

Four Terminal Open Air Low Ohm Current Sense Resistor



CSL Series - Patent Pending

- <55 ppm/°C TCR
- 5 watt max power
- 55 amp max current
- Down to 1% tolerance
- 4-Terminal Kelvin connections

All Pb-free parts comply with EU Directive 2011/65/EU amended by (EU) 2015/863 (RoHS3)

FEATURES:

- Inductance less than 10 nanohenries
- Flameproof
- Solderable leads
- 55 amp continuous operating current
- Inline construction for easy board insertion
- Economical board space design
- Welded construction

APPLICATIONS:

- Current Sensing
- Feed Back
- Motor Control
- Surge/Pulse Applications

Electrical Data

| IRC Type | Power/Current Rating (Watts) | Standard Resistance Values (mΩ) | Tolerance (±%) |
|----------|---|---------------------------------|----------------|
| CSL | 5 watt max power 55 amps max current | 0.25, 0.5, 1, 1.5, 2, 2.5 | 1% |

Environmental Data

| CSL Performance Characteristics: Test Spec: AEC Q200 | |
|---|--------------------------|
| TCR +125 to -55°C | <55 ppm/°C |
| Thermal Shock | <1.5% |
| High Temp Exposure 1000 hours @ 125°C | <1.75% |
| Temp. Cycling: -55 to 125°C 1000 cycles | <1.0% |
| Operational Life: 1000 hours @ 70°C | <1.0% |
| Moisture Resistance | <1.0% |
| Baised Humidity | <1.0% |
| Mechanical Shock | <1.0% |
| Vibration | <0.75% |
| Solder Heating | <1.0% |
| Solderability | Meets J-STD-002 Method A |

General Note

TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

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Physical Data

ALL DIMENSIONS 0.010 (0.254) UNLESS OTHERWISE STATED.
 DIMENSIONS C, D, & E = ± 0.005 (0.127)
 DIMENSIONS A AND F REFERENCE ONLY.

RECOMMENDED PC BOARD FOOTPRINT AND ELECTRICAL CONNECTION

RECOMMENDED ELECTRICAL CONNECTION
 TERMINALS 2 & 3 CURRENT TRACES
 TERMINALS 1 & 4 SENSE TRACES

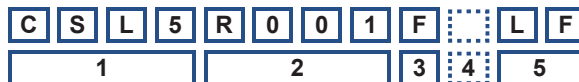
Note:

- 1.1 mΩ - 2.5 mΩ = 0.014 [0.356]
- 0.4 mΩ - 1.0 mΩ = 0.036 [0.914]
- 0.25 mΩ - 0.4 mΩ = 0.071 [1.80]

| Dimensions (Inches (mm)) | | | | | | | |
|--------------------------|-----------------|-----------------|----------------|----------------|------------------|----------------|-----------------|
| A | B | C | D | E | F | G | H |
| 0.862 (21.9) | 0.426 (10.8) | 0.800 (20.3) | 0.200 (5.1) | 0.300 (7.6) | 0.555 (14.01) | 0.176 (4.5) | 0.062 (1.57) |

Ordering Data

Example: CSL5-R001FLF (CSL5, 1 milliohm $\pm 1\%$, marked, Pb-free)



| 1 | 2 | 3 | 4 | | | 5 |
|------|---------------------|---------------|---------|----------|--------------|--------------|
| Type | Value | Tolerance | Marking | | | Termination |
| CSL5 | 4-6 characters | F = $\pm 1\%$ | Omit | Marked | Standard | LF = Pb-free |
| | See Electrical Data | | U | Unmarked | Non-standard | |
| | R = ohms | | | | | |

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