

# METAL OXIDE VARISTOR **MOV6232**

**4.5kV 10kA Class-3**

**Model – SM**

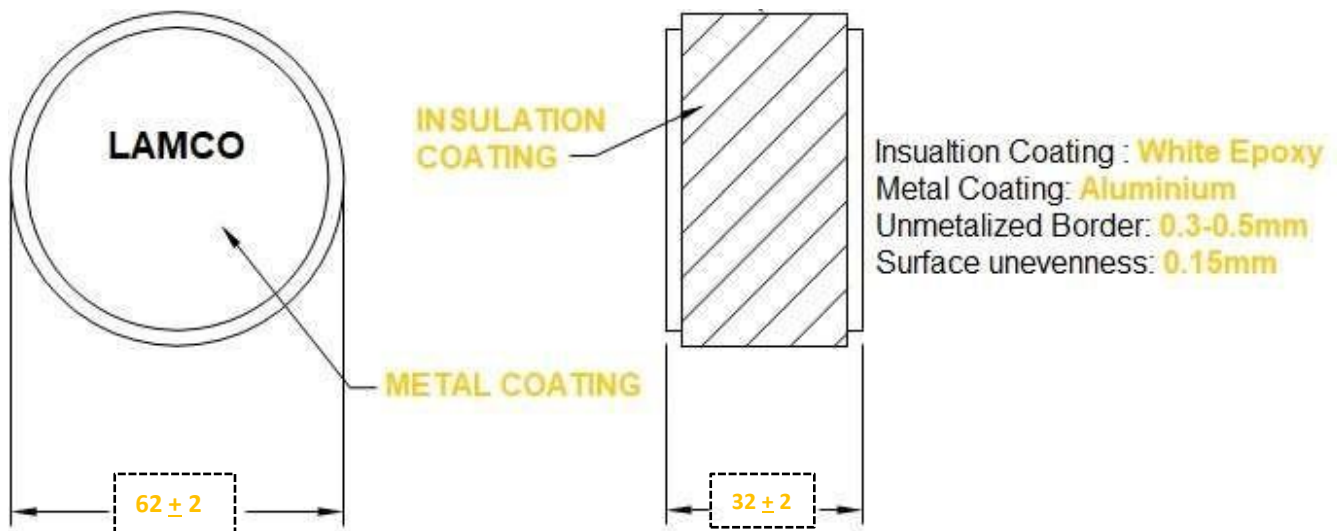
## 1. Features:

- High Energy Metal Oxide Varistors
- Complies to IEC 60099-4 Ed. 2014
- MOV Designation: Station Medium (SM)
- Low watt-loss.

## 2. Electrical Characteristics And Ratings:

Part Number	Rated Voltage	MCOV	Residual Voltage (8/20 $\mu$ s) at			Current Carrying Capacity at		Leakage Current at MCOV		Thermal Energy Rating	Qrs	Watt-loss
			5kAp	10kAp	20kAp	(4/10 $\mu$ s)	2mS	I <sub>r</sub>	I <sub>c</sub>			
	kVrms	kVrms	kVp	kVp	kVp	kAp	Amps	$\mu$ A	$\mu$ A	kJ/kV	C	w
<b>MOV6232</b>	<b>4.50</b>	<b>3.82</b>	<b>9.98</b>	<b>10.66</b>	<b>11.71</b>	<b>100</b>	<b>800</b>	<b>200</b>	<b>500</b>	<b>7</b>	<b>1.6</b>	<b>0.682</b>

## 3. Dimensions:



All dimensions are in mm

**LAMCO INDUSTRIES PRIVATE LIMITED**

(ISO 9001-2015)

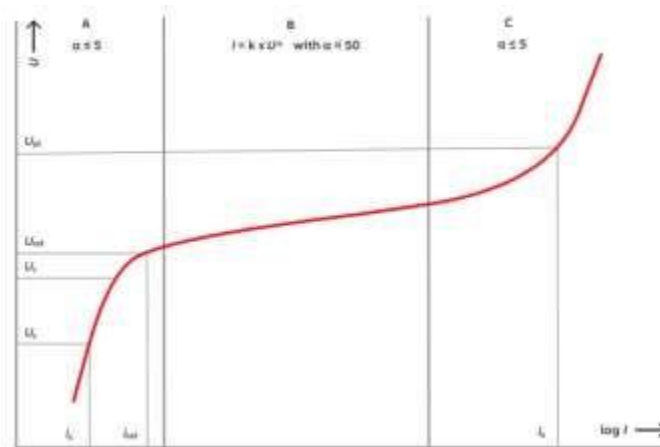
Plot No. 30,31,40 & 41 , Automotive Park , TSIC  
, Muppireddypally ( V ) , Manoharbad ( M ) ,  
Medak District - 502 336 , ( T.S ) India.

#### 4. Production Process:

Metal Oxide Varistors (MOV) are made of different metal-oxides; Metal oxides are converted into fine powder form, and then compressed with uni-directional compression in the form of cylindrical and sintered. The diameter of the MOV determines the current; the height of the MO resistors (or resistor stack) determines the voltage in continuous operation. Special graded metals oxides with very less impurities (all together <10ppm) and equal densities achievement in sintering will increases the uniform current carrying capacity across the cross-section of the MOV.

**LAMCO** manufacture's wide range of MOV's with diameter from 30mm to 120mm and the height from 5mm to 32mm.

#### 5. Characteristics of MOV:



Non-linear voltage-current characteristic of an MO resistor (principle)

##### A: Region relevant to power frequency voltage:

This region describes the part of the U-I characteristic curve relevant to the power frequency voltage. It is also considered to be the pre-breakdown or low-current region. The continuous operating voltage  $U_c$  is the power frequency voltage that can be applied to the MO surge arrester (or MO resistor) continuously without any restrictions. The current flowing through the MO surge arrester is the "leakage" current  $i_c$ , which is almost purely capacitive. The power losses at  $U_c$  can be neglected.

##### B: Region with the highest non-linearity:

This region is the breakdown region. It is the part of the U-I curve in which even minimal voltage increases lead to a significant rise in the current. Only transient events in the time range of milli- and microseconds (switching over voltages) can be handled by the arrester. A continuous application of power frequency voltage in this area of the characteristic would destroy the MOV in a fraction of a second.

##### C: Region describing the protection characteristic:

This region is the area of currents greater than about 100 A, and it describes the protective characteristic of the MOV surge arrester. It is considered to be the high-current region. The most important parameter is the lightning impulse protective level **U<sub>pl</sub>**. This is the maximum permissible peak voltage on the terminals of an arrester subjected to the nominal discharge current **I<sub>n</sub>**. The amplitude of the nominal discharge current **I<sub>n</sub>**, with a wave shape of 8/20  $\mu$ s.