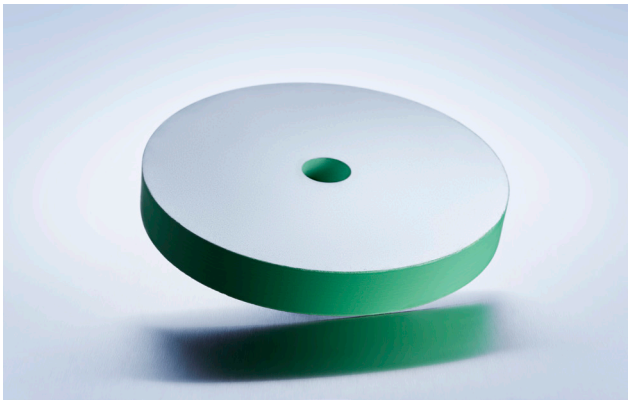
High Energy Carbon Ceramic Resistors

Series CD

EBG RESISTORS

A Miba Group Company

Absorb high pulse energy, suitable for harsh working environments like electrical transmission, traction, pulse power supply, inductive heating, and other applications.



Features

- 100 % active materials
- Non-Inductive design
- Up to Mega Hertz frequency
- For use in air, SF6, and oil environment
- Materials in accordance with UL 94 V-0

Technical Specifications

Resistance value	see model specifications below
Resistance tolerance	±10 % to ±20 % (lower on special request)
Temperature coefficient	-500 ppm/°C to -1500 ppm/°C
Linear expansion coefficient	~5 ppm/°C to 15 ppm/°C
Density	2.2 ~ 2.6 (g / cm^3)
Max. working temperature	≤ 150 K
Max. working temperature	≤ 200 K (occasional)
Thermal conductivity	4.5 W / m x °C
Heat capacity	2 J / cm^3 x °C
Inductance	negligible
Mounting force	F=24 x $(Do-Di)^{0.7}$ kg (±50 %)
Weight	depending on model no. (ask for details)

How to make a request

Model no._Ohmic value_Tolerance

For example:
CD50/20 2R5 10%

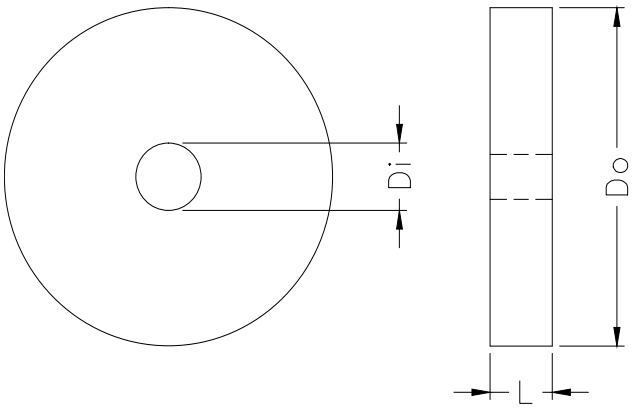
Applicable Standard

IEC60115-1 : 2001 (GB/T5729-2003)
MIL-STD-202
MIL-R-39009D

Model Specifications

Model no.	Volume (cm^3)	Max. Energy (J)	Max. Power (W)	Resistance values		Dimensions in millimeters		
				Min. Ω	Max. Ω	Outer diameter (Do)	Inner diameter (Di)	Thickness L
CD50/20	42	10500	9	0.43	150	50	20	25.4
CD82/20	126	31500	14	0.22	50	82	20	25.4
CD102/20	200	50000	17.5	0.22	30	102	20	25.4
CD127/20	314	78500	22	0.22	20	127	20	25.4
CD137/34	352	88000	23.5	0.05	18	137	34	25.4
CD145/34	331	82700	21	0.05	15	145	34	21
CD151/20	446	111500	26	0.05	15	151	20	25.4

Dimensions in mm



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Max voltage withstand per cm of disc length (Vw):

V (rms) : Vw (air) = 0.87 x $(R/TxA/L)^{0.3}$ Kv/cm (T = inseration time)

V (impulse) : Vw (air) = 4.3 x $\sqrt[1.2]{log(R/2.54 \times A/L)}$ Kv/cm (1.2 / 50 µs waveform)

A = cross section area (cm^2)

L = length (cm)

Mounting

The terminal of the CD disc resistor series is flame sprayed with Al, mounting is needed for electrical contact. Depending on the application parameters like energy and power, choose the proper dimension and quantity, use mounting rack or bus bar while necessary. For good electrical contact, enough mounting force should be applied to the disc.

Mounting force: F = 24 x $(Do-Di)^{0.7}$ kg (±50 %)

Do = outer diameter

Di = inner diameter

For example CD151/20:

F = 24 x $(151-20)^{0.7}$ = 728 kg (±50 %)

Examples for mounting structures: