

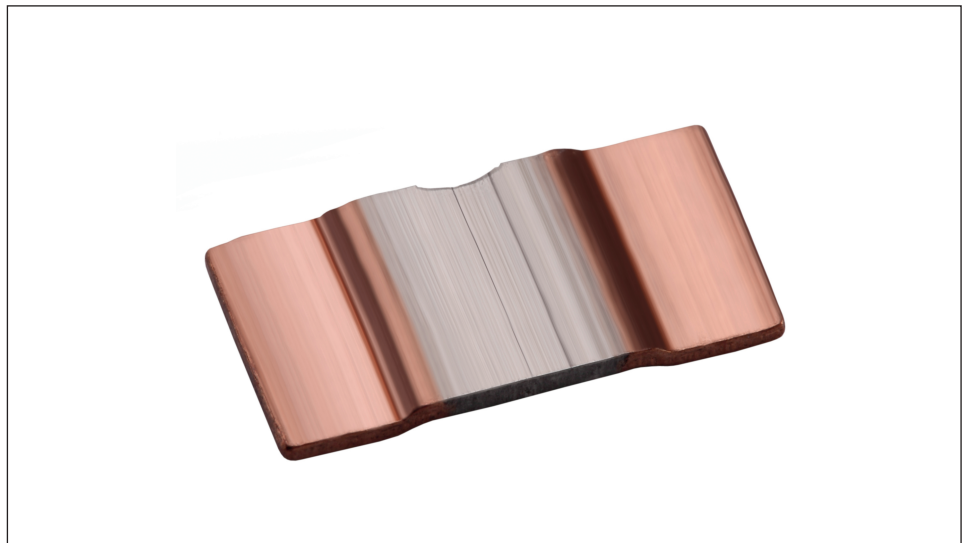
## Type TLRS Series

### Key Features

- Two Sizes
- Power ratings up to 7W
- Maximum Soldering temperatures of up to 350°C / 30 Seconds or 250°C / 10 Minutes
- Heavy Copper connectors

### Applications

- Current sensors for Hybrid power sources
- Frequency convertors
- High Current Automotive



TE Connectivity is pleased to offer this Low Ohmic Surface Mount Shunt Resistor. Featuring Heavy Copper connectors, electron beam welded to a Manganin or NiCr alloy element, this resistor offers excellent long term stability and low inductance, and can be mounted using re-flow soldering techniques or welding on copper.

### Characteristics – Electrical

Type	Power Rating (W)	Operating Temp. Range	Resistance Range			TCR (PPM/°C)
			±1%	±2%	±5%	
TLRS1050	5	-55°C – 170°C	0.5mΩ			±75
TLRS1050	4	-55°C – 170°C	1 mΩ			±60
TLRS1050	4	-55°C – 170°C	2 mΩ			±100
TLRS1050	3	-55°C – 170°C	3 mΩ			±100
TLRS1050	2.5	-55°C – 170°C	4 mΩ			±100
TLRS1575	7	-55°C – 170°C	0.2 mΩ			±50
TLRS1575	6	-55°C – 170°C	0.5 mΩ			±100
TLRS1575	6	-55°C – 170°C	1 mΩ			±120
TLRS1575	4	-55°C – 170°C	2 mΩ			±120
TLRS1575	3.5	-55°C – 170°C	3 mΩ			±120

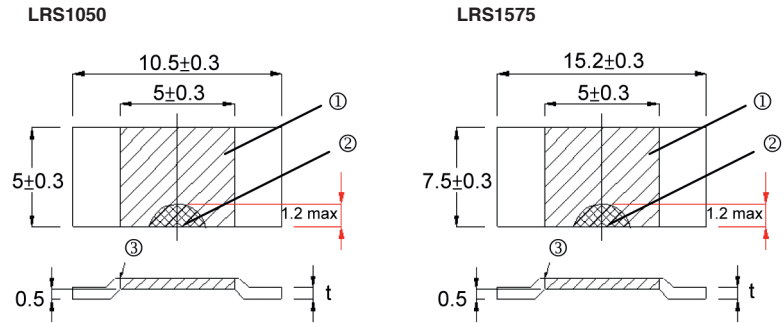
### Characteristics – Environmental

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:	±0.2%	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	--

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

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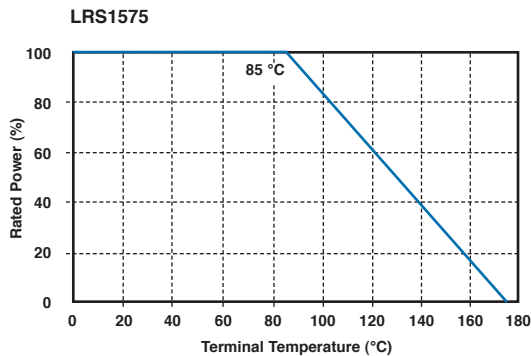
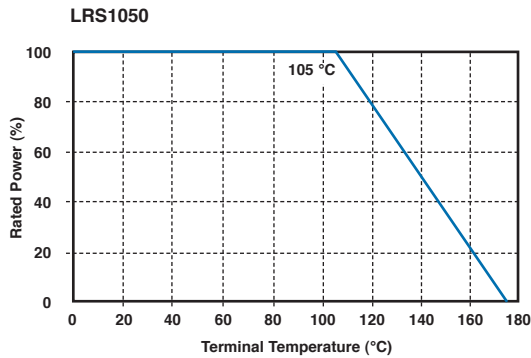
### Construction



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

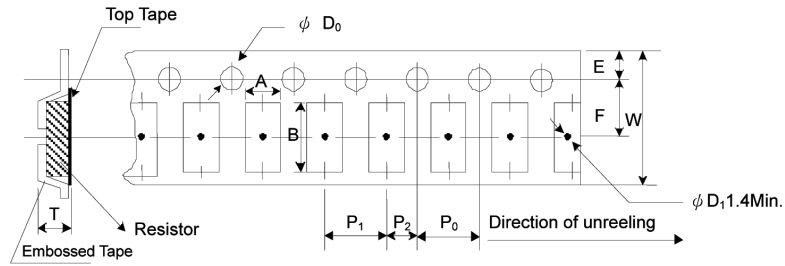
Type	Size (imp.)	Value	Material	Thickness (t) mm	Weight (g) (Each)
TLRS1050	1050	0.5 mΩ	Manganin	0.88±0.05	0.42
TLRS1050	1050	1 mΩ	Manganin	0.43±0.05	0.22
TLRS1050	1050	2 mΩ	NiCr alloy	0.64±0.05	0.31
TLRS1050	1050	3 mΩ	NiCr alloy	0.43±0.05	0.21
TLRS1050	1050	4 mΩ	NiCr alloy	0.32±0.05	0.16
TLRS1575	1575	0.2 mΩ	Manganin	1.50±0.05	0.59
TLRS1575	1575	0.5 mΩ	Manganin	0.56±0.05	0.59
TLRS1575	1575	1 mΩ	NiCr alloy	0.90±0.05	0.94
TLRS1575	1575	2 mΩ	NiCr alloy	0.45±0.05	0.47
TLRS1575	1575	3 mΩ	NiCr alloy	0.30±0.05	0.32

### Derating Curve



## Type TLRS Series

### Embossed Plastic Tape Specifications



Type	A	B	W	E	F	P <sub>0</sub>	P <sub>1</sub>	P <sub>2</sub>	øD <sub>0</sub>	T	Quantity (EA)
TLRS1050	5.5	10.8	16	1.75	7.5	4	12	6	1.50	1.2	3,000
TLRS1575	8.4	15.7	24	1.75	11.5	4	12	6	1.50	1.2	2,000

### How to Order

TLRS1050	40	P	R001	F	TDG
Common Part	Power Rating	TCR	Resistance Code	Tolerance Code	Packaging
TLRS1050 TLRS1575	25 = 2.5 W 30 = 3.0 W 35 = 3.5 W 40 = 4.0 W 50 = 5.0 W 60 = 5.0 W 70 = 7.0 W	D = ±50 PPM P = ±60 PPM W = ±75 PPM E = ±100 PPM Q = ±120 PPM	0.2 Ohm = R0002  1mΩ = R001	F = ±1% G = ±2% J = ±5%	TDG – Standard  Quantity as per above chart

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