

## Excellent Integrated System Limited

Stocking Distributor

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[TE Connectivity AMP Connectors](#)  
[3-1623817-1](#)

For any questions, you can email us directly:

[sales@integrated-circuit.com](mailto:sales@integrated-circuit.com)

## Type BDS600 Series



With a maximum inductance of 80nH and a rated power of 600W (60°C Heatsink) in a 57mm x 60mm casing, the BDS600 offers high power density over a wide range of ohmic values (0R5 – 100K).

This high power density resistor is made from quality materials for optimum reliability and stability with very low partial discharge.

Tyco can test resistors to conform to relevant international, MIL or customer specifications, and will advise on the use of resistors for pulse applications (special pulse duty options available) and high voltage usage (high voltage designs available). The BDS600 offers a limiting element voltage of 5kVdc rms, and 10kV isolation voltage (terminal to heatsink).

Resistors with 1% tolerance, alternative terminations or flying leads are available, and custom designs are welcome.

This product is available via distribution.

### Key Features

- **600W in a 34.2cm<sup>2</sup> footprint**
  - Gives an impressive power density of 17.5W/cm<sup>2</sup>
- **Inductance < 80nH**
  - Virtually inductance-free
- **Wide resistance range: 0.5Ω to 100kΩ**
  - Coupled with 1% tolerance gives ultimate design flexibility
- **Multiple terminal configurations**
  - For demanding creep and clearance requirements
- **Partial discharge <5pC at 5kV**
  - Guaranteeing quality, reliability and long life

## Thick Film Power Resistors



### Type BDS600 Series

#### Characteristics - Electrical

Resistance Range:	0R5 – 100K
Resistance Tolerance:	± 10%, 5% (Tighter by discussion)
TCR:	± 150ppm/°C
Rated Power:	Heatsink: 60°C 600W
Capacitance:	Parallel 40pF To Earth 110pF
Series Inductance:	<80nH (Maximum)
Limiting Element Voltage:	5kV dc/ac rms
Isolating Voltage:	(Terminal to Heatsink) 10kV ac rms
Single Shot Voltage:	1.5/50ms 12kV
Insulation Resistance:	(at 500V dc) >1000MΩ
Partial Discharge:	at 7kV <500pC at 5kV <5pC
Heat Dissipation:	Although the use of proprietary heat sinks with lower thermal resistance is acceptable, up rating is not recommended. The use of proprietary heat sink compound to improve thermal conductivity is essential.

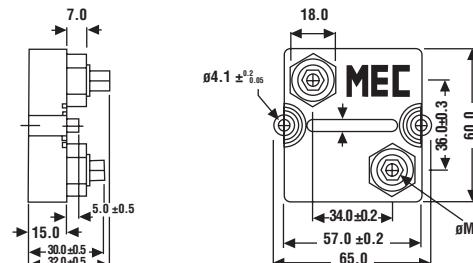
#### Characteristics - Environmental

Endurance (Rated Power):	Full Load, 1000h, 25°C	ΔR 0.4% Typ
Humidity Load Life:	56 Days, 40°C, 95% RH	ΔR 0.25% Typ
Temperature Cycling:	-55°C to +125°C, 5cycles	ΔR 0.2% Typ
Storage Temp:	-55°C to +155°C	
Operating Temp:	-55°C to +140°C (200°C on req.)	
Short Term Overload:	1000W, 10s	ΔR 0.4% Typ
Vibration:	2-5000Hz/10g	ΔR 0.25% Typ
Bump:	40g 4000 bumps	ΔR 0.25% Typ

#### Characteristics - Mechanical

Terminal Size:	M5
Terminal Torque (max.):	2Nm
Creepage Distance:	48mm
Air Gap:	To Heatsink 14mm
Heatsink Surface Finish:	R <sub>a</sub> < 6μm
Heatsink Flatness:	0.05mm
Thermal Grease:	(0.05°C/Wmm) Required
Weight:	160g
Max. Mounting Torque:	1.8Nm

#### Dimensions



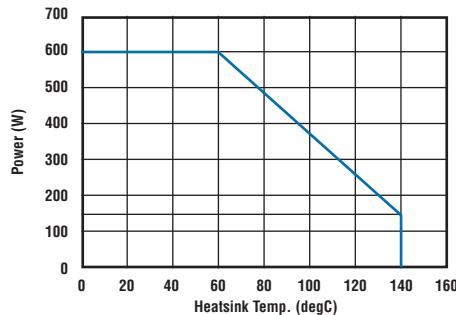
#### Applications

- Snubbing (Low inductance)
- Filter (Low inductance)
- High Voltage
- High Frequency
- Balancing

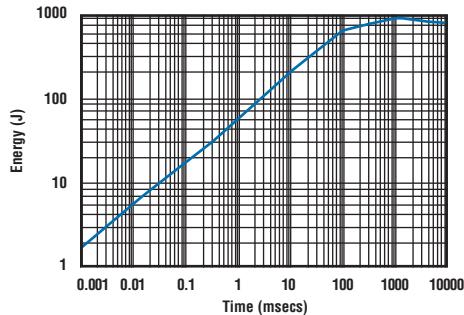
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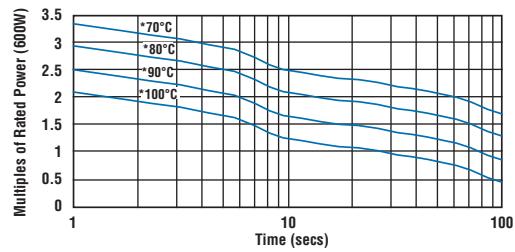
#### Derating Curve



#### Pulse Energy



#### Power Overload



#### How to Order

BDS 2	A	600	1K0	J
Common Part	Circuit Type	Power Dissipation	Resistance Value	Tolerance
BDS 2 (2 Terminal)	A: Standard	600 - 600 Watts	0.5Ω (500mΩ) R50 1Ω (1000mΩ) 1R0 1K (1000Ω) 1K0	F - 1% J - 5% K - 10%