



**High Power Current Sensing Resistors RLP Series
(Halogen-Free)
AEC-Q 200-Ver D qualified**

Document No	TRLP-250S008F
Issued date	2016/10/11
page	1/6

1. Scope :

This specification applied to the products of current sensing resistor of metal foil for Lead-Free RLP series manufactured by TA-I TECHNOLOGY CO.,LTD.

2. Type Designation :

<u>RLP</u> Item	<u>25</u> Series No.	<u>E</u> Resistance tolerance	<u>E</u> Packaging	<u>C</u> Power rating	<u>R010</u> Resistance
	25:2512 (6432)	F:±1% G:±2% J:±5%	E: Embossed Tape	C=1W D=1.5W E=2W G=3W	e.g : R010=10mΩ R100=100mΩ R500=500mΩ

3. Construction and Dimension :

3.1 Construction:



3.2 Dimension:



Unit : mm

Style	L	W	C	T	Material
RLP25	6.4±0.2	3.2±0.2	2.0±0.2(≤4mΩ)	0.7 ±0.20	Strip : Alloy Over Coating : Polymer Compound UL-94V-0 grade
			0.9±0.2(R>4mΩ)		



**High Power Current Sensing Resistors RLP Series
(Halogen-Free)
AEC-Q 200-Ver D qualified**

Document No	TRLP-250S008F
Issued date	2016/10/11
page	2/6

4. Features:

Type	RLP25
Power Rating	1 mΩ < R ≤ 100mΩ (1W、1.5 W、2 W、3W) 100 mΩ < R ≤ 500mΩ (1W、1.5 W、2 W)
Resistance Value	1mΩ < R ≤ 500mΩ
Operation Temperature Range	-55°C ~ +170°C
Temperature Coefficient of Resistance	±50ppm/°C
Tolerance	±1%, ±2%, ±5%
Insulation Resistance	100 Meg Ohms Minimum
Maximum Working Current (A)	(P/R) ^{1/2}

Note: 2&3watts total Solder pad and trace size of 300mm

5. Reliability Tests :

Test Items	Reference	Condition of Test	Test Limits
Temperature Coefficient of Resistance	IEC60115-1 4.8	+25 ~ 125°C	Refer 4.0
High Temperature Exposure(Storage)	MIL-STD-202 Method 108	T=125°C, 1000hrs, Measurement at 24hrs after test conclusion.	< ±1%
Low temperature operation	IEC60115-1 4.23.4	-55 °C for 45 min	< ±0.5%
Temperature Cycling	JESD22 Method JA-104	1000Cycle (-55°C to 125 °C), Measurement at 24hrs after test conclusion.	< ±0.5%
Short time overload	IEC60115-1 4.13	5 X rated power for 5s	< ±0.5%
Biased Humidity	MIL-STD-202 Method 103	10% Rated voltage at 85 °C, RH:85% , 1000Hrs, Measurement at 24hrs after test conclusion.	< ±0.5%
Operation life	MIL-STD-202 Method 108	1000 h at +70 °C, 1.5 h "ON", 0.5 h "OFF"	< ±1%
Resistance to Soldering Heat	IEC60115-1 4.18	T=260+/-5°C solder, 10+/-1 sec dwell	< ±0.5%
Mechanical Shock	MIL-STD-202 Method 213	100g's , Normal duration is 6ms , half sine shock pulse	< ±0.5%
Resistance to vibration	MIL-STD-202 Method 204	5g's for 20min. 12cycles, 10-2000Hz	< ±0.5%
Board Flex	AEC-Q200-005	Min 2mm deflection , 60sec.	< ±0.5%
Flammability	UL-94	V-0 or V-1 are acceptable, Electrical test not required	



5.1 Derating Curve



5.2 Rated Current

The rated current is calculated by the following Formula:

$$I = \sqrt{P/R}$$

I : Rated Current (A)
 P: Rated Power (W)
 R: Resistance Value (Ω)

6. Recommended Solder Pad Dimension



Resistance Range (Ω)	a	b	L
R > 0.004	4.0	2.1	4.1
R ≤ 0.004	4.0	3.1	1.3

Unit: mm



High Power Current Sensing Resistors RLP Series
(Halogen-Free)
AEC-Q 200-Ver D qualified

Document No	TRLP-250S008F
Issued date	2016/10/11
page	4/6

7. Number of Package:

4000 Pieces / package

8. Label:



9. Taping



Packing	Type	A	B	W	F	E	P ₁	P ₂	P ₀	D ₀	t
Emboss	RLP25	3.6±0.2	6.9±0.2	12.±0.2	5.5±0.05	1.75±0.1	4.0±0.1	2.0±0.05	4.0±0.05	φ 1.5 (+0.1/-0)	1.2±0.15



High Power Current Sensing Resistors RLP Series
(Halogen-Free)
AEC-Q 200-Ver D qualified

Document No	TRLP-250S008F
Issued date	2016/10/11
page	5/6

10. Reel Specification



Series	ϕA	ϕB	ϕC	W	T
RLP 25	180 ⁺⁰ ₋₃	60 ±1.0	13.0±1.0	13.0±1.0	15.4±2.0

11. Peeling Strength of Top Cover Tape

Test Condition: 0.1 to 0.7 N at a peel-off speed of 300 mm / min.



12. Storage Conditions:

Temperature: 5°C~35°C, Humidity: 40%~75%

13. Shelf Life:

2 years from manufacturing date.



**High Power Current Sensing Resistors RLP Series
(Halogen-Free)
AEC-Q 200-Ver D qualified**

Document No	TRLP-250S008F
Issued date	2016/10/11
page	6/6

14. Recommend IR – Reflow profile: (solder: Sn96.5 / Ag3 / Cu0.5)



Peak : $260 \begin{matrix} +5 \\ -0 \end{matrix} \text{ }^\circ\text{C}$, 5 sec

Pre – heat zone : 150 to 180 $^\circ\text{C}$, $90 \pm 30 \text{ sec}$

Soldering zone : $230 \text{ }^\circ\text{C}$ or higher , $30 \pm 10 \text{ sec}$

Iron Solder: $350 \pm 10 \text{ }^\circ\text{C}$, $3 + 1 / - 0 \text{ sec}$

15. ECN

Engineering Change Notice: The customer will be informed with ECN if there is significant modification on the characteristics and materials described in approval sheet.

16. Manufacturing Country & City :

TA-I TECHNOLOGY CO., LTD. (Taiwan– Tao Yuan)

Tel : (+886) 3-3246169 Fax : (+886) 3-3246167

Associated companies :

(1)TA-I TECHNOLOGY (SU ZHOU) CO., LTD. (China – Su Zhou)

Tel :(+86) 512-63457879 Fax : (+86) 512-63457869

(2) TA-I TECHNOLOGY ELECTRONIC (DONGGUAN) CO., LTD. (China –Dongguan)

Tel : (+86) 769-8339-4790~3 Fax : (+86) 769-8339-4794

(3) FORTUNE TASK RESISTOR FACTORY (China – Dongguan)

Tel : (+86) 769-8339-4790~3 Fax : (+86) 769-8339-4794

(4) TAI OHM ELECTRONICS (M) SDN. BHD. (Malaysia – Penang)

Tel :(+60) 4- 3900480 Fax : (+60) 4-3901481

(5) P.T.TAI ELECTRONIC Indonesia (Indonesia – Jakarta)

Tel :(+62) 21-44820254 Fax : (+62) 21-44820256

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Current Sense Resistors - SMD category](#):

Click to view products by [TA-I Tech manufacturer](#):

Other Similar products are found below :

[CRL0603-FW-R700ELF](#) [PFS35-200RF1](#) [NPS 2-T126 5.000 OHM 1%](#) [PFS35-0R01J1](#) [PFS35-0R05J1](#) [PFS35-5RF1](#) [CD2015FC-0.10-1%](#)
[PR2512FKF7W0R004L](#) [RC1005F124CS](#) [RL73K3AR56JTDF](#) [RL7520WT-R001-F](#) [RL7520WT-R009-G](#) [RL7520WT-R020-F](#)
[RLP73N1ER43JTD](#) [LRC-LR2512LF-01-R820J](#) [WR06X104JGLJ](#) [TL2BR01F](#) [65709-330](#) [SP1R12J](#) [RL7520WT-R039-G](#) [RL7520WT-R002-F](#)
[LRF2010-R003JW](#) [KRL1632E-C-R200-F-T5](#) [KRL1632E-C-R200-F-T1](#) [Y14880R02000B9R](#) [RLP73M1ER051FTDF](#) [RLP73M2AR051FTDF](#)
[RLP73M2AR075FTDF](#) [RLP73M1JR051FTDF](#) [RLP73N1JR47FTDF](#) [SR731ERTTP5R10F](#) [SR731ERTTP100J](#) [SR731ERTTP6R80F](#)
[SR731ERTTP4R70F](#) [SR731ERTTP2R20F](#) [SR731ERTTP3R90F](#) [SR731ERTTP1R00F](#) [SR731ERTTP10R0F](#) [SR731ERTTP2R00F](#)
[SR731ERTTP8R20F](#) [SR731ERTTP3R9J](#) [SR731ERTTP8R2J](#) [SR731ERTTP2R0J](#) [SR731ERTTP4R7J](#) [SR731ERTTP9R1J](#) [SR731ERTTP1R0J](#)
[SR731ERTTP2R2J](#) [SR731ERTTP5R1J](#) [SR731ERTTP6R8J](#) [SR731ERTTP9R10F](#)