

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:

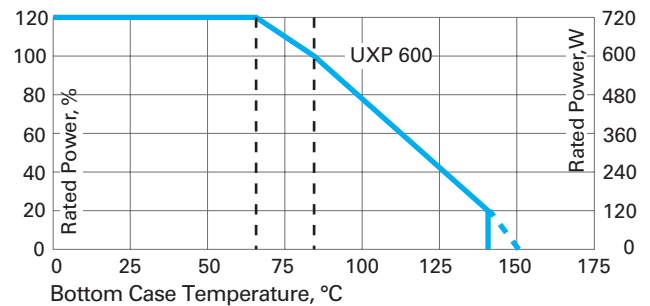
- Special design for low inductance and capacitance values. The element employs our special METOXFILM, which demonstrates stability while covering high wattage and pulse loading.

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

Specifications

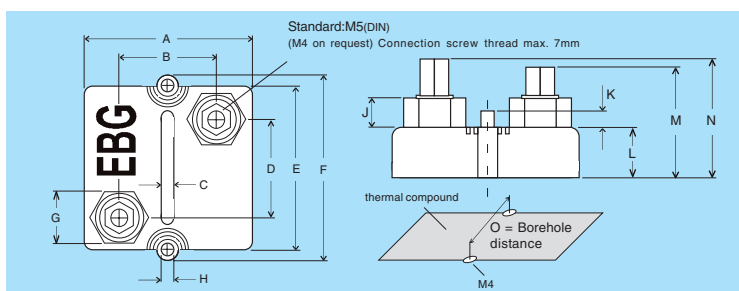
- Resistance values: 0,5 Ω to 1 MΩ
- Resistance tolerance: ±5% to ±10% (1% on special request)
- Temperature coefficient: ±150 ppm/°C (others upon request)
- Maximum working voltage: 5,000 V DC, higher voltage upon request, not exceeding max. power
- Short time overload: 1,000 W at 70°C for 10 sec., 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 on 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. (higher on request)
- Air distance: 14 mm min. (higher on request)
- Inductance: 80 nH (typical)
- Capacity/mass: 110 pF (typical)
- Capacity/parallel: 40 pF (typical)
- Operating temperature: -55°C to +150°C
- Mounting - max. torque for contacts: 2 Nm
- Mounting - max. torque: 1.8 Nm M4 screws
- Housing material acc. to UL94-V0
- Standard storage conditions: 0 to 85°C at 80% RH max. for min. 12 months. For different conditions please contact your local EBG representative!
- Pulse load rating: please see our website ([www.ebg-at.com/...](http://www.ebg-at.com/)) for sample pulse load information. For details please contact your local EBG representative!



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 $R_{th-cs} < 0.025^{\circ}K/W$. 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.

Test	Method	Typical results
Short time overload	1,000 W/10sec	0.4%
Humidity steady state	56 days/40°C/95%	0.25%
Temp. cycling	-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!