EBG RESISTORS

A Miba Group Company

# Ultra-High-Power Resistors

## Series UXP 600

600 W Resistor · US Patent-No. 5,355,281

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 120 to 160 N.

## General Characteristics

**Electric support:**

- High alumina ceramic metalized with EBG ALTOX film on the bottom for better heat transfer and optimum discharge.

**Encapsulation:**

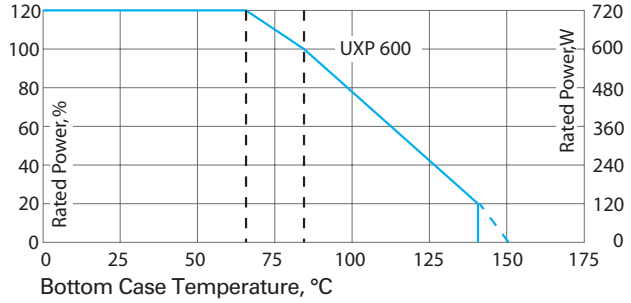
- Special resin-filled epoxy casing with large creeping distance to mass, large air distance between the terminals and high insulation resistance (CTI 600).

**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.

**Contacts:**

- Easy load connecting with M4 or M5 screws. (Inch thread terminals upon special request.)
- Connector height (M+N) available from 25 to 42 mm.
- Various sleeves for increased creeping distance up to 85 mm or potted cable connections are available upon special request
- Materials in accordance with UL94-V0



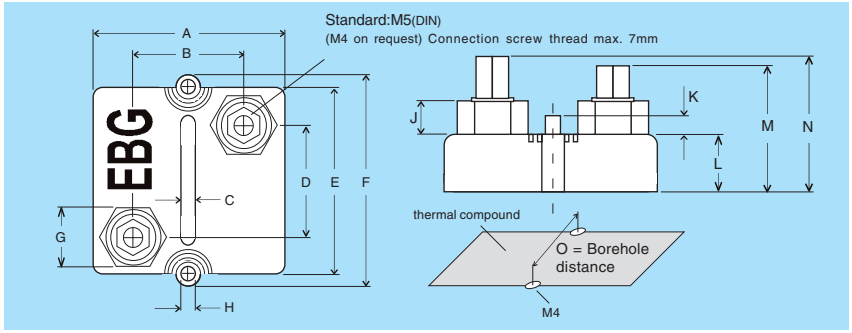

Derating (thermal resist.) UXP 600: 8.33 W/°K (0.12°K/W)
Power rating: 600 W at 85°C bottom case temp.*
Please ask for detailed mounting procedure!

* This value is only applicable when using a thermal conduction to the heat sink Rth-cs<0.025°K/W. This value can be obtained by using a thermal transfer compound with a heat conductivity of 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.

## Specifications

- Resistance values: 0.5 Ω to 1 MΩ
- Resistance tolerance: ±5% to ±10% (1% on special request)
- Temperature coefficient: ±150 ppm/°C (others upon request)
- Maximum working voltage: 5,000 V DC, higher voltage upon request, not exceeding max. power
- Short time overload: 1,000 W at 70°C for 10 sec., ΔR = 0.4% max.
- Power rating: 600 W at 85°C bottom case temperature.
- Peak current: up to 1,500 A depending on pulse length and frequency Please ask for details!
- Electric strength voltage: 6 kVrms, 50 Hz, up to 12 kVrms or up to 20 kV DC onon special request.
- Single shot voltage: up to 12 kV norm wave (1.5/50 µsec)
- Partial discharge:4 KVrms, <10pC, up to 7 kV upon special request
- Insulation resistance: 10 GΩ min. at 500 V
- Creeping distance: 42 mm min.
- Air distance:14 mm min.
- Inductance: –80 nH (typical)
- Capacity/mass: –110 pF
- Capacity/parallel: –40 pF
- Operating temperature: –55°C to +150°C
- Mounting - max. torque for contacts: 2 Nm
- Mounting - max. torque: 1.8 Nm M4 screws
- For pulse power details, please see UXP-300 datasheet

| Test | Method | Typical results |
|---|---|---|
| Short time overload | 1,000 W/10sec | 0.4% |
| Humidity steady state | 56 days/40°C/95% | 0.25% |
| Temp. sycling | -55/+125/5cycles | 0.20% |
| Shock | 40g/4,000 times | 0.25% |
| Vibrations | 2-500Hz/10g | 0.25% |
| Load life 3,000cyl | Pn 30 min. on / 30 min off | 0.40% |
| Terminal strengths f. contacts | 200N | 0.05% |




| Dim. | Millimeter | | Inches | |
|---|---|---|---|---|
| | Min. | Max. | Min. | Max. |
| **A** | 59.2 | 60.8 | 2.331 | 2.394 |
| **B** | 35.8 | 36.2 | 1.409 | 1.425 |
| **C** | 4.5 | 5.5 | 0.177 | 0.216 |
| **D** | 33.8 | 34.2 | 1.331 | 1.346 |
| **E** | 57.0 | 58.0 | 2.244 | 2.283 |
| **F** | 64.2 | 65.8 | 2.527 | 2.591 |
| **G** | 17.5 | 18.5 | 0.689 | 0.728 |
| **H** | 4.05 | 4.3 | 0.159 | 0.169 |
| **J** | 6.5 | 7.5 | 0.256 | 0.295 |
| **K** | 4.5 | 5.5 | 0.177 | 0.216 |
| **L** | 14.5 | 15.5 | 0.571 | 0.610 |
| **M** | 29.5 | 30.5 | 1.161 | 1.201 |
| **N** | 31.5 | 32.5 | 1.240 | 1.279 |
| **O** | 56.8 | 57.2 | 2.236 | 2.252 |

The above spec. sheet features our standard products. For further options, please contact our local EBG representative or contact us directly. For updated information, please visit our website!