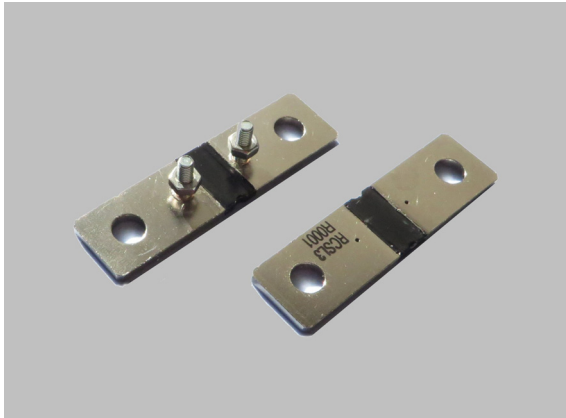


電流シャント

3W CURRENT SENSING RESISTORS

RCSL3, RCSL4 (170A – 0.1mohm)



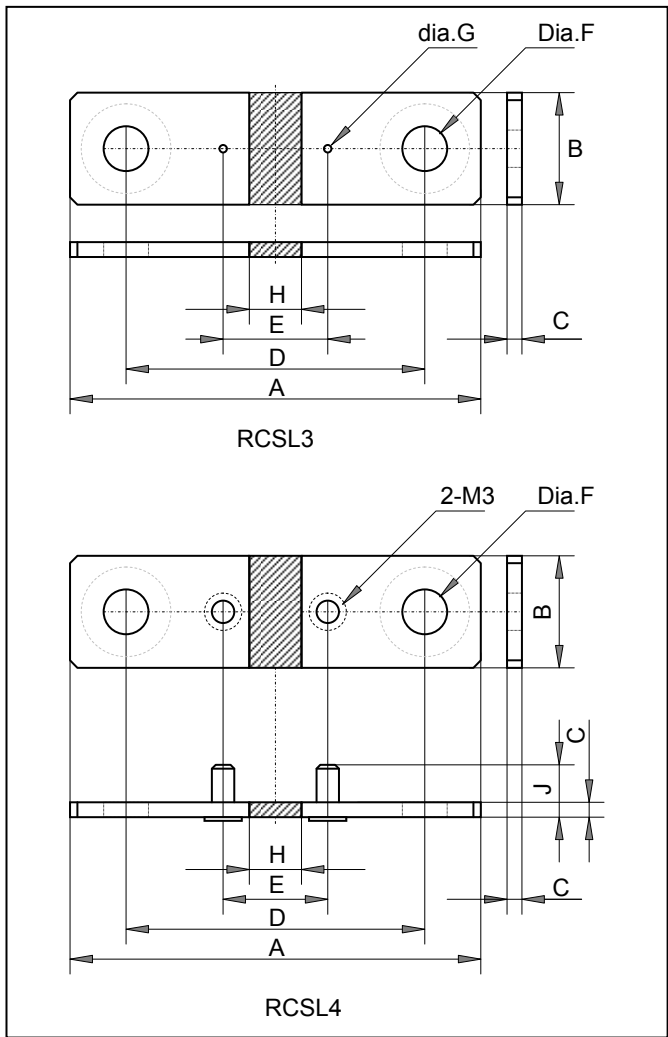
特長 用途

定格電流 170A (RCSL3-0.1mohm) の4端子電流検出抵抗器。RCSL3は、0.8mm穴端子、RCSL4は、M3セルフクлинチングヘッドオスねじ端子。  
 優れた長期安定性、自己発熱と周囲温度変化に対して抵抗値安定性があり、抵抗温度係数は約 100ppm/°C、完全溶接構造とニッケル合金材料のミリオーム抵抗器。  
 100Aクラスの電流バスに直接実装可能。  
 パワーエレクトロニクスの電流検出、インバータの電力検出、電池充電電流監視、定電流電源、電子負荷装置など

Features and Applications

Rating current 170A (0.1mohm-3W, RCSL3 and RCSL4, current detecting resistors for electric equipments.  
 RCSL3 has holes of 0.8mm diameter for voltage terminals, RCSL4 has voltage sensing terminals of self-clinching male screws, M3.  
 Excellent long term stability and less than 100ppm/°C TCR are realized by using Ni alloy and fully fine welding structure.  
 Simple 4-ports Kelvin structure is easy to install large current bus-bar.  
 Current detection in precision power source, constant current source, industrial power conversion circuit, battery charger control of cells, constant electronic load and etc.

外形寸法 Dimensions



| RCSL3 | RCSL3 |        | RCSL4  |         |
|-------|-------|--------|--------|---------|
|       | (mm)  | (inch) | (mm)   | (inch)  |
| A     | 55.0  | 2.165  | 55.0   | 2.165   |
| B     | 15.0  | 0.591  | 15.0   | 0.591   |
| C     | 2.0   | 0.079  | 2.0    | 0.079   |
| D     | 40.0  | 1.575  | 40.0   | 1.575   |
| E     | 14.0  | 0.551  | 14.0   | 0.551   |
| F     | 6.2   | 0.244  | 6.2    | 0.244   |
| G     | 0.8   | 0.031  | ---    | ---     |
| H     | 7.0   | 0.276  | 7.0    | 0.276   |
| J     | ---   | ---    | (10.0) | (0.394) |

Rating current and Maximum, RCSL3

| milliohm | Rating Current(A) | Max Current (A) |
|----------|-------------------|-----------------|
| 0.1      | 173               | 865 / 5sec.     |
| 0.2      | 122               | 610 / 5sec.     |
| 0.3      | 100               | 500 / 5sec.     |
| 0.4      | 86                | 430 / 5sec.     |
| 0.5      | 77                | 385 / 5sec.     |

Note (1): Rating and maximum current are specified in connecting to bus-bar, not at standing alone resistor in free air

品目番号 Ordering Information

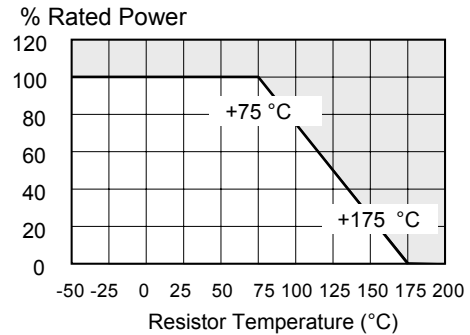
| Type  | TCR | Resistance | Tolerance | Note |
|-------|-----|------------|-----------|------|
| RCSL3 | A   | R0001      | F         | Z00  |
| RCSL3 | A   | R0001      | F(+/-1%)  | Z00  |
| RCSL4 | A   | R0002      | J(+/-5%)  | Z00  |
|       |     | R0003      |           |      |
|       |     | R0004      |           |      |
|       |     | R0005      |           |      |

## 電流シャント 3W CURRENT SENSING RESISTORS RCSL3, RCSL4(170A – 0.1mohm)

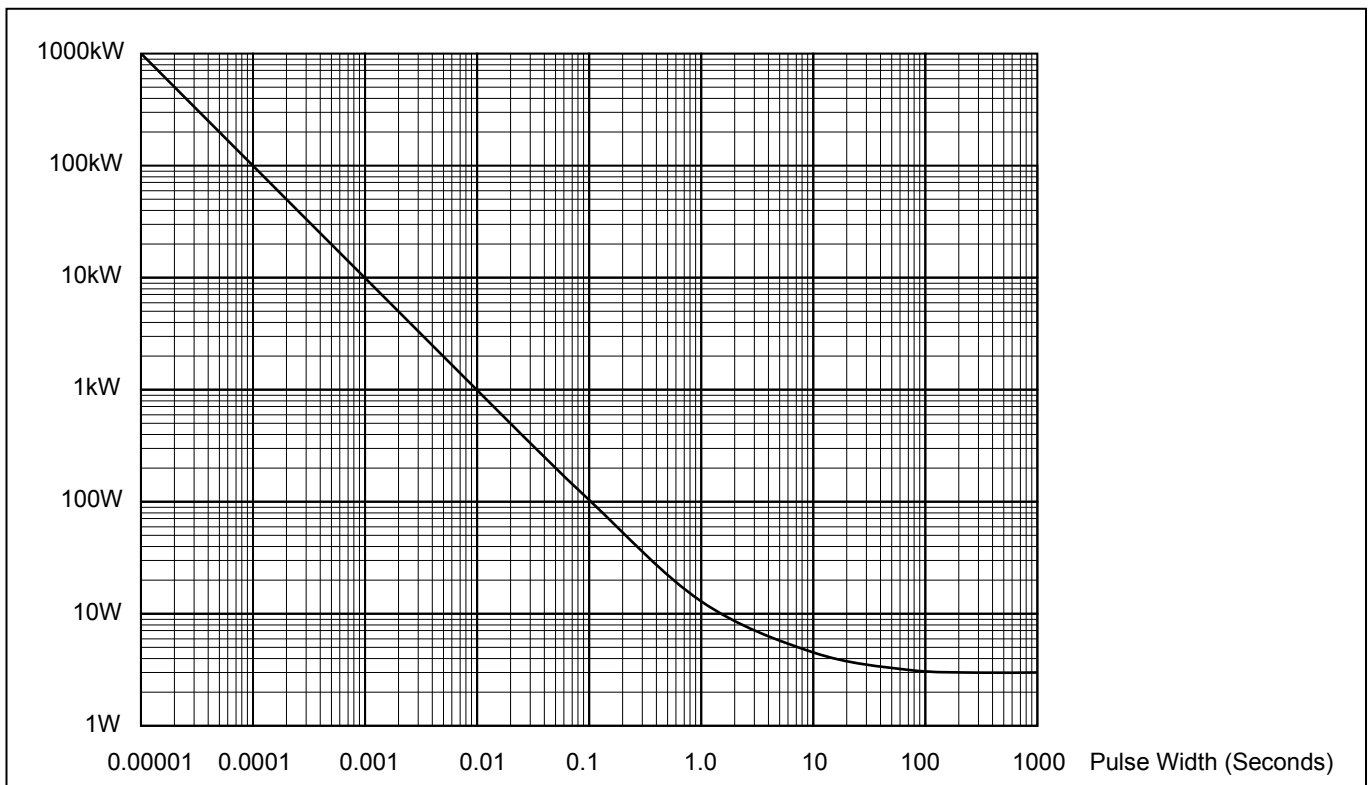
### 性能仕様 Specification and Performance

| Items                 | Specification           |
|-----------------------|-------------------------|
| Type                  | RCSL3 / RCSL4           |
| Resistance            | 0.1 to 0.5 milliohm     |
| TCR                   | +0 to +100ppm/°C (A)    |
| Tolerance             | +/-1% (F) and +/-5% (J) |
| Rating Power          | 3W                      |
| Maximum Power         | 100W / 0.1 seconds      |
| Rating Current        | See upper table         |
| Operating Temperature | -55°C - +175°C          |
| Storage Temperature   | -55°C - +175°C          |

### 負荷軽減 Power Derating



### パルス耐電力 Pulse Energy (RCSL3AR0001FZ00)



### 代表的な実装法 Applications

Note:

- (1) When RCSL current detector is attached to current bus, mechanical strain shall be rejected from the resistor as shown in above illustration.
- (2) Resistance shall be made by calculating from DC voltage on detecting terminal at application of current through current terminals..
- (3) Voltage output Copper pins shall be contacted to Copper terminals of resistor.

Recommended installation is shown in right hand drawing. Terminal shall be used R type (JST38-S5) with AWG#2. Bus bar shall be used Cu bar, 15.5mm width and 2mm thick. Cross area will be 31mm square. Screw is M5-M6.