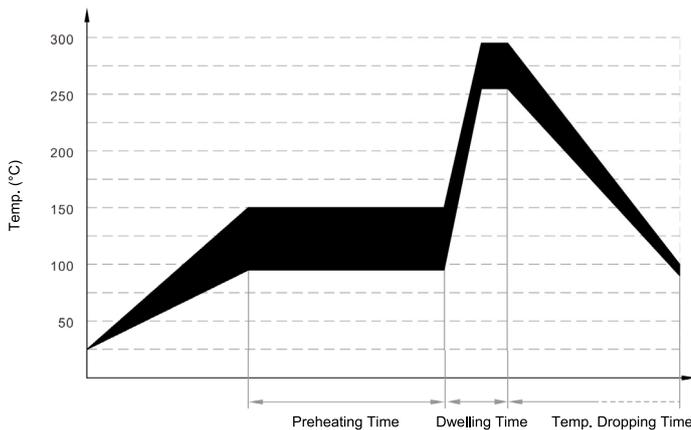
Voltage-Current Characteristic Curves



## Soldering Parameters

### Wave Soldering Parameters

The wave soldering parameters are for reference only. When MOV is for practice use, some related validation is recommended.



Item	Temp. (°C)	Time (s)
Preheating	90 to 150	<150
Dwelling	255 to 290	3 to 10

## Part Number Table

Description	Part Number
Metal Oxide Varistor (MOV), 50V AC, 65V DC	MPV7D820KNK

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