

## RLW73 Series

### Key Features

Highly reliable  
multilayer  
electrode  
construction

High Power to  
size ratio

High purity  
alumina  
substrate for  
high power  
dissipation

Long side  
terminations  
with higher  
power rating

### Applications

Power  
Management  
Applications

Over Current  
Protection in  
Audio

Applications

Voltage  
Regulation  
Module (VRM)



TE is pleased to introduce this Wide Terminal cousin of our successful RL73 series current sense resistor. With reliable multilayer electrode construction, and High purity alumina substrate for high power dissipation, along with Long side terminations, we can offer up to 3W in 1225 configuration with resistance values from 10mΩ ~ 750mΩ

## Characteristics – Electrical

### Standard Electrical Specification

Item Type	Size Code	Power Rating @70°C (W)	Maximum Operating Current (A)	Resistance Range (mΩ)		TCR (ppm/°C)
				1% E24/E96	5% E24	
RLW73	A2 0508	0.5	7.07	10-27(E24)		±600
				30- 510*		±200
RLW73	B2 0612	0.75	8.66	10-27(E24)		±600
				30- 510*		±200
RLW73	H2 1020	1.0	10	10-27(E24)		±600
				30- 750*		±200
RLW73	A3 1225	1.5	12.24	10-27(E24)		±600
				30- 750*		±200

\*NB Values below 100mΩ only available in E24 series

### High Power Rating Electrical Specifications

Item Type	Size Code	Power Rating @70°C (W)	Maximum Operating Current (A)	Resistance Range (mΩ)		TCR (ppm/°C)
				1% E24/E96	5% E24	
RLW73P	A2 0508	1.0	10	10-27(E24)		±600
				30- 510*		±200
RLW73P	B2 0612	1.5	12.2	10-27(E24)		±600
				30- 510*		±200
RLW73P	H2 1020	2.0	14.1	10-27(E24)		±600
				30- 750*		±200
RLW73P	A3 1225	3.0	17.3	10-27(E24)		±600
				30- 750*		±200

\* NB Values below 100mΩ only available in E24 series

Operating Voltage= $\sqrt{P \cdot R}$  ; Overload Voltage= $2.5 \cdot \sqrt{P \cdot R}$  ; Operating Current= $\sqrt{P/R}$

Operating Temperature Range -55 ~ 155°C

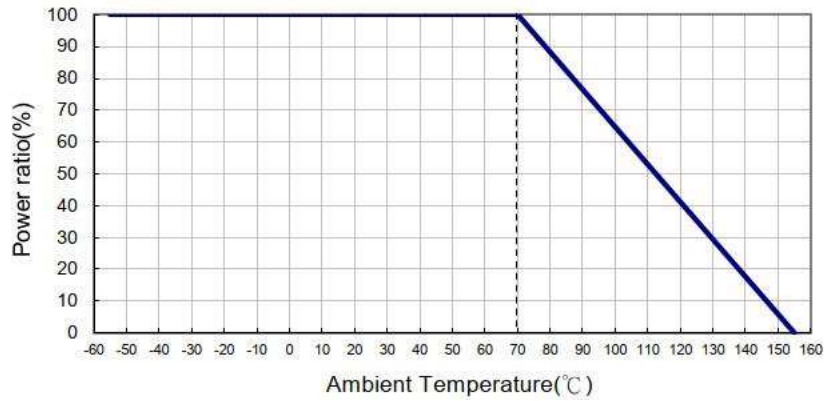
Storage Temperature: 15~28°C; Humidity < 80%RH

Shelf Life: 2 years from production date.

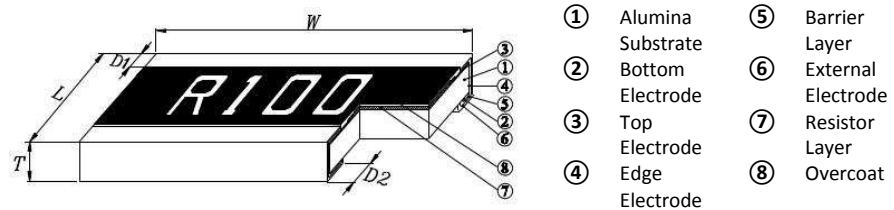
## Environmental Characteristics

Item	Requirement	Test Methods
Temperature Coefficient of Resistance (T.C.R.)	As Spec.	<b>JIS C 5201-1 4.8</b> <b>IEC 60115-1 4.8</b> At 25°C/-55°C and 25°C/+125°C, 25°C is the reference temperature
Short Time Overload	$\pm(2.0\%+0.05\Omega)$	<b>JIS C 5201-1 4.13</b> <b>IEC 60115-1 4.13</b> RCWV*2 for 5 seconds
Insulation Resistance	$\geq 10G$	<b>JIS C 5201-1 4.6</b> <b>IEC 60115-1 4.6</b> Max. Overload Voltage for 1 minute
Endurance	$\pm(2.0\%+0.05\Omega)$	<b>JIS-C-5201-1 4.25</b> <b>IEC-60115-1 4.25.1</b> 70°C $\pm$ 2°C,RCWV for 1000 hrs with 1.5 hrs "ON" and 0.5 hr "OFF"
Damp Heat with Load	$\pm(2.0\%+0.05\Omega)$	<b>JIS-C-5201-1 4.24</b> <b>IEC-60115-1 4.24</b> 40 $\pm$ 2°C,90~95% R.H.,RCWV for 1000hrs with 1.5 hrs "ON" and 0.5 hr "OFF"
Dry Heat	$\pm(1.0\%+0.05\Omega)$	<b>JIS-C-5201-1 4.23</b> <b>IEC-60115-1 4.23.2</b> at +155°C for 1000 hrs
Bending Strength	$\pm(1.0\%+0.05\Omega)$	<b>JIS-C-5201-1 4.33</b> <b>IEC-60115-1 4.33</b> Bending once for 60 seconds with 3mm
Solderability	95% min. coverage	<b>JIS C 5201-1 4.17</b> <b>IEC 60115-1 4.17</b> 245 $\pm$ 5°C for 3 seconds
Resistance to Soldering Heat	$\pm(1.0\%+0.05\Omega)$	<b>JIS C 5201-1 4.18</b> <b>IEC 60115-1 4.18</b> 260 $\pm$ 5°C for 10 seconds
Voltage Proof	No breakdown or flashover	<b>JIS C 5201-1 4.7</b> <b>IEC 60115-1 4.7</b> 1.42 times Max. Operating Voltage for 1 minute RL73WA2:300V RL73WB2/H2/A3:400V
Leaching	Individual leaching area $\leq 5\%$ Total leaching area $\leq 10\%$	<b>JIS C 5201-1 4.18</b> <b>IEC 60068-2-58 8.2.1</b> 260 $\pm$ 5°C for 30 seconds
Rapid Change of Temperature	$\pm(0.5\%+0.05\Omega)$	<b>JIS-C-5201-1 4.19</b> <b>IEC-60115-1 4.19</b> -55°C (30 minutes) / +125°C (30 minutes) , 5 cycles

### Derating Curve

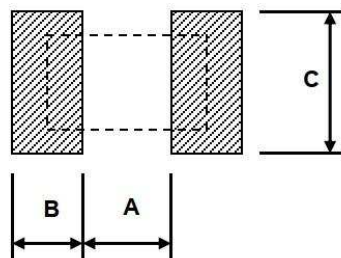


### Construction and Dimensions



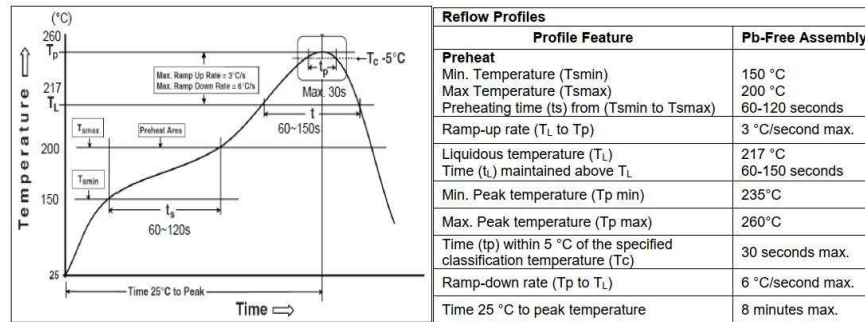
Type	Size	L (mm) ±0.15	W (mm) ±0.15	T (mm) ±0.10	D1 (mm) ±0.20	D2 (mm) ±0.15	Weight (g/1000)
RLW73A2	0508	1.25	2.00	0.60	0.30	0.35	6
RLW73B2	0612	1.60	3.20	0.60	0.30	0.45	12
RLW73H2	1020	2.50	5.00	0.60	0.40	0.75	35
RLW73A3	1225	3.10	6.30	0.60	0.45	0.75	48

### Recommend Land Pattern



Type	A (mm)	B (mm)	C (mm)
RLW73A2	0.55	0.90	2.00
RLW73B2	0.70	0.80	3.20
RLW73H2	1.00	1.30	5.00
RLW73A3	1.60	1.20	6.40

## Soldering Condition (Ref. IPC/JEDEC J-STD-020 & J-STD-002)



## Marking

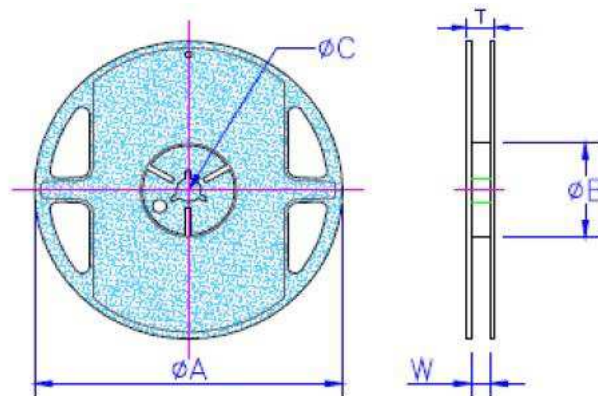
4 digits marking for all sizes

Example

Resistance	10mΩ	100mΩ
Marking	R010	R100

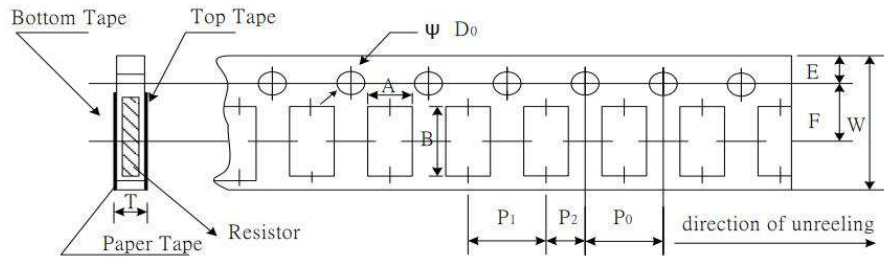
## Packaging

### Reel Quantity and Specification



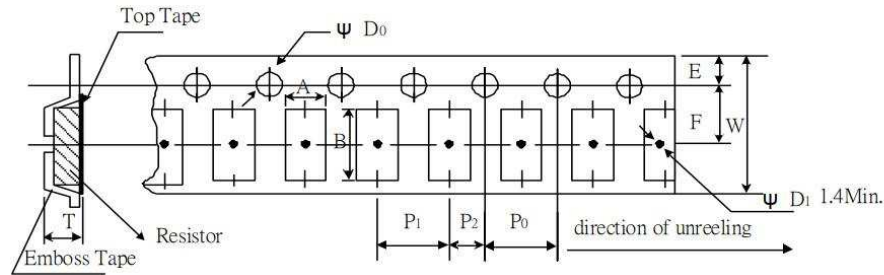
Size	ØA (mm) ±1.0	ØB (mm) ±1.0	ØC (mm) ±0.7	W (mm) ±1.0	T (mm) ±1.0	Paper Tape	Plastic Tape
0508	178.0	60.0	13.5	9.5	11.5	5000 / 1000	
0612	178.0	60.0	13.5	9.5	11.5	5000 / 1000	
1020	178.0	60.0	13.5	13.5	15.5		4000 / 1000
1225	178.0	60.0	13.5	13.5	15.5		4000 / 1000

### Paper Tape Specifications



Size	A (mm) ±0.10	B (mm) ±0.20	W (mm) ±0.20	E (mm) ±0.10	F (mm) ±0.05	P <sub>0</sub> (mm) ±0.10	P <sub>1</sub> (mm) ±0.05	P <sub>2</sub> (mm) ±0.05	∅D <sub>0</sub> (mm) +0.1/-0	T (mm) ±0.10
0508	1.60	2.40	8.00	1.75	3.50	4.00	4.00	2.00	1.50	0.85
0612	1.90	3.50	8.00	1.75	3.50	4.00	4.00	2.00	1.50	0.85

### Embossed Plastic Tape Specification



Size	A (mm) ±0.10	B (mm)	W (mm) ±0.30	E (mm) ±0.10	F (mm)	P <sub>0</sub> (mm)	P <sub>1</sub> (mm) ±0.10	P <sub>2</sub> (mm) ±0.05	∅D <sub>0</sub> (mm) ±0.10	T (mm) ±0.20
1020	2.80	5.40±0.20	12.00	1.75	5.50±0.05	4.0±0.05	4.00	2.00	1.50	1.00
1225	3.38	6.68±0.10	12.00	1.75	5.50±0.10	4.0±0.10	4.00	2.00	1.50	1.00

### How To Order

RLW73	A2	F	R047	TD
Common Part	Size Code	Resistance Tolerance	Resistance Value	Packaging
<b>RLW73</b> – Wide Terminal Current Sense Resistor <b>RLW73P</b> – High Power Wide Terminal Current Sense Resistor	A2 – 0508 B2 – 0612 H2 – 1020 A3 – 1225	F – 1% J – 5%	10mΩ - R010 100mΩ-R100	TD – Reel 5K (0508 & 0612) TDF – Reel 1K TE – Reel 4K (1020 & 1225)