Type BDS100 Series

Key Features

- 100W in a 9.5cm² footprint
  - Gives an impressive power density of 10.5W/cm²
- Virtually inductance-free
  - Inductance < 40nH
- Wide resistance range: 0.47Ω to 1MΩ
  - Coupled with 1% tolerance gives ultimate design flexibility
- Multiple terminal configurations and multi-resistor packages
  - The space saving solution
- Partial discharge <10pC at 2kV
  - Guaranteeing quality, reliability and long life

Applications

- Snubbing (Low inductance)
- Balancing Resistor (Multi-resistor package)
- Filter (Low inductance)
- High Voltage
- High Frequency



With less than 40nH inductance and a 100Watt power rating in an easy-mounting 38mm x 25mm Isotop case, the BDS100 offers high power density over a wide range of ohmic values (R47 – 1M0) and benefits from 10 years experience in the field. Available in 6 resistor configurations with 2 or 4 easy to connect terminals, the resistors are made from quality materials for optimum reliability and stability with very low partial discharge.
TE Connectivity can test resistors to conform to relevant customer specifications, and will advise on the use of resistors for pulse energy and high voltage applications (HV designs available). Resistors with alternative terminations or flying leads are available, and custom designs are welcome. This product is available via distribution.

Characteristics -Electrical

Resistance Range:		R47 - 1MO
Resistance Tolerance:		± 10%, 5% (Tighter by discussion)
TCR:	R<1Ω	± 250ppm/°C
	R>1Ω	± 150ppm/°C
Rated Power:	Heatsink: 115°C / 100°C / 60°C	25W / 50W / 100W
Capacitance:	Parallel	15pF
		To Earth 40pF
Series Inductance:		40nH (Maximum)
Limiting Element Voltage:	(100W or Less)	500Vdc/ac rms
Isolating Voltage:	(Terminal to Heatsink)	2.5kVac rms
Single Shot Voltage:	1.5/50ms	4kV
Insulation Resistance:	(at 500V dc)	>100GΩ
Partial Discharge:	at 2kV	<10pC
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):	2000cyc. at P_{Rated}	ΔR 0.25% Typ
Humidity Load Life:	56 Days, 40°C, 95% RH	ΔR 0.25% Typ (I.R.>10GΩ)
Temperature Cycling:	-55°C to +125°C, 5cycles	ΔR 0.25% Typ
Operating Storage Temp:	-55°C to +125°C	
Short Term Overload:	3 x P_{Rated} (10s)	ΔR 0.25% Typ
Vibration:	10/500Hz	ΔR 0.25% Typ
Bump:	40g 4000 bumps	ΔR 0.25% Typ

Dimensions are in millimeters and inches unless otherwise specified. Values in brackets are standard equivalents.

Dimensions are shown for reference purposes only. Specifications subject to change.

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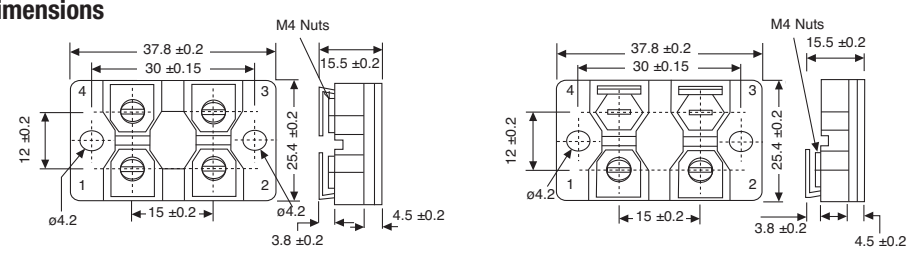
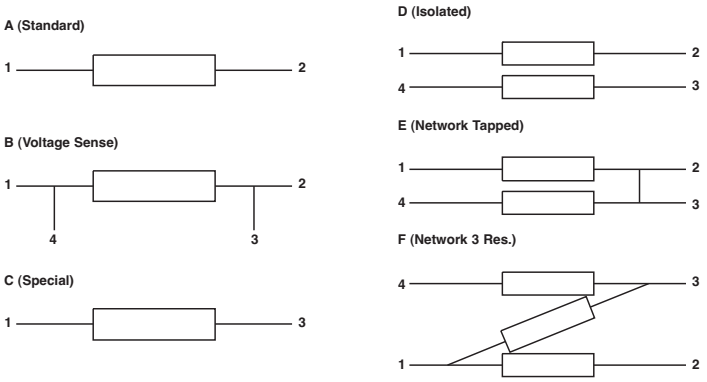
Characteristics - Mechanical

Terminal Size:		M4
Terminal Torque (max.):		1.3Nm
Creepage Distance:		10mm
Clearance:	Terminal to Heatsink	10mm
	Terminal to Terminal	3mm
Heatsink Surface Finish:	R^a	< 6µm
Heatsink Flatness:		0.05mm
Weight:		35g

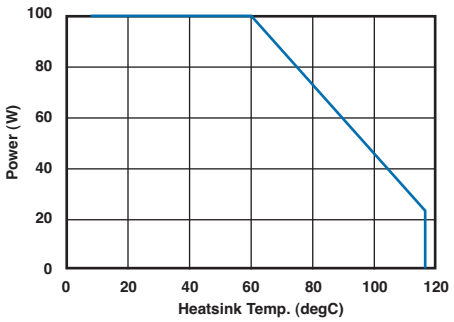
Dimensions



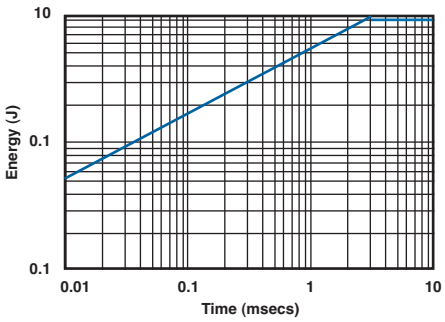
Terminal Circuit Type



Derating Curve



Pulse Energy



How to Order

BDS 2	A	100	1K0	J
Common Part	**Circuit Type**	**Power Dissipation**	**Resistance Value**	**Tolerance**
BDS 2 (2 Terminal) BDS 4 (4 Terminal)	A: Standard B-F: See above	100 - 100 Watts at 70°C	0.6Ω (600mΩ) R60 1Ω (1000mΩ) 1R0 1KΩ (1000Ω) 1KO 1MΩ (1000000Ω) 1MO	F - 1% J - 5% K - 10%

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