



High Power Low Resistance Chip Resistors (RLH25 Series)

Document No	TRLH-250S001E
Issued date	2012/10/18
Page	1/8

1. Scope :

The specification applies for the RLH25 Series of low resistance chip resistors made by TA-I.

2. Features:

- ◆ Low Resistance and High Accuracy Resistor for Current Detection
- ◆ Large Electrode (All series)
- ◆ Good Performance for Heat Dissipation
- ◆ High Purity Alumina Substrate for High Power Dissipation
- ◆ Pb-free to Meet RoHS Requirements

3. Applications:

- ◆ Power Management Applications
- ◆ Switching Power Supply
- ◆ DC-DC Converter, Battery Pack, Charger, Adaptor
- ◆ Portable Instruments (PDA and Cell Phone)
- ◆ Voltage Regulation Module (VRM)
- ◆ Computer

4. Type Designation:

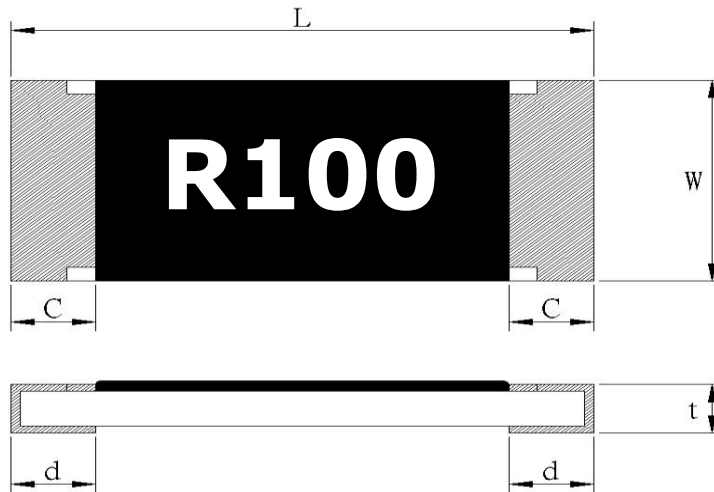
RLH	25	F	E	E	R100
High Power Low Resistance Chip Resistors	Size 25:2512 (6.4x3.2mm)	Tolerance of Resistance at F:±1.0% G:±2.0% J:±5.0%	Packaging E:Embossed Tape	Power Rating (70°C) C=1W D=1.5W E=2W	Nominal Resistance R100 : 100mΩ



High Power Low Resistance Chip Resistors (RLH25 Series)

Document No	TRLH-250S001E
Issued date	2012/10/18
Page	2/8

5. Dimensions:



Unit: mm

Item	L	w	c	d	t
RLH25	6.30±0.2	3.20±0.2	0.6±0.3	0.5±0.25	0.55±0.1

6. Derating Curve :

For resistors operated at ambient temperature over 70°C, power rating shall be derated in accordance with figure 1.

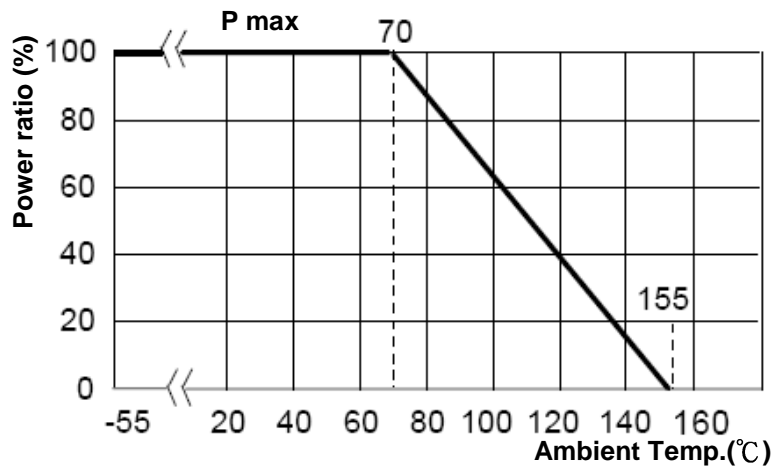


Figure 1



High Power Low Resistance Chip Resistors (RLH25 Series)

Document No	TRLH-250S001E
Issued date	2012/10/18
Page	3/8

7. Electrical Characteristics

Type	RLH 25
Power Rating	1W&1.5W&2W
Resistance Value	100mΩ ~910mΩ
Operation Temperature Range	-55°C~ +155°C
Temperature Coefficient of Resistance	100ppm/°C
Tolerance	±1% , ±2% , ±5%
Insulation Resistance	Over 100MΩ
Maximum Working Voltage(V)	$(P \cdot R)^{1/2}$

8. Reliability Tests:

Test Item	Reference standard	Condition of Test	Test Limits
Temperature Coefficient of Resistance	IEC60115-1-4.8 JIS-C5201-1-4.8	25°C ~ 125°C	Refer to paragraph 6
Short Time Overload	IEC60115-1-4.13 JIS-C5201-1-4.13	5 X rated power, 5s	±(1.0%+0.5m Ω)
Load Life	IEC60115-1-4.25.1 JIS-C5201-1-4.25.1	1000 hours at rated power, at 70°C	±(5.0%+0.5m Ω)
Load Life with Humidity	IEC60115-1-4.24 JIS-C5201-1-4.24	1000 hours at rated power , 40 ± 2°C , 90~95% RH	±(5.0%+0.5m Ω)
Thermal Shock	IEC60115-1-4.19 JIS-C5201-1-4.19	-55°C (15 min.) / +155 °C (15 min.) 5 cycles	±(1.0%+0.5m Ω)
Resistance to Solder Heat	IEC60115-1-4.18 JIS-C5201-1-4.18	270 ± 5°C solder , 10 ± 1 sec dwell .	±(1.0%+0.5m Ω)
Solder ability	IEC60115-1-4.17 JIS-C5201-1-4.17	245±5°C solder, 2±0.5 sec dwell. Solder : Sn96.5 / Ag3.0 / Cu0.5	At least 95% of surface area of electrode shall be covered with new solder.
Bending Test	IEC60115-1-4.33 JIS-C5201-1-4.33	1mm deflection	±(1.0%+0.5m Ω)
Resistance to Dry Heat	IEC60115-1-4.23.2 JIS-C5201-1-4.23.2	155 ± 5°C for 96 ± 4hrs	±(1.0%+0.5m Ω)



High Power Low Resistance Chip Resistors (RLH25 Series)

Document No	TRLH-250S001E
Issued date	2012/10/18
Page	4/8

9. Marking:

From 2512:

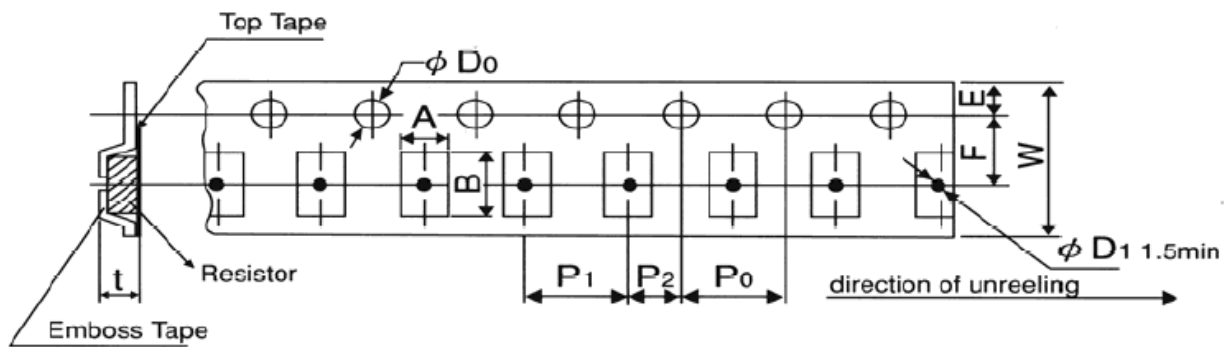
Resistance value is expressed by 4 digits, the first "R" means decimal point and the other digits represent for the normal resistance in Ω .

eg., $100m\Omega = R100$

10. Taping & Reel

10.1 Taping Dimensions

10.1.1 4 mm pitch Emboss



Packing	Type	A	B	W	F	E	P ₁	P ₂	P ₀	D ₀	T
Emboss	RLH25	3.6 ± 0.2	6.9 ± 0.2	12.0 ± 0.2	5.5 ± 0.05	1.75 ± 0.1	4.0 ± 0.1	2.0 ± 0.05	4.0 ± 0.05	$+0.1$ $\Phi 1.5$ -0.1	0.85 ± 0.15

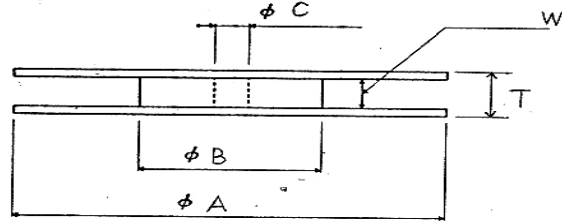
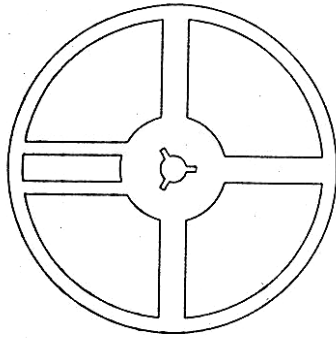
UNIT: mm



High Power Low Resistance Chip Resistors (RLH25 Series)

Document No	TRLH-250S001E
Issued date	2012/10/18
Page	5/8

10.2 Reel Specifications

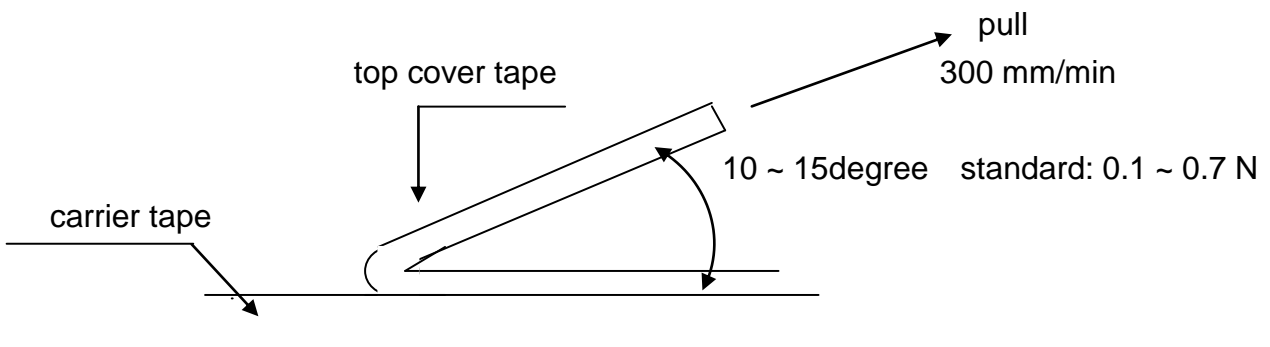


UNIT: mm

Type	ΦA	ΦB	ΦC	W	T
RLH25	178.0±2.0	60.0 ±1.0	13.0 ±1.0	13.0 ±1.0	15.5 ±1.0

10.3 Peel – off force :

Peel – off force of paper and blister tape is in accordance with “JIS ”
that is , 0.1 to 0.7 N at a peel-off speed of 300 mm / minute.



UNIT: mm

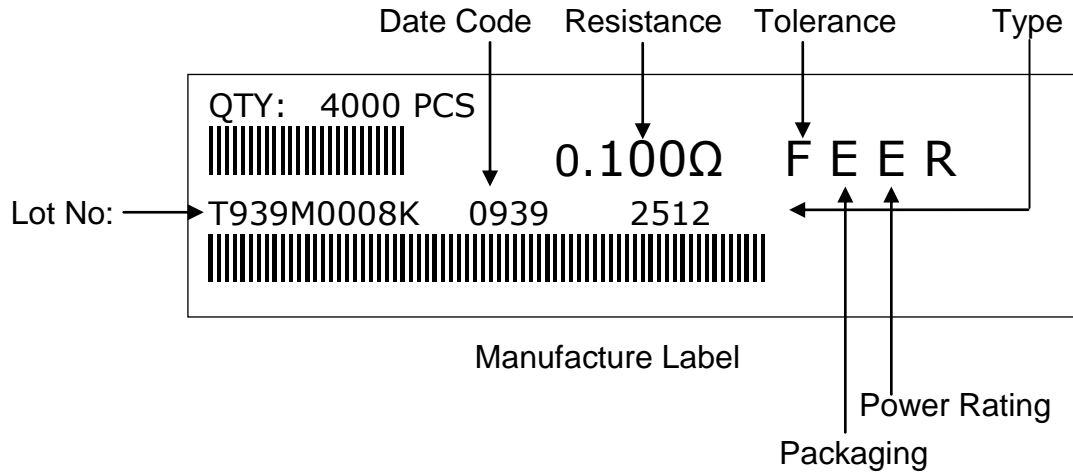


High Power Low Resistance Chip Resistors (RLH25 Series)

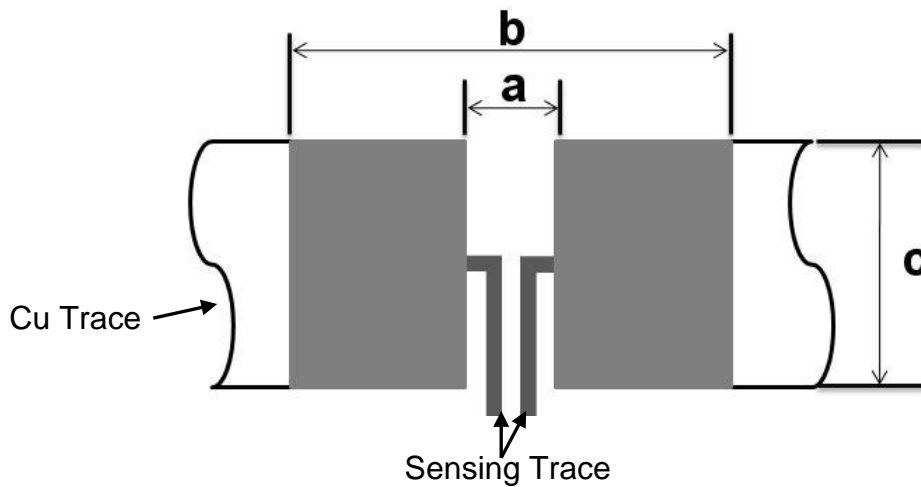
Document No	TRLH-250S001E
Issued date	2012/10/18
Page	6/8

11. Label

11.1 Normal Products :



12. Recommended land patterns



Land pattern		Dimension (mm)		
Type	Size	a	b	c
RLH	25 (2512)	1±0.20	7.5±0.20	4.2±0.20



High Power Low Resistance Chip Resistors (RLH25 Series)

Document No	TRLH-250S001E
Issued date	2012/10/18
Page	7/8

13. 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.

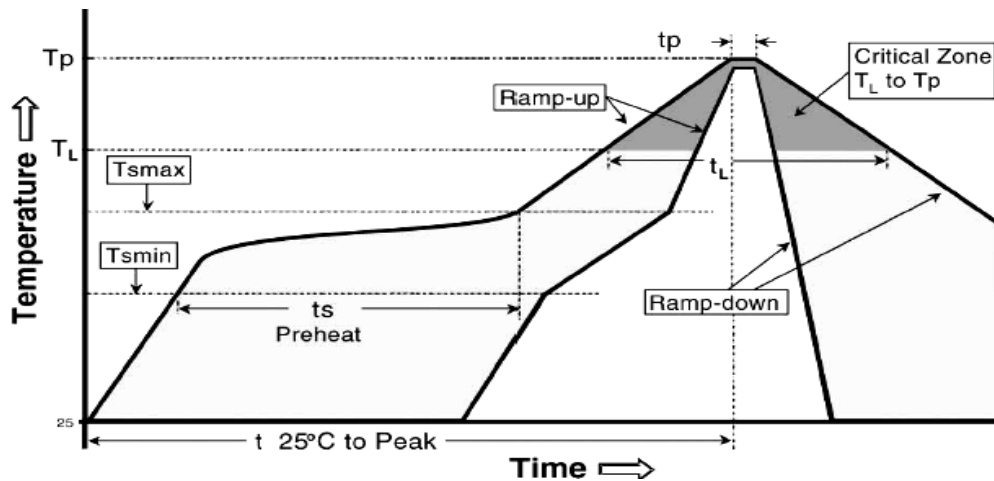
14. Storage Conditions:

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

15. Shelf Life:

2 years from manufacturing date.

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



Profile Feature	Lead (Pb)-Free Assembly
Average ramp-up rate (T_{smax} to T_p)	3°C / second max.
Preheat <ul style="list-style-type: none"> - Temperature Min (T_{smin}) - Temperature Max (T_{smax}) - Time (T_{smin} to T_{smax}) (t_s) 	150°C 200°C 60 -150 seconds
Time maintained above : <ul style="list-style-type: none"> - Temperature (T_L) - Time (t_L) 	217°C 60-120 seconds
Peak Temperature (T_p)	260°C
Time within $+0$ °C of actual Peak -5	10 seconds
Temperature (t_p) ²	
Ramp-down Rate	6°C/second max.
Time 25°C to Peak Temperature	8minutes max.



High Power Low Resistance Chip Resistors (RLH25 Series)

Document No	TRLH-250S001E
Issued date	2012/10/18
Page	8/8

17. 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 ELECTRONICS Indonesia (Indonesia – Jakarta)

Tel :62-21-89830123 Fax : 62-21-89830703

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

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

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

Other Similar products are found below :

[CR-05FL7--150R](#) [CR-05FL7--19K6](#) [CR-05FL7--243R](#) [CR-05FL7--40K2](#) [CR-05FL7--698K](#) [CR-12FP4--324R](#) [CR-12JP4--680R](#)
[M55342K06B1E78RS3](#) [M55342K06B6E19RWL](#) [M55342K06B6E81RS3](#) [M55342M05B200DRWB](#) [M55342M06B4K70MS3](#) [MC0603-511-](#)
[JTW](#) [742C083750JTR](#) [MCR01MZPF1202](#) [MCR01MZPF1601](#) [MCR01MZPF1800](#) [MCR01MZPF6201](#) [MCR01MZPF9102](#) [MCR01MZPJ113](#)
[MCR01MZPJ121](#) [MCR01MZPJ125](#) [MCR01MZPJ751](#) [MCR03EZHJ103](#) [MCR03EZPFX2004](#) [MCR03EZPJ270](#) [MCR03EZPJ821](#)
[MCR10EZPF1102](#) [MCR18EZPJ330](#) [RC0603F1473CS](#) [RC0603F150CS](#) [RC1005F1152CS](#) [RC1005F1182CS](#) [RC1005F1372CS](#)
[RC1005F183CS](#) [RC1005F1911CS](#) [RC1005F1912CS](#) [RC1005F203CS](#) [RC1005F2052CS](#) [RC1005F241CS](#) [RC1005F2431CS](#)
[RC1005F3011CS](#) [RC1005F303CS](#) [RC1005F4321CS](#) [RC1005F4642CS](#) [RC1005F471CS](#) [RC1005F4751CS](#) [RC1005F5621CS](#)
[RC1005F6041CS](#) [RC1005J106CS](#)