

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</p>
 - 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



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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:	Rª	< 6µm
Heatsink Flatness:		0.05mm
Weight:		35g

Dimensions





Terminal Circuit Type









Derating Curve

100 80 60 40 20 0 20 40 60 80 100 120 Heatsink Temp. (degC)

Pulse Energy



How to Order

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

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