

# Series UPT<sup>®</sup>-400

400 W resistor, US Patent-No. 5,355,281

A Miba Group Company

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For variable speed drives, power supplies, control devices, robotics, motor control and other power designs, the easy mounting fixture assures a pressure of the cooling plate of about 300 N.

## Features

- 400 W operating power
- Non-Inductive design
- ROHS compliant
- High insulation & partial discharge performance
- Materials in accordance with UL 94 V-0
- Resistor is also available with preapplied PCM (Phase Change Material) (ask for details)



## Technical Specifications

<b>Resistance value</b>	0.5 Ω ≤ 1 MΩ
<b>Resistance tolerance</b>	±5 % to ±10 % ±1 % to ±2 % on special request for limited ohmic values with the reduction of the max. power / pulse rating (ask for details)
<b>Temperature coefficient</b>	±150 ppm/°C lower TCR on special request for limited ohmic values
<b>Power rating</b>	400 W at 85°C bottom case temperature
<b>Short time overload</b>	700 W at 70°C for 10sec., ΔR = 0.4 % max.
<b>Maximum working voltage</b>	5,000 V DC ≈ 3,500 V AC RMS (50 Hz) higher voltage on request, not exceeding max. power
<b>Electric strength voltage</b>	7 kVrms / 50 Hz / 500 VA, test time 1 min. between terminal and case (up to 12 kVrms on request) voltages above 10 kVrms are tested at DC equivalent to avoid pre damage of component
<b>Partial discharge</b>	4 kVrms < 10 pC (up to 7 kVrms < 10 pC on request) acc. to IEC 60270
<b>Insulation resistance</b>	> 10 GΩ at 1,000 V
<b>Single shot voltage</b>	up to 12 kV norm wave (1.5/50 μsec)
<b>Inductance</b>	≥ 80 nH (typical), measuring frequency 10 kHz
<b>Capacity/mass</b>	≥ 110 pF (typical), measuring frequency 10 kHz
<b>Capacity/parallel</b>	≥ 40 pF (typical), measuring frequency 10 kHz
<b>Operating temperature</b>	-55°C to +155°C
<b>Mounting - torque for contacts</b>	1.8 Nm to 2 Nm, screw-in depth max. 6 mm
<b>Mounting - torque</b>	1.6 Nm to 1.8 Nm M4 screws
<b>Terminal tops for additional insulation requirements</b>	on special request (ask for details)
<b>Cable variation</b>	on special request (ask for details)
<b>General pulse load information</b>	contact our local EBG representative or contact us directly
<b>Weight</b>	~67 g

## General Specifications

### Encapsulation

Resin-filled epoxy casing with large creeping distance to mass, large air distance between the terminals and high insulation resistance

### Resistance Element

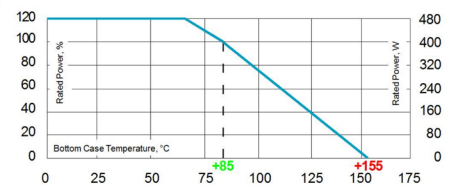
Special design for low inductance and capacitance values. The element employs our special METOXFILM, which demonstrates stability while covering high wattage and pulse loading

### Housing

Housings are made without color additives. The color definition is natural and can vary in different pigmentation

### Contacts

Easy load connection with M5 screws (others on request)



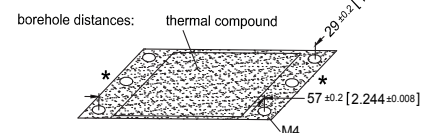
Derating (thermal resist.) UPT-400:

5.55 W/K (0.18 K/W)

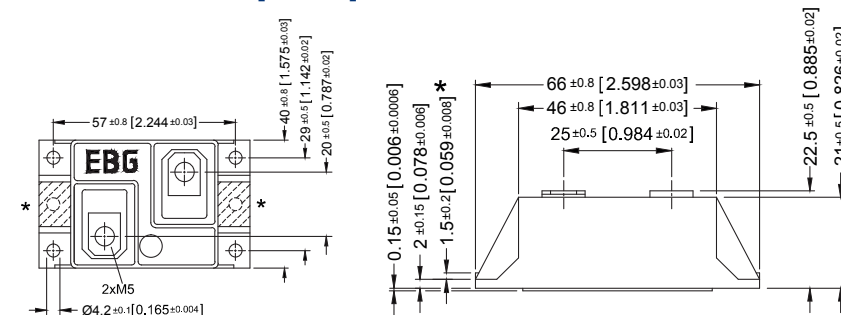
Power rating: 400 W at 85°C bottom case temperature\*\*

Please ask for detailed mounting procedure!

\*\* This value is only applicable when using a thermal conduction to the heat sink  $R_{th-cs} < 0.025$  K/W. This value can be obtained by using a thermal transfer compound with a heat conductivity of at least 1 W/mK. The flatness of the cooling plate must be better than 0.05 mm overall. Surface roughness should not exceed 6.4 μm.



## Dimensions in mm [inches]



\* Optional mounting possibility with 2 metal plates and centered mount holes.

The above spec. sheet features our standard products. For further options please contact our local EBG representative or contact us directly.

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