

CS5 Series

High Power Precision Current Sense



The CS5 is a high power precision current sensing resistor designed with four terminals. This resistor series is distinguished by excellent long term stability & TCR. The Kelvin connections allow high precision measurements even with low resistance values. The CS5 series has a non-inductive copper manganin element inserted into a cement sealed ceramic case.

FEATURES

- Values beginning at one milliohm
- Non Inductive Design
- Four terminal Kelvin connection

APPLICATIONS

- Power modules
- Frequency converters
- Switch mode power supplies

SERIES SPECIFICATIONS

Series	Power Rating (W)*	Resistance Range (mΩ)	Resistance Tolerance (%)	TCR (ppm/°C)
CS5	5W	1m, 2m, 3m, 4m	±0.5, ±1	±30ppm/°C

* Max.current 60A at 1mΩ

CHARACTERISTICS

Parameter	Value	Test Method	Max. ΔR
Temperature Range	-25°C~+150°C		
Insulation Resistance	20MΩ min. at DC500V	Load Life (1,000 hours at rated power at 70°C)	1.0%+0.05Ω max.
Temp. Coefficient	30ppm/°C max.	Short Time Overload (Mil-Std-202, Method 106, Cond. A)	0.5%+0.05Ω max.
Dielectric Withstanding Voltage	AV 1500V for 1 minute	Stability (Mil-Std-202, Method 107)	0.1%+0.05Ω max.

Surface Temperature Increase Versus Power Load



Derating



(continued)

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DIMENSIONS

(mm/in.)



ORDERING INFORMATION

CS5FR001E RoHS compliant

Series Wattage Tolerance Resistance

D = 0.5%
F = 1%

Standard part numbers for CS5 series

1%	0.5%
CS5FR001E	CS5DR001E
CS5FR002E	CS5DR002E
CS5FR003E	CS5DR003E
CS5FR004E	CS5DR004E