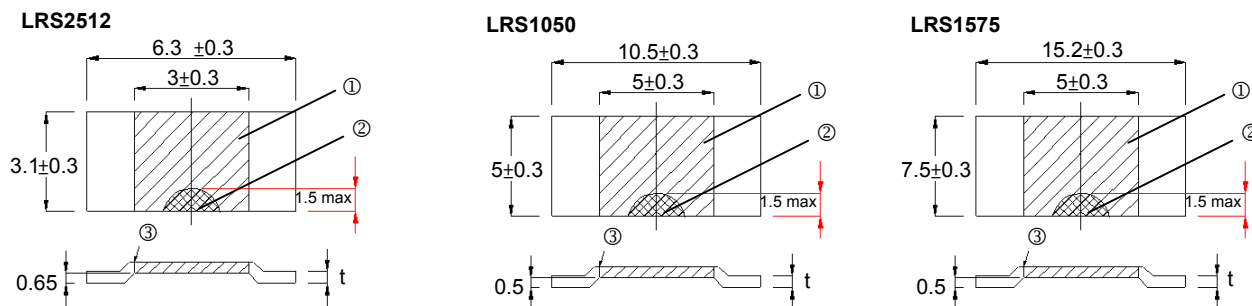


Construction



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

Features

- LRS2512 3W up to 65A at 0.5mΩ
- LRS1050 3W up to 77A at 0.5mΩ
- LRS1575 5W up to 100A at 0.5mΩ
- Maximum soldering temperatures of up to 350°C / 30 sec. or 250°C / 10 min
- 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

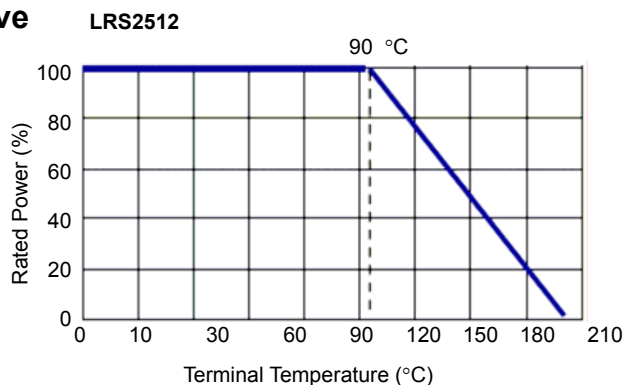
Dimensions

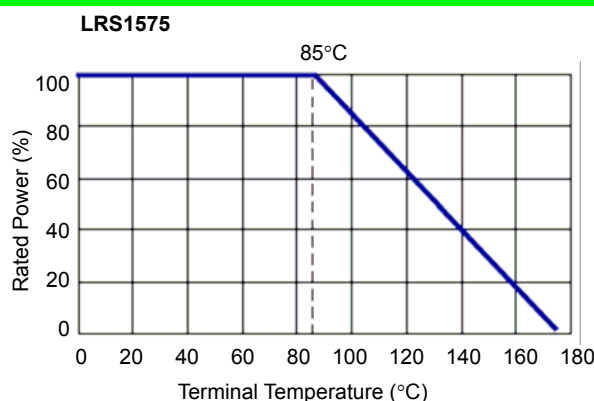
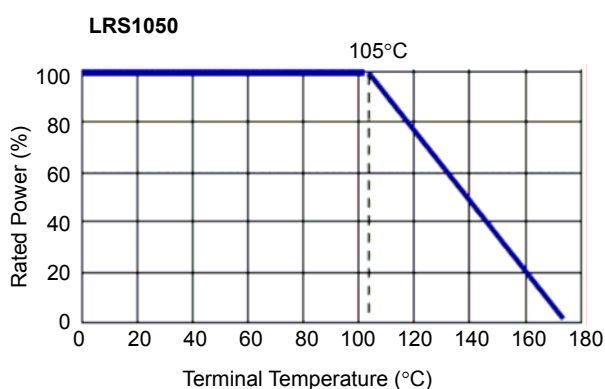
Type	Size (Inch)	Value	Material	Thickness (t)
LRS2512	2512	0.5mΩ	Manganin	0.88 mm±0.05
LRS2512	2512	1mΩ	Manganin	0.45 mm±0.05
LRS2512	2512	2mΩ	NiCr alloy	0.65 mm±0.05
LRS1050	1050	0.3mΩ	Manganin	1.4 mm±0.05
LRS1050	1050	0.5mΩ	Manganin	0.88 mm±0.05
LRS1050	1050	1mΩ	Manganin	1.22 mm±0.05
LRS1050	1050	2mΩ	NiCr alloy	0.64 mm±0.05
LRS1050	1050	3mΩ	NiCr alloy	0.43 mm±0.05
LRS1050	1050	4mΩ	NiCr alloy	0.32 mm±0.05
LRS1575	1575	0.2mΩ	Manganin	1.6 mm±0.1
LRS1575	1575	0.5mΩ	Manganin	0.56 mm±0.05
LRS1575	1575	1mΩ	NiCr alloy	0.94 mm±0.05
LRS1575	1575	2mΩ	NiCr alloy	0.45 mm±0.05
LRS1575	1575	3mΩ	NiCr alloy	0.30 mm±0.05

Part Numbering

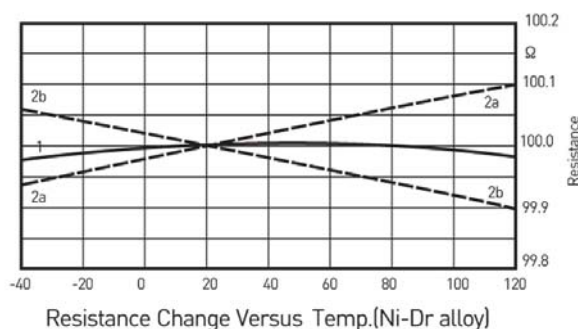
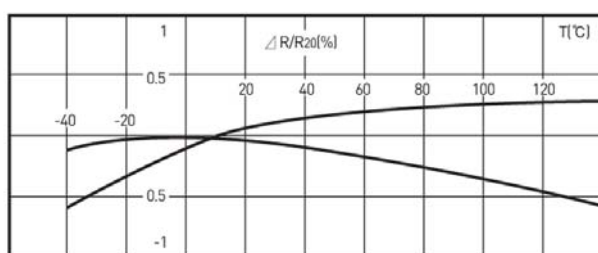
LRS	1050	F	T	D	R	0M50	N
Product Type	Dimensions	Resistance Tolerance	Packaging Code	TCR (PPM/°C)	Power Rating	Resistance	Marking Code
	2512: 6.3x3.1 1050: 10.5x5.0 1575: 15.2x7.5	F: ±1% G: ±2% J: ±5%	T: Taping Reel B: Bulk	D: ±15 E: ±20	R: 3W D: 5W K: 7W	0M50: 0.5mΩ	M: Manganin N: NiCr alloy

Derating Curve





Resistance Change VS Temperature



Standard Electrical Specifications

Type	Power Rating	Operating Temp. Range	Resistance Range			TCR (PPM/°C)	Internal Heat Resistance
			±1%	±2%	±5%		
LRS2512	3W	-55°C ~ 170°C	0.5mΩ, 1mΩ, 2mΩ			±20 (20°C to 60°C)	Rthi < 10k/W
LRS1050	5W		0.3mΩ, 0.5mΩ, 1mΩ, 2mΩ, 3mΩ, 4mΩ			±20 (20°C to 60°C)	
LRS1575	7W		0.2mΩ, 0.3mΩ, 0.5mΩ, 1mΩ, 2mΩ, 3mΩ			±20 (20°C to 60°C)	

Operating Voltage= $\sqrt{P \cdot R}$ or Max. operating voltage listed above, whichever is lower.

Overload Voltage= $2.5 \cdot \sqrt{P \cdot R}$ or Max. overload voltage listed above, whichever is lower.

Environmental Characteristics

Item	Requirement	Test Method
Short time overload	±0.2%	Rated Power × 5 for 5 seconds
Load Life [Terminal temp. max. 105°C]	±1.0%	Power rating 90 min. "ON", 30 min. "OFF" for 2000 hours
Resistance to Soldering Heat	±0.2%	350°C for 30 seconds or 250°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	±0.2%	140°C for 250 hours
Vibration, High Frequency	±0.2%	15g 10~2000Hz, 36 cycles
Inductance	<3nH	—
Thermal EMF [μV/°C]	2μV/°C max.	0~100°C
Current Noise	±0.01%	MIL-STD-202 Method 308
Voltage Coefficient	Linearity error less than 120 dB	MIL-STD-202 Method 309
Shock	±0.2%	50g's 11ms

Storage Temperature: 25±3°C; Humidity < 80%RH