

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

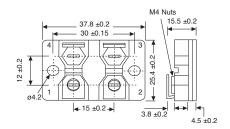
Endurance (Rated Power):	2000cyc. at PRated	ΔR 0.25% Typ
Humidity Load Life:	56 Days, 40°C, 95% RH	ΔR 0.25% Typ (I.R.>10GΩ)
Temperature Cycling:	-55°C to +125°C, 5cycles	ΔR 0.25% Typ
Operating Storage Temp:	-55°C to +125°C	
Short Term Overload:	3 x P _{Rated} (10s)	ΔR 0.25% Typ
Vibration:	10/500Hz	ΔR 0.25% Typ
Bump:	40g 4000 bumps	ΔR 0.25% Typ



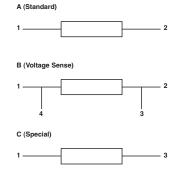
Type BDS100 Series

Characteristics - Mechanical

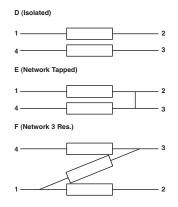
Terminal Size:		M4
Terminal Torque (max.):		1.3Nm
Creepage Distance:		10mm
Clearance:	Terminal to Heatsink	10mm
	Terminal to Terminal	3mm
Heatsink Surface Finish:	Rª	< 6µm
Heatsink Flatness:		0.05mm
Weight:		35g



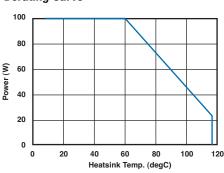
Terminal Circuit Type

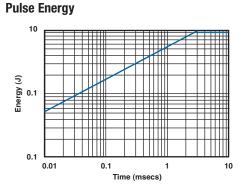


3.8 ±0.2

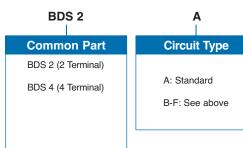


Derating Curve





How to Order



100 | | Power Dissipation

100 - 100 Watts at 70°C

Resistance Value 0.6Ω (600mΩ) R60 1Ω (1000mΩ) 1R0

1K0

1ΚΩ (1000Ω) 1ΚΟ

1MΩ (1000000Ω) 1MO

Tolerance

F - 1% J - 5% K - 10%

TE Connectivity, TE connectivity (logo) and TE (logo) are trademarks.

Other logos, product and Company names mentioned herein may be trademarks of their respective owners.

While TE has made every reasonable effort to ensure the accuracy of the information in this datasheet, TE does not guarantee that it is error-free, nor does TE make any other representation, warranty or guarantee that the information is accurate, correct, reliable or current. TE reserves the right to make any adjustments to the information contained herein at any time without notice. TE expressly disclaims all implied warranties grading the information contained herein, including, but not limited to, any implied warranties of merchantability or fitness for a particular purpose. The dimensions in this datasheet are for reference purposes only and are subject to change without notice. Specifications are subject to change without notice.