TLR2A

## metal plate chip type low resistance resistor

current sense

features

- SMD type of small size, metal plate low resistance resistor for current detection
- Low height suitable for use of small equipment such as mobile phone
- High reliability and performance with T.C.R ±100×10^{-6}/K
- Suitable for reflow soldering (Not suitable for flow soldering)
- Products meet EU RoHS requirements
- AEC-Q200 Tested 0805 (2A)

dimensions and construction

Protective Bottom Coating
L
W
t
d
Electrode
Ni
Sn
Resistive Element
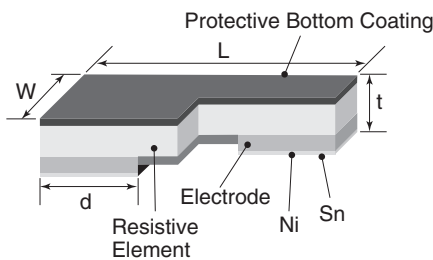
Size Code	Resistance	Dimensions inches *(mm)*			
		L	W	d	t
TLR2A (0805)	2mΩ	.079±.008 *(2.00±0.20)*	.049±.008 *(1.25±0.20)*	.024±.008 *(0.60±0.20)*	.012±.006 *(0.30±0.15)*
	3mΩ			.024±.008 *(0.60±0.20)*	.010±.006 *(0.25±0.15)*
	4mΩ			.018±.008 *(0.45±0.20)*	
	5mΩ			.026±.008 *(0.65±0.20)*	
	6mΩ			.022±.008 *(0.55±0.20)*	.012±.006 *(0.30±0.15)*
	7mΩ			.020±.008 *(0.50±0.20)*	
	8mΩ			.020±.008 *(0.50±0.20)*	
	9mΩ			.018±.008 *(0.45±0.20)*	.016±.006 *(0.26±0.15)*
	10mΩ			.014±.008 *(0.35±0.20)*	

Derating Curve

% Rated Power
Terminal Part Temperature (°C)
2A
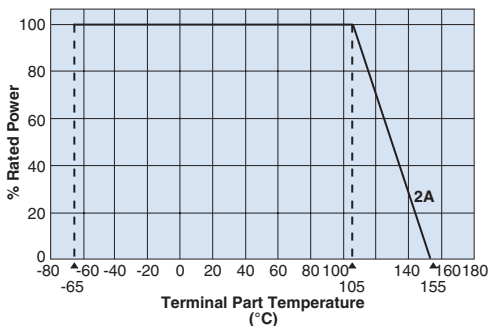
For resistors operated at an ambient temperature of 105°C or above, a power rating shall be derated in accordance with the above derating curve.

Temperature Rise

TLR2A

Temperature Rise (°C)
% Rated Power
① 5mΩ
① 10mΩ
② 5mΩ
② 10mΩ
① Hot Spot
② Solder Joint
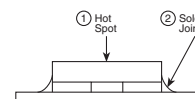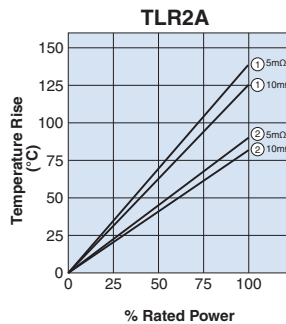
For resistors operated at a terminal part temperature of described for each size or above, a power rating shall be derated in accordance with the derating curve.

Please refer to "Introduction of the derating curve based on the terminal part temperature" in the beginning of our catalog before use.

ordering information

TLR	2A	T	TD	10L0	J
Type	**Power Rating**	**Termination Material**	**Packaging**	**Nominal Resistance**	**Resistance Tolerance**
TLR	2A: 1W	T: Sn	TD: 7" 4mm pitch punch paper	±1%: 4 digits All values less than 0.1Ω (100m) are expressed in mΩ with "L" as decimal Ex: 1mΩ = 1L00	F: ±1%

For further information on packaging, please refer to Appendix A.

12/02/19

KOA Speer Electronics, Inc. • 199 Bolivar Drive • Bradford, PA 16701 • USA • 814-362-5536 • Fax: 814-362-8883 • www.koaspeer.com
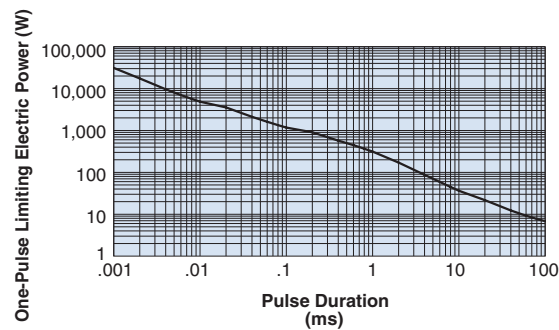
97

current sense

applications and ratings

Part Designation	Power Rating	Current Rating	T.C.R. (ppm/°C) Max.	Standard Resistance (Ω)	Resistance Tolerance	Rated Terminal Part Temperature	Connection Temperature	Operating Temperature Range
TLR2A	1W	—	±100	2m, 3m, 4m, 5m, 6m, 7m, 8m, 9m, 10m	F: ±1%	105°C	—	-65°C to +155°C

environmental applications

One-Pulse Limiting Electric Power

The maximum applicable voltage is equal to the max. overload voltage.

Please ask us about the resistance characteristic of continuous applied pulse.

The pulse endurance values are not assured values, so be sure to check the products on actual equipment when you use them.

Thermal Resistance

Type	Resistance (Ω)	Rth (°C/W)
TLR2A	2m	26.1
	10m	54.7

Rth=(Hs-ts)/Power

Regarding the temperature rise, the value of the temperature varies per conditions and board for use since the temperature is measured under our measuring conditions. Please refer to us before use.
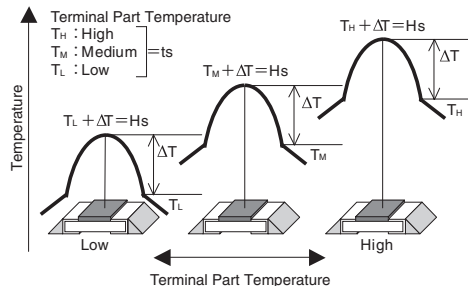
The temperature of the resistor will increase the same ⊿T from the standard terminal part temperature regardlless of the ambient temperature when the same power is applied. This is because there is hardly any heat dissipation from the resistor surface to the ambient air.

Performance Characteristics

Parameter	Requirement Δ R %		Test Method
	Limit	Typical	
Resistance	Within regulated tolerance	—	25°C
T.C.R.	Within specified T.C.R.	—	+25°C/+125°C
Overload (Short time)	±1	±0.05	Rated power x 2.5 for 5 seconds
Resistance to Solder Heat	±1	±0.01	260°C ± 5°C, 10 ~ 12 seconds
Rapid Change of Temperature	±1	±0.2	-55°C (15 minutes), +150°C (15 minutes), 1000 cycles
Moisture Resistance	±1	±0.3	85°C, 85%RH, 1000 hours, 10% Bias
Endurance at 105°C and Less of Terminal Part Temperature	±1	±0.4	Terminal part temperature: 105°C, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle
Low Temperature Exposure	±1	±0.05	-65°C, 96 hours
High Temperature Exposure	±1 (2~4m, 7~10m) ±2 (5m, 6m)	±0.5 (2~4m, 7~10m) ±0.8 (5m, 6m)	155°C, 1000 hours

Note: Please contact factory for the TLRZ Performance Characteristics

10/22/20