

# Series UPT<sup>®</sup>-600

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



A Miba Group Company

For variable speed drives, power supplies, control devices, robotics, motor control and other power designs, the easy mounting fixture guarantees an auto-calibrated pressure to the cooling plate of about 300 N.

## Features

- multiple resistors in 1 package
- 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)



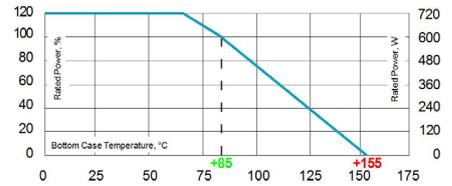
## Technical Specifications

|   |   |
|---|---|
| <b>Resistance value</b>                                     | 0.1 Ω ≤ 0.2 Ω (HC-version)<br>> 0.2 Ω ≤ 1.5 MΩ (higher values on special request)   |
| <b>Resistance tolerance</b>                                 | ±5 % to ±10 %<br>±1 % to ±2 % on special request for limited ohmic value with the reduction of the max. power / pulse rating (ask for details)  |
| <b>Temperature coefficient</b>                              | ±500 ppm/°C (0.1 Ω ≤ 0.2 Ω) Standard<br>±150 ppm/°C (> 0.2 Ω ≤ 1.5 MΩ) Standard<br>lower TCR on special request for limited ohmic values  |
| <b>Power rating</b>   | up to 600 W at 85°C bottom case temperature (see configurations)  |
| <b>Short time overload</b>                                  | 1,000 W at 70°C for 10sec., ΔR = 0.4% max. (for configuration 2 and 3)  |
| <b>Maximum working voltage</b>                              | 5,000 V DC ≅ 3,500 V AC RMS (50 Hz)<br>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 und case (up to 12 kVrms on request) voltages above 10 kVrms are tested at DC equivalent to avoid pre damage of component |
| <b>Dielectric strength between R1-R2</b>                    | > 5 kV DC (for conf. 4)   |
| <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>Contacts</b>   | standard M5 (M4 on special request)   |
| <b>Terminal tops for additional insulation requirements</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>   | ~137 g  |

## General Specifications

### Housing

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



Derating (thermal resist.) UPT-600:  
8.33 W/K (0.12 K/W) for configuration 2 and 3

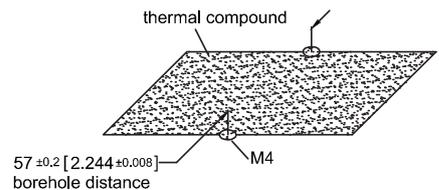
Power rating: 600 W at 85°C bottom case temperature\*

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.

Please note most all of our UPT customers have their own custom designed drawing. Therefore please do not hesitate to discuss your special needs with the local representative or contact us directly.

## Borehole Distance

Dimensions in mm [inches]



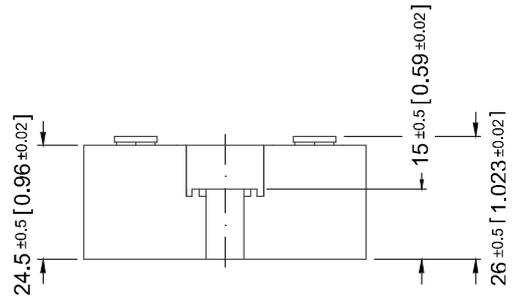
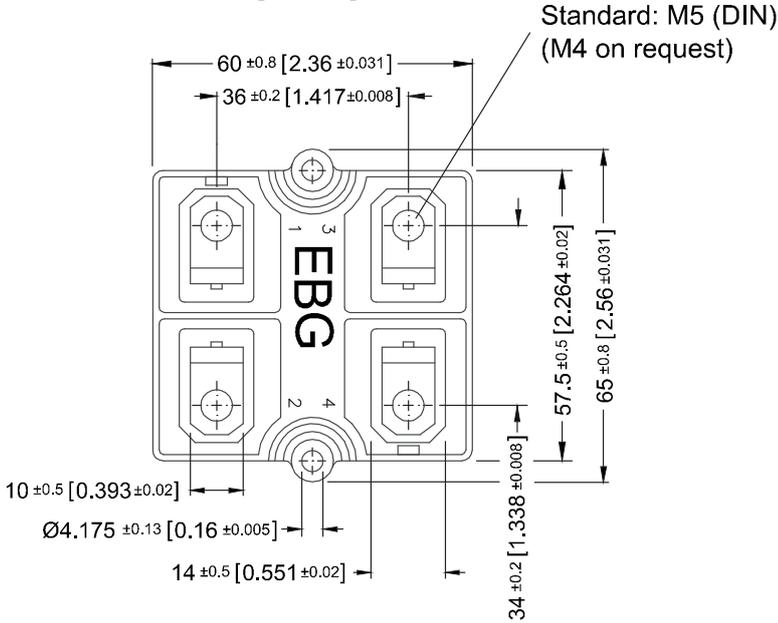
The above spec. sheet features our standard products. For further options please contact our local EBG representative or contact us directly.

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## Dimensions in mm [inches]



## How to make a request

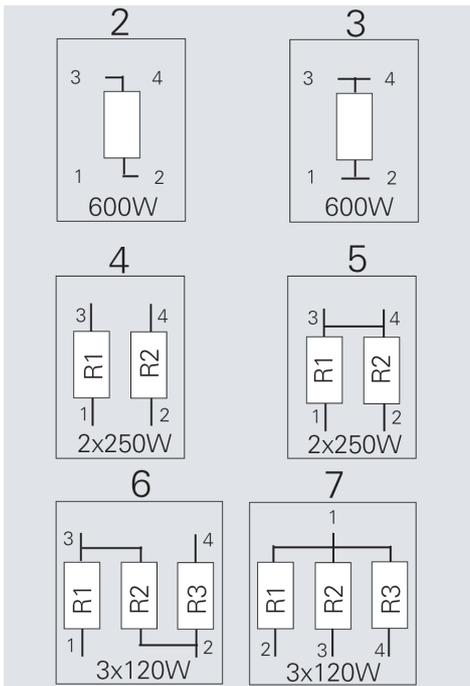
UPT-600-Configuration\_Ohmic Value\_Tolerance

For example:

UPT-600-2 5R 10% or UPT-800-7 3x50K 5%

## Configurations (P / package)

Standard version



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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