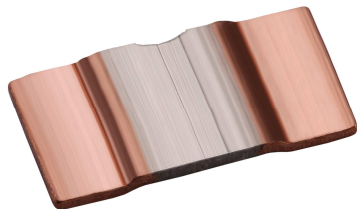


Chip Shunt Resistor



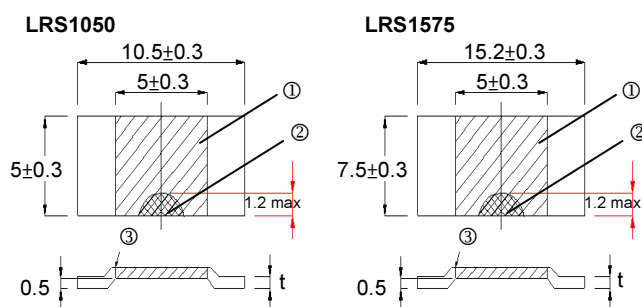
Features

- LRS1050 5W up to 100A at 0.5mΩ
- LRS1575 7W up to 180A at 0.2mΩ
- Maximum soldering temperatures of up to 350°C / 30 sec.
- Heavy copper connectors
- Excellent long-term stability and low inductance
- Mounting using re-flow soldering or welding on copper

Applications

- Current sensors for hybrid power sources
- Frequency converters
- High current automotive

Construction



| | | | | | |
|---|---------------------|---|---------------|---|-----------------------|
| ① | Resistance Material | ② | Trimming Area | ③ | Electron Beam Welding |
|---|---------------------|---|---------------|---|-----------------------|

Dimensions

Unit: mm

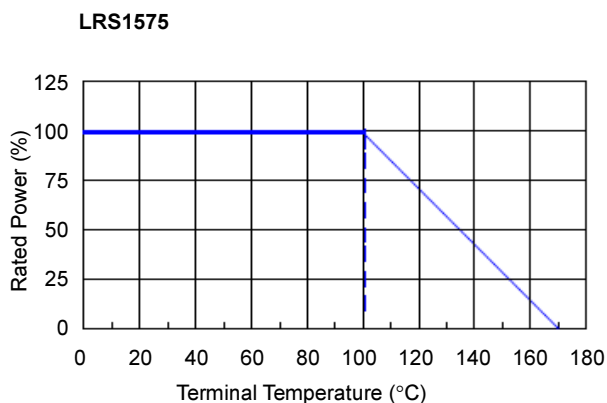
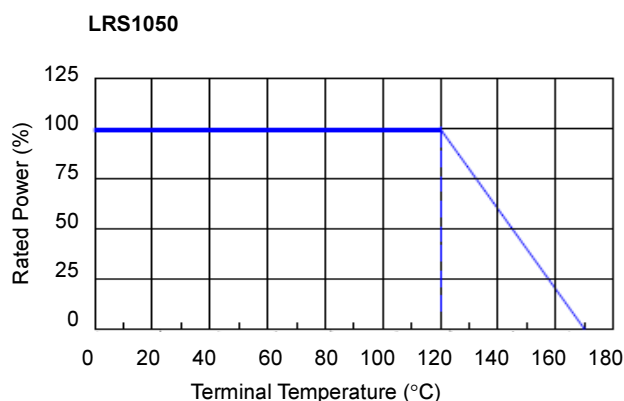
| Type | Size (Inch) | Value | Material | Thickness (t) | Weight (g) (1000pcs) |
|---------|-------------|-------|------------|---------------|----------------------|
| LRS1050 | 1050 | 0.5mΩ | Manganin | 0.88 mm±0.1 | 420 |
| LRS1050 | 1050 | 1mΩ | Manganin | 0.43 mm±0.1 | 220 |
| LRS1050 | 1050 | 2mΩ | NiCr alloy | 0.64 mm±0.1 | 310 |
| LRS1050 | 1050 | 3mΩ | NiCr alloy | 0.43 mm±0.1 | 210 |
| LRS1050 | 1050 | 4mΩ | NiCr alloy | 0.32 mm±0.1 | 160 |
| LRS1575 | 1575 | 0.2mΩ | Manganin | 1.50 mm±0.1 | 590 |
| LRS1575 | 1575 | 0.5mΩ | Manganin | 0.56 mm±0.1 | 590 |
| LRS1575 | 1575 | 1mΩ | NiCr alloy | 0.90 mm±0.1 | 940 |
| LRS1575 | 1575 | 2mΩ | NiCr alloy | 0.45 mm±0.1 | 470 |
| LRS1575 | 1575 | 3mΩ | NiCr alloy | 0.30 mm±0.1 | 320 |

Chip Shunt Resistor

Part Numbering

| LRS | 1050 | F | T | D | D | 0M50 | M |
|--------------|----------------------------------|----------------------------|---------------------------|--|---|---|------------------------------|
| Product Type | Dimensions | Resistance Tolerance | Packaging Code | TCR (PPM/°C) | Power Rating | Resistance | Marking Code |
| | 1050: 10.5x5.0 1575: 15.2x7.5 | F: ±1% G: ±2% J: ±5% | T: Taping Reel B: Bulk | D: ±50 1: ±60 W: ±75 E: ±100 2: ±120 | B: 2.5W R: 3W C: 3.5W H: 4W D: 5W I: 6W E: 7W | 0M50: 0.5mΩ R001: 1mΩ R002: 2mΩ R003: 3mΩ R004: 4mΩ | M: Manganin N: NiCr alloy |

Derating Curve



Standard Electrical Specifications

| Type | Power Rating | Operating Temp. Range | Resistance Range | | | TCR (PPM/°C) (+20°C ~ +60°C) |
|---------|--------------|-----------------------|------------------|-----|-----|---------------------------------|
| | | | ±1% | ±2% | ±5% | |
| LRS1050 | 5W | -55°C ~ +170°C | 0.5mΩ | | | ±75 |
| LRS1050 | 4W | | 1mΩ | | | ±60 |
| LRS1050 | 4W | | 2mΩ | | | ±100 |
| LRS1050 | 3W | | 3mΩ | | | ±100 |
| LRS1050 | 2.5W | | 4mΩ | | | ±100 |
| LRS1575 | 7W | | 0.2mΩ | | | ±50 |
| LRS1575 | 6W | | 0.5mΩ | | | ±100 |
| LRS1575 | 6W | | 1mΩ | | | ±120 |
| LRS1575 | 4W | | 2mΩ | | | ±120 |
| LRS1575 | 3.5W | | 3mΩ | | | ±120 |

Chip Shunt Resistor

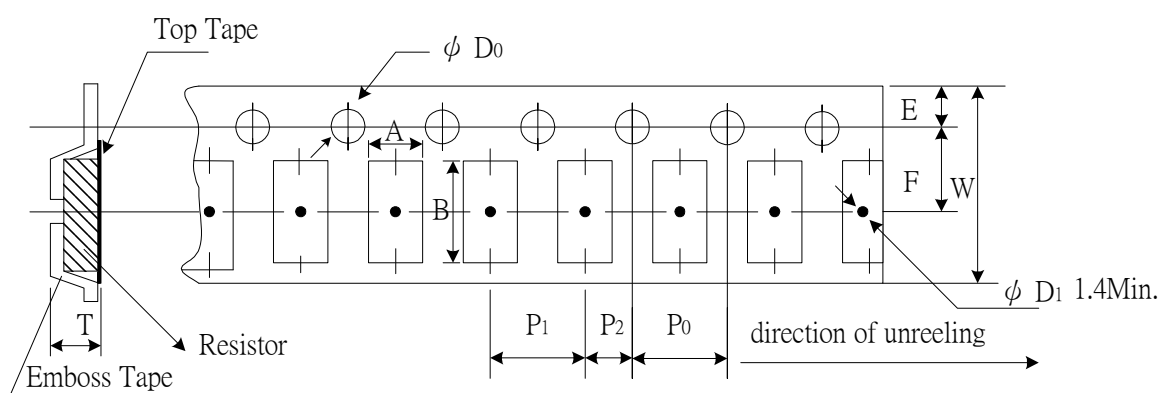
Environmental Characteristics

| Item | Requirement | Test Method |
|------------------------------|-------------|--|
| Short time overload | ±0.2% | Rated Power × 5 for 5 seconds |
| Load Life | ±1.0% | 90 min. "ON", 30 min. "OFF" for 2000 hours |
| Resistance to Soldering Heat | ±0.5% | 260°C for 10 min. |
| Thermal Shock | ±0.1% | -65°C, 25°C, 125°C, 25°C, 25 cycles |
| Moisture Resistance | ±0.2% | 90 ~ 98%RH, +25°C, +65°C, -10°C, 10 cycles |
| High Temperature Exposure | ±0.5% | 140°C for 250 hours |

■ **Storage Temperature: 15~28°C; Humidity < 80%RH**

Packaging

Emboss Plastic Tape Specifications



Unit: mm

| Type | A | B | W | E | F | P ₀ | P ₁ | P ₂ | ØD ₀ | T | Quantity (EA) |
|---------|-----|------|----|------|------|----------------|----------------|----------------|-----------------|-----|---------------|
| LRS1050 | 5.7 | 11.2 | 16 | 1.75 | 7.5 | 4 | 12 | 6 | 1.50 | 1.2 | 3000 |
| LRS1575 | 8.2 | 16.1 | 24 | 1.75 | 11.5 | 4 | 12 | 6 | 1.50 | 1.9 | 2000 |