



# NON LINEAR - SILICON CARBIDE ROD AND TUBE RESISTORS (VARISTORS)



- High Surge Energy Rating
- 100% Active Material
- Repeatable Non-Linear Characteristic
- High Voltage Withstand
- Self-Healing
- Air / Oil / SF6 Environments
- Advanced Ampacity
- Custom Solutions Readily Available



The HVR Non-linear resistors have high power dissipation and high energy absorption. They are manufactured mainly as rods and tubes with varying sizes.

The Non-linear Resistors may be connected in series or parallel for various fields of application.

### Typical applications are:

- High frequency Laser pulse application
- Capacitor discharge in transformer stations
- Non-inductive, non-capacitive as a load dump in an amplifier application
- Generators and wind turbines as load dump

## TECHNICAL SPECIFICATIONS

Outside Dia. Do (mm)	Inside Dia. Di (mm)	Max. Length (mm)	Material Type	Max. Volume (cm <sup>3</sup> )	Max. Watts @ 20°C	Max. Joules @ 20°C <sup>(1)</sup>	Tau (s)
6,7	0	200	6770	42,1	38,6	1290	45,0
25	0	600	64	471,2	301,3	66714	221,0
30	0	600	64	565,5	361,5	96068	266,0

Other diameters are available on request

# MATERIAL SPECIFICATIONS

Outside Dia. Do (mm)	Inside Dia. Di (mm)	Max. Length (mm)	Max. Volume (cm <sup>3</sup> )	Material Type	Max. Watts @ 20°C	Max. Joules @ 20°C <sup>(1)</sup>	Tau (s)	Heat Capacity (J/ (kg x K))	Thermal conductivity (W/ cm <sup>2</sup> x K)	Temp. coefficient (1/K)
30	0	300	2120,6	6770	259,3	51718	199,0	856	0,00611	-2,85E-4
30	0	300	2120,6	64	180,8	48034	266,0	917	0,00492	-1,84E-4
30	0	300	2120,6	82	226,7	323,0	1,4	6	0,00617	-1,05E-10

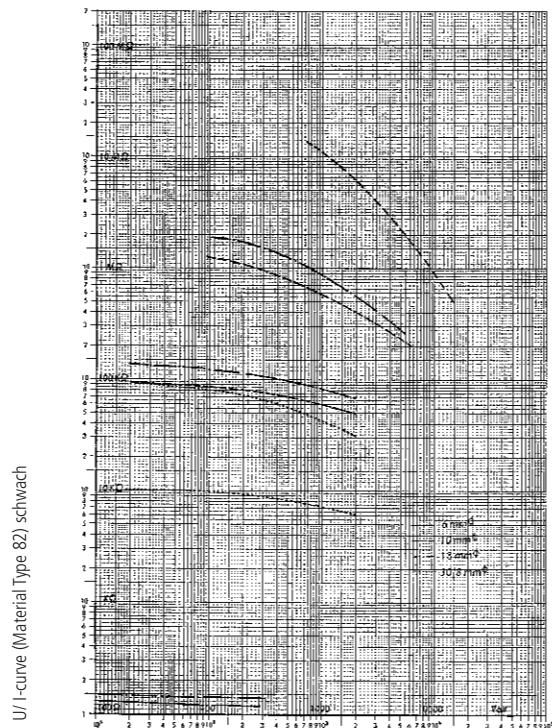
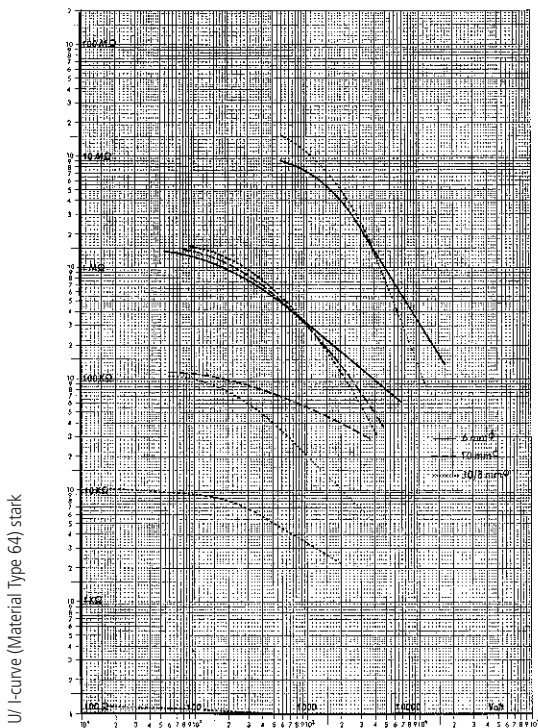
Rod type Do:30; Di:0; length300

## Physical / Mechanical Parameters:

Dimension Range Style:	Outside Diameter (Do)	6 to 30 mm
	Inside Diameter (Di)	0 to 8 mm
	Length (L)	50 to 600 mm
Density:	1,9 g / cm <sup>3</sup> to 2,0 g / cm <sup>3</sup>	
Assembly Mounting:	variety of clamps (Please ask for Spec.-Sheet)	
Disc Terminations:	Flame sprayed metallisation.	
	Standard metallization is brass. Also available is aluminium, chopper and zinc.	

## Electrical Parameters:

Resistor range:	500 ... 17 x 106 Ω/cm	
Max. pulse residual Voltage <sup>(2)</sup> :	4,3 x $1,2\sqrt{\log(R \times A \times l)}$ kV/cm	
Operating Temperature Range:	- 40 ... 150°C at full load	- 40 ... 170°C at zero load
Inductance:	This is negligible (nH) and the varistors may be described as non-inductive	



For further electrical or physical / mechanical details such as U/I characteristic curve or other additional information please contact us.

<sup>(1)</sup>  $\Delta t = 150K$

<sup>(2)</sup> = 8/20µs pulse wave