

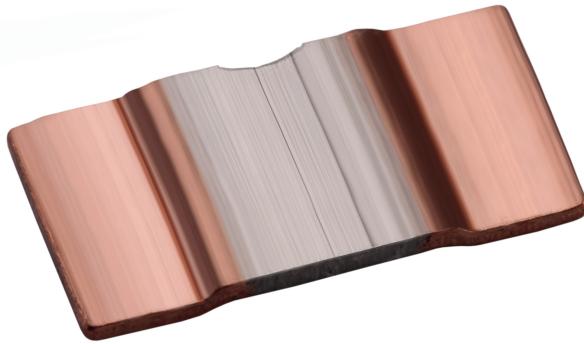
Type TLRS Series

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 converters
- 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 ±1% ±2% ±5%	TCR (PPM/°C)
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

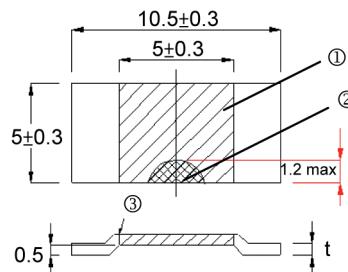
Item	Requirement	Test Method
Short Time Overload:	±0.2%	Rated Power × 5 for 5 seconds
Load Life:	±1.0%	90 min. "ON", 30 min. "OFF" for 2000 hours
Resistance to Soldering Heat:	±0.2%	350°C for 30 seconds or 250°C for 10 min.
Thermal Shock	±0.1%	-65°C, 25°C, 125°C, 25°C, 25 cycles
Moisture Resistance	±0.2%	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

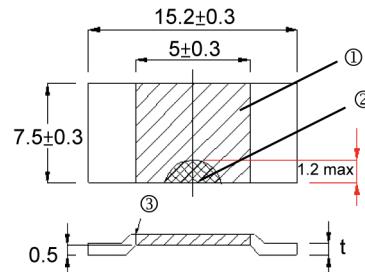
Type TLRS Series

Construction

LRS1050



LRS1575



① Resistance Material

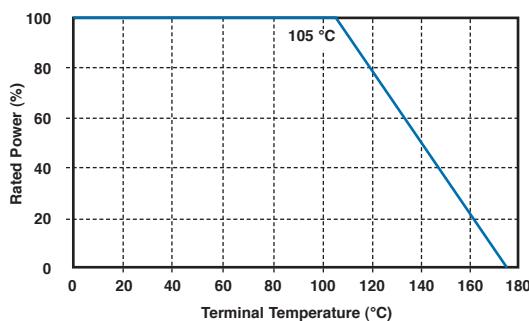
② Trimming Area

③ Electron Beam Welding

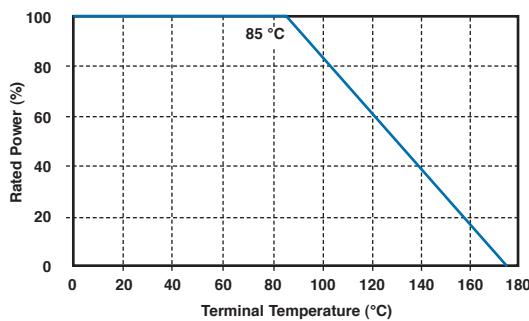
Type	Size (imp.)	Value	Material	Thickness (t) mm	Weight (g) (Each)
TLRS1050	1050	0.5 mΩ	Manganin	0.88±0.05	0.42
TLRS1050	1050	1 mΩ	Manganin	0.43±0.05	0.22
TLRS1050	1050	2 mΩ	NiCr alloy	0.64±0.05	0.31
TLRS1050	1050	3 mΩ	NiCr alloy	0.43±0.05	0.21
TLRS1050	1050	4 mΩ	NiCr alloy	0.32±0.05	0.16
TLRS1575	1575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

LRS1050

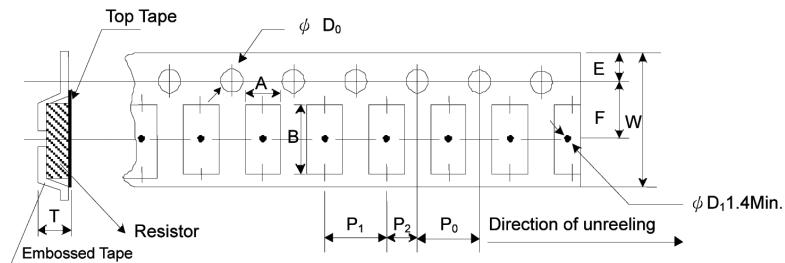


LRS1575



Type TLRS Series

Embossed Plastic Tape Specifications



Type	A	B	W	E	F	P₀	P₁	P₂	φD₀	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

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