

Key Features

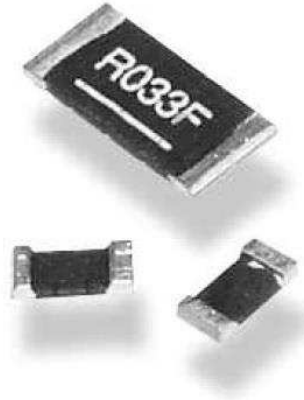
**Up to 3 Watt
at 70°C**

**Supplied on
Tape**

**Ideal for
Current
Detection**

**12:06 and
25:12
Packages
Available**

Type TLRP Series



TE Connectivity (TE) is pleased to offer this unique High Power, metal strip resistor for current sensing positions. It has a special metal resistive element and suitable barrier layers beneath the solder to prolong terminal life. This model is particularly useful for power management applications along with DC-DC converting and charging applications and adaptors within SWPS applications

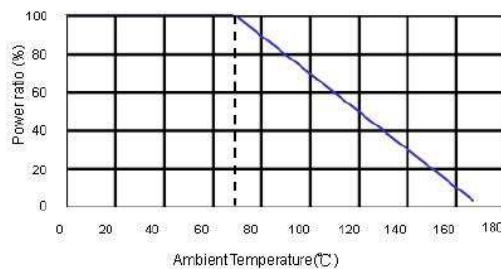
Characteristics – Electrical

Size	Power Rating @ 70°C	Resistance Range (mΩ)			TCR (PPM/°C)
		±0.5%	±1%	±5%	
1206	1W	8, 10, 12, 15, 20			±100
2512	2W & 3W	15, 18, 20, 22, 25, 30, 33, 35, 39, 40, 47, 50, 60, 68, 70, 75, 80, 82, 90, 91, 100, 120, 150, 180, 200			±50
		3, 4, 5, 6, 7, 8, 9, 10, 12, 15, 18, 20, 22, 25, 30, 33, 35, 39, 40, 47, 50, 60, 68, 70, 75, 80, 82, 90, 91, 100, 120, 150, 180, 200			±75

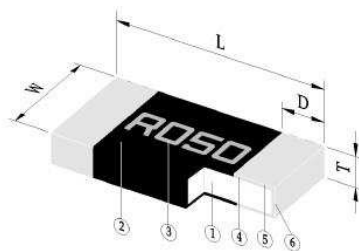
Operating Temperature Range: -55 ~ 170°C

Operating Current = $\sqrt{P/R}$, Operating Voltage = $\sqrt{P \cdot R}$

Derating



Construction and Dimensions



① Alloy Plate	④ Internal Electrode
② Overcoat	⑤ Barrier Layer
③ Marking	⑥ Solder Plating

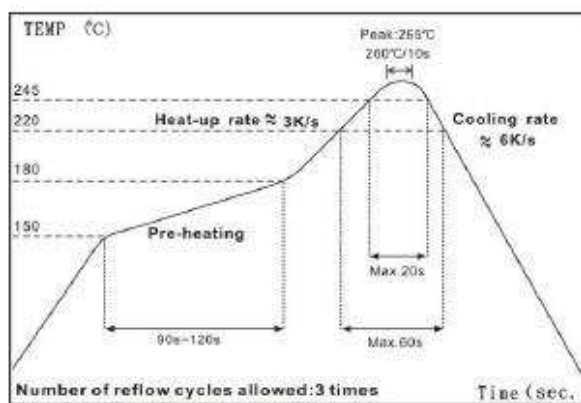
Type	Size	L mm	W mm	T mm	D mm
TLRP2B	1206	3.10±0.10	1.60±0.10	0.60±0.10	0.45±0.15
TLRP3A	2512	6.40±0.25	3.20±0.25	0.70±0.20	0.90±0.30

Marking

Resistance (4 Digit)

Resistance	3mΩ	10mΩ	22mΩ	100mΩ
Codes	R003	R010	R022	R100

Solder Profile



IR Reflow Soldering

(1) Time of IR reflow soldering at maximum temperature point 260°C : 10s

Notice : Wave soldering and hand soldering are not available.

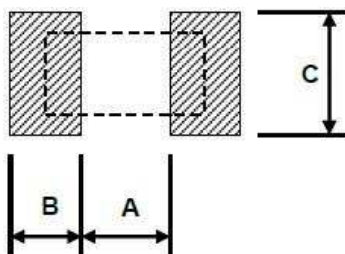
Environmental Characteristics

Item	Requirement	Test Method
Temperature Coefficient of Resistance (T.C.R.)	As Spec.	IEC60115-1 4.8 JIS-C-5201-1 4.8 +25°C ~125°C, 25°C is the reference temperature
Short Time Overload	±1.0%	IEC60115-1 4.13 JIS-C-5201-1 4.13 5*rated power for 5 seconds
Insulation Resistance	≥10G	IEC60115-1 4.6 JIS-C-5201-1 4.13 100V DC for 1 minute
Endurance	±1.0%	IEC60115-1 4.25 JIS-C-5201-1 4.25.1 70±2°C, rated power for 1000 hrs with 1.5 hrs "ON" and 0.5 hr "OFF"
Biased Humidity	±1.0%	MIL-STD-202 Method 103 1000 hrs 85°C/85%RH 10% of operating power
Dry Heat	±1.0%	IEC60115-1 4.23.2 JIS-C-5201-1 4.23.2 at +170°C for 1000 hrs
Bending Strength	±1.0%	JIS-C-5201-1 4.33 IEC-60115-1 4.33 Bending width 2mm once for 5 seconds
Solderability	95% min. coverage	JIS-C-5201-1 4.17 IEC-60115-1 4.17 245±5°C for 3seconds
Resistance to Soldering Heat	±0.5%	JIS-C-5201-1 4.18 IEC-60115-1 4.18 260±5°C for 10 seconds
Rapid Change of Temperature	±1.0%	JIS-C-5201-1 4.19 IEC-60115-1 4.19 -55°C to +155°C, 5 cycles
Low Temperature Storage	±1.0%	IEC60115-1 4.23.4 JIS-C-5201-1 4.23.4 at -55°C for 2hrs

RCWV (Rated Continuous Working Voltage)= $\sqrt{P \cdot R}$ or Max. Operating Voltage whichever is lower.

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

Recommended Land Pattern

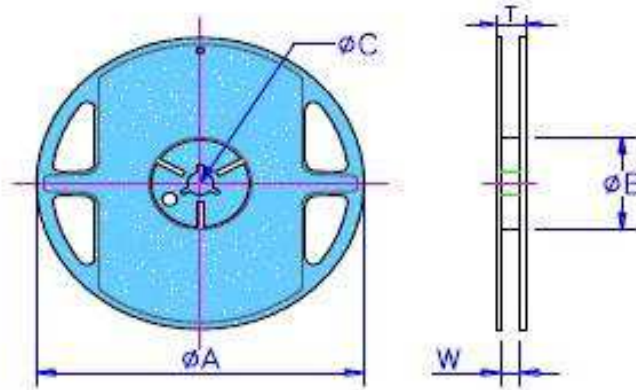


Size	A (mm)	B (mm)	C (mm)
1206	1.50	1.40	1.70
2512	4.00	2.00	3.50

*FR4 copper board, 100µm of copperpad thickness

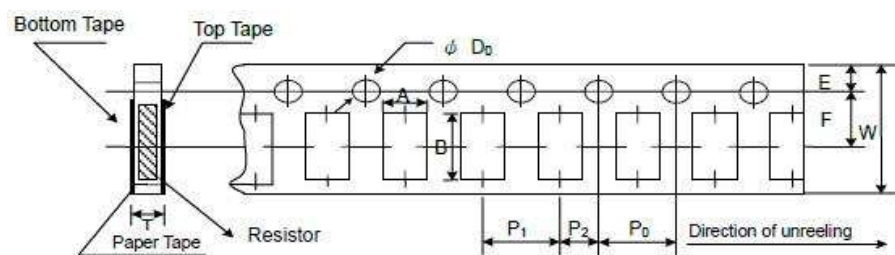
Packaging

Reel Specifications & Packaging Quantity



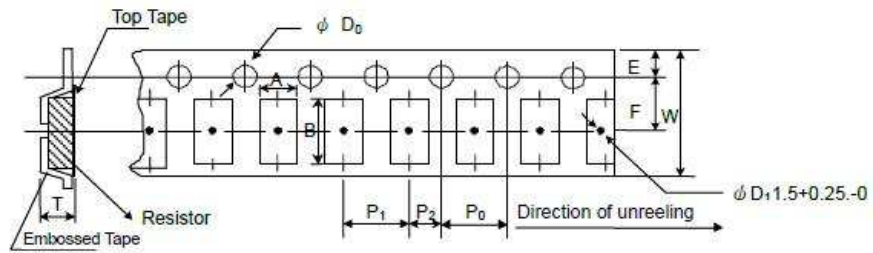
Size	Resistance (mΩ)	Tape / Qty	Tape width	Reel Dia.	ØA (mm) ±1.5	ØB (mm)	ØC (mm)	W (mm)	T (mm)
1206	8~20	Paper / 5K	8mm	7 inch	178.5	60 ⁺¹⁻⁰	13.0 ±0.2	9.0±0.5	12.5 ±0.5
2512	4~200	Embossed / 4K	12mm			60±1.0	13.0 ±0.5	13.0±1.0	15.5 ±0.5
2512	3	Embossed / 2K	12mm						

Paper Tape Specification



A (mm)	B (mm)	W (mm)	E (mm)	F (mm)	P ₀ (mm)	P ₁ (mm)	P ₂ (mm)	ØD ₀ (mm)	T (mm)
1.90±0.10	3.50±0.20	8.0±0.20	1.75±0.10	3.50±0.05	4.00±0.10	4.00±0.05	2.00±0.05	1.50+0.1,-0	0.85±0.10

Embossed Plastic Tape Specification



	A (mm)	B (mm)	W (mm)	E (mm)	F (mm)	P ₀ (mm)	P ₁ (mm)	P ₂ (mm)	∅D ₀ (mm)	T (mm)
2512	3.50±	6.70±	12.0±	1.75±	5.5±	4.00±	4.00±	2.00±	1.50	1.20+0
2512 3mΩ	0.10	0.10	0.30	0.10	0.05	0.10	0.10	0.05	+0.1 -0	1.45± 0.2

How To Order

TLRP	2B	10	E	R008	F	TD
Common Part	Size	*Power Rating	**TCR (PPM/°C)	Resistance Code	Tolerance	Packaging
TLRP – Ultra Low Ohm Metal Strip Resistor	2B – 1206 3A – 2512	1.0 = 10 2.0 = 20 3.0 = 30	D = ±50 W = ±75 E = ±100	R003 - 3mΩ R020 - 20mΩ R10 – 0.1Ω (100mΩ)	D = ±0.5% F = ±1% J = ±5%	TDG = 2000/Reel (2512 3mΩ) TE = 4000/Reel (2512) TD = 5000/Reel (1206)