

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

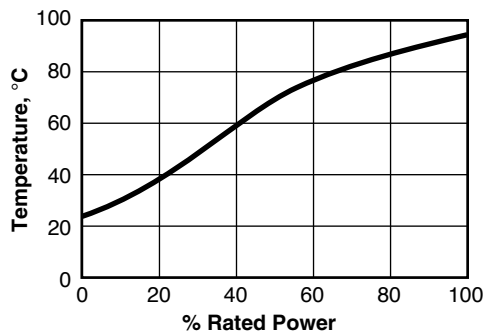
| Series | Power Rating (W)* | Resistance Range (mΩ) | Resistance Tolerance (%) | TCR (ppm/°C) |
|--------|-------------------|-----------------------|--------------------------|--------------|
| CS5 | 5W | 1m, 2m, 3m, 4m | ±0.5, ±1 | ±30ppm/°C |

* 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 |