

# Precision Resistor Type PBV

Spec Sheet R361-1/2 July 97

Technical Data	
Resistance range	0.5 mOhm - 1 Ohm
Tolerances	0.5 %, 1 %, 5 %
Temperature coefficient ( R > 10 mOhm )	< 30 ppm/K ( 20 °C to 60 °C )
Applicable temperature range	-55 °C to +125 °C
Load capacity	3 W / 10 W with heatsink provided
Thermal resistance to aluminum base plate	Rth < 3 K/W
Thermal resistance to ambient	Rth < 15 K/W
Dielectric withstanding voltage	500 V AC
Inductance ( R = 50 mOhm )	< 5 nH
Stability ( nominal load at 70 °C )	deviation < 0.5 % after 2,000 h

- Remarks:
- Standard resistance values according to E12 with the additional values of 2 and 5
  - Minimum quantity of other values on request
  - Tolerance 0.5% for values from 4,7 mOhm

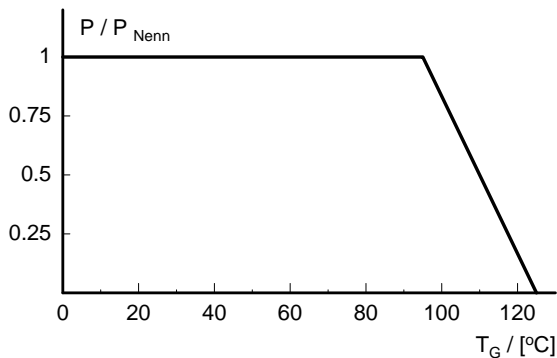
The four-terminal resistor type **PBV** derived from type PBH is especially designed for the low impedance range, in order to obtain lowest temperature coefficient values, and in order to guarantee the independence of the resistance value from the soldering quality. The use of the precision resistance material **MANGANIN** combined with a highly temperature resistant and humidity insusceptible Duroplast cover as well as optimization of layout and lines result in a high longterm stability, low temperature coefficient and low inductance.

The shape is compatible with the latest power transistors. The resistor is mounted through a center bore or

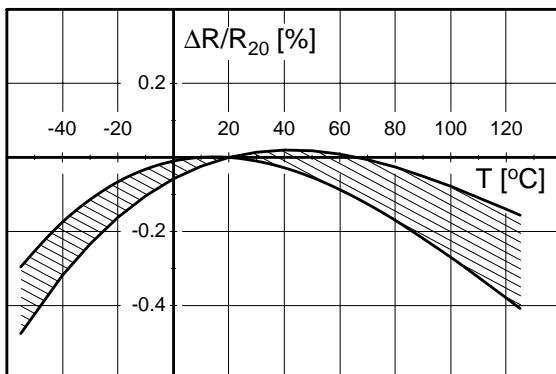
spring clamp to a heatsink, whereby the large area of the base plate will provide excellent heat transfer. The low thermal resistance between resistor foil and aluminum base plate warrants for a low temperature rise at nominal load in this configuration and permits transient overloading up to one magnitude.

The resistor is ideally suited for applications in power electronic and control technique, as most applications at inductive loading will require operation with switched power regulating units.

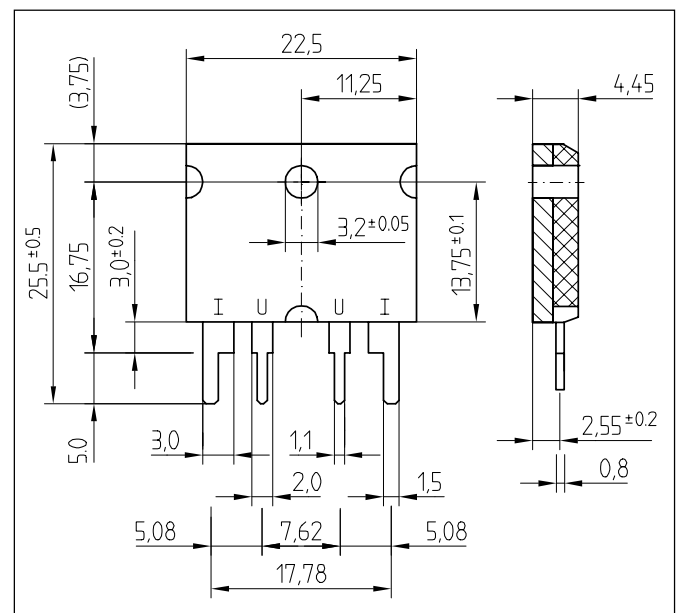
Short connection distances and small dimensions at high load capacity and low inductance are a prerequisite to obtain high switching frequencies.



power derating curve



Temperature dependence of the electrical resistance of ISA-PLAN Resistors



dimensions (mm)

**ordering example: PBV - R001 - F1 - 1**

type	resistance value	terminal	tolerance
PBV	1 mOhm	F1	1 %

( Technical modifications reserved )

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