

Ohmite's TAP600 delivers 600 watts of reliable power to a variety of power conditioning, power transmission, and power control applications. These resistors can be designed for liquid or air cooled heat sink systems. Applications include variable speed drives, power supplies, robotics, motor control, and other control devices.

## FEATURES

- Dielectric Strength up to 12KV
- Special Design for Low Inductance and Capacitance Values
- Contacts allow for easy load connection with M5 screws (not included) available with M4 as special request. Thread depth 7mm
- Encapsulated with a special resin filled epoxy casing with a large creepage distance to mass, large air distance between terminals, and a high insulation resistance (CTI 600).
- Materials meet the requirements of UL94-V0

## SPECIFICATIONS

### Electrical

**Resistance Values:** 0.25Ω to 100KΩ

**Resistance Tolerance:** ±10% Std., 5% available on request.

**Temperature Coefficient:** ±150ppm/°C (others upon request)

**Maximum Working Voltage:** 5,000V DC, higher voltage on request, not exceeding max. power

**Power Rating:** 600W at 70°C heat sink temperature or 85°C bottom case temperature. This value is only valid by using a thermal conduction to the heat sink  $R_{th-cs} < 0.025^{\circ}\text{C/W}$ .

The value can be reached by using thermal transfer compound with a heat conductivity of 1w/mk. The flatness of the cooling plate must be better than 0.05mm overall. The roughness of the surface should not exceed 6.4μm.

**Dielectric Strength Voltage:** 6k Vrms, 50Hz, 1min standard; up to 12k Vrms available

**Single Shot Voltage:** Up to 12KV Normwave (1.5/50 μsec)

**Insulation Resistance:** 10GΩ min. at 500V

**Creeping Distance:** 42mm min.

**Air Distance:** 14mm min.

**Inductance:** ≤80nH

**Capacitance/Mass:** ≤110pF

**Capacitance/Parallel:** ≤40pF

Operation Temperature: -55°C to +150°C

**Max. Torque for Contacts:** 2 Nm

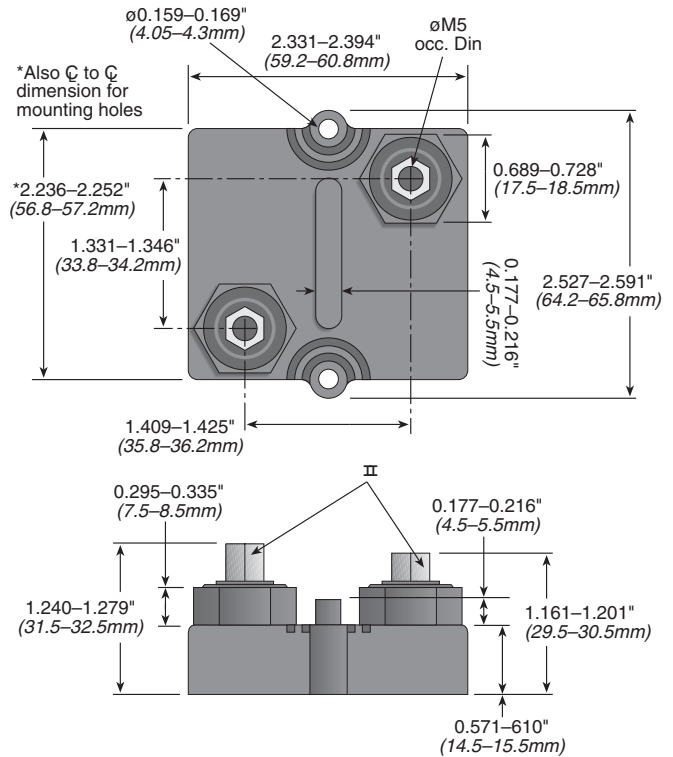
**Max. Torque for Mounting:** 1.8 Nm

**Derating (thermal resist.):** 8.73W/°C (0.115°C/W)



# TAP600 Series

## 600 Watt Heat Sinkable Planar



## PERFORMANCE DATA

Test	Method	Typical Results - ΔR
Short Time Overload	1000 W/10 Sec. @ 70°C	0.4%
Humidity Steady State	56 Days/40°C/ 95°C	0.25%
Temp. Cycling	-55/+125/5 Cycles	0.20%
Shock	40g/4,000 Times	0.25%
Vibrations	2 - 500Hz/10g	0.25%
Load Life 1,000 Cycles	Pn 30 min. ON/30 min. OFF	0.40%
Terminal Strength of Contacts	200N	0.05%

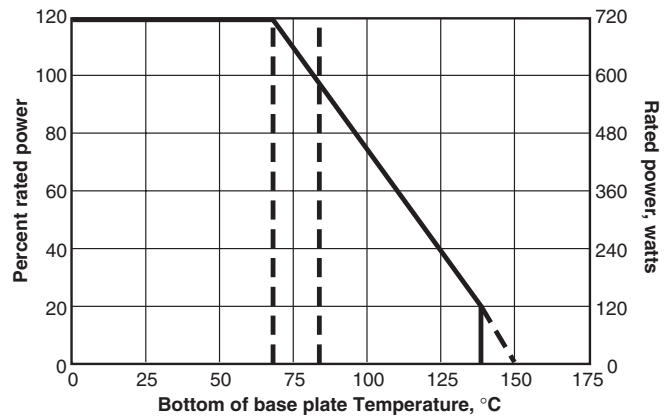
## ORDERING INFORMATION

RoHS compliant Non-compliant version unavailable		
TAP600K5R0E		
Style	Tolerance	Resistance
	J = 5%	1 Ohm = 1R0
	K = 10%, Std.	10 Ohm = 10R
	L = 20%	1000 Ohm = 1K0

## THIS PRODUCT IS DESIGNED FOR USE WITH PROPER HEATSINKING.

Maximum base plate temperature of the resistor must be monitored and kept within specified limits to establish the power rating. Best technique is to attach a thermocouple to the side of the base plate of the resistor. Temperature of plastic housing or heat sink cannot be used to establish rating of the resistor.

## DERATING CURVE



## STANDARD VALUES FOR TAP600 SERIES

0.10	1.0	15	500
0.20	2.0	30	1000
0.25	3.0	50	2500
0.33	4.0	75	3000
0.50	5.0	100	5000
	10	300	10,000