

APPROVAL SHEET

Product Name : Thick Film Low Ohm Chip Resistor
_Long Terminal

Part No. : RWCL

Description : Size 0508, 0612, 1020, 1225

For more contact information, please refer to our website: www.rideetech.com

Thick Film Low Ohm Chip Resistor_Long Terminal— RWCL Series

Applications

- Measuring instrument
- Industrial / Power supply
- Battery management system



Features

- High power capability
- Halogen free and lead free
- RoHS compliant

Part Number Explanation

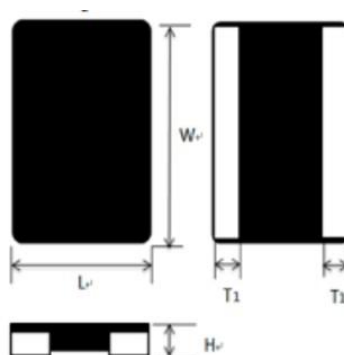
RWCL	0612	10	F	R100	T	S
Product	Size (Inch)	Rated Power	Tolerance	Resistance	Packaging	Functional
Thick Film Low Ohm Chip Resistor _Long Terminal	0508 0612 1020 1225	10 : 1.0W 15 : 1.5W 20 : 2.0W 30 : 3.0W	F : $\pm 1.0\%$	R033=33m Ω R150=150m Ω R750=750m Ω	T=Tape & Reel	S= Standard

Standard Electrical Specifications

Type	Power Rating at 70°C	Max. Rating Current	Resistance Tolerance (%)	Temperature Coefficient (TCR; ppm/°C)	Resistance Range
RWCL0508	1W	3.16A	1%	±100	$100\text{m}\Omega \leq R \leq 510\text{m}\Omega$
RWCL0612	1.5W	7.07A	1%	±100	$33\text{m}\Omega \leq R \leq 510\text{m}\Omega$
RWCL1020	2W	8.16A	1%	±100	$33\text{m}\Omega \leq R \leq 750\text{m}\Omega$
RWCL1225	3W	10.0A	1%	±100	$33\text{m}\Omega \leq R \leq 750\text{m}\Omega$

- Functional code: S
- Beyond the above specification also can meet the special requirements. For detail questions, please contact us freely.

Dimension

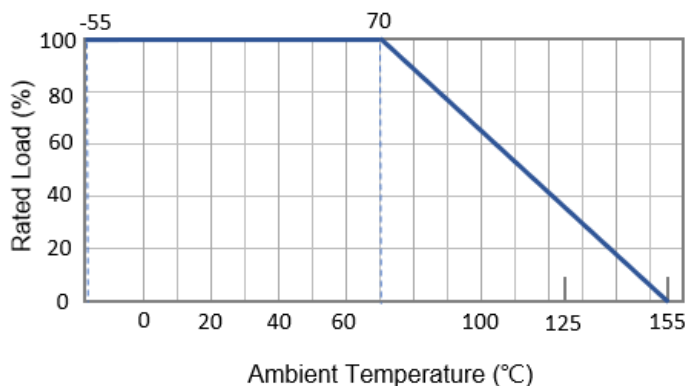


Unit: mm

Type	L	W	T_1	T_2	H
RWCL0508	1.25 ± 0.15	2.00 ± 0.15	0.30 ± 0.20	0.35 ± 0.15	0.60 ± 0.10
RWCL0612	1.60 ± 0.15	3.20 ± 0.15	0.30 ± 0.20	0.45 ± 0.15	0.60 ± 0.10
RWCL1020	2.50 ± 0.15	5.00 ± 0.15	0.40 ± 0.20	0.75 ± 0.15	0.60 ± 0.10
RWCL1225	3.10 ± 0.15	6.30 ± 0.15	0.45 ± 0.20	0.75 ± 0.15	0.60 ± 0.10

Derating curve

Operating Temperature Range: -55 to +155°C



Voltage Rating or Current Rating

The direct or alternating voltage for the rated power can be calculated from the following formula but must not exceed the maximum voltage.

$$V = \sqrt{P \times R}$$

V = Rated Voltage(V)
 P = Rated Power(W)
 R = Rated Resistance(Ω)

Recommended Customer Soldering Parameters

Recommended IR Reflow Soldering Conditions

Preliminary heating: 150°C~180°C, 120s max

Soldering: 220°C, 60s max

Peak temperature: 245°C, 15s max

Recommended WAVE Soldering Conditions

Reservoir Temperature: 260°C, 10s max

Number of times: two times max

Recommend Land Pattern Design

Type	W	D	L
RWCL0508	2.00	0.90	2.35
RWCL0612	3.20	0.80	2.30
RWCL1020	5.00	1.30	3.60
RWCL1225	6.40	1.20	4.00

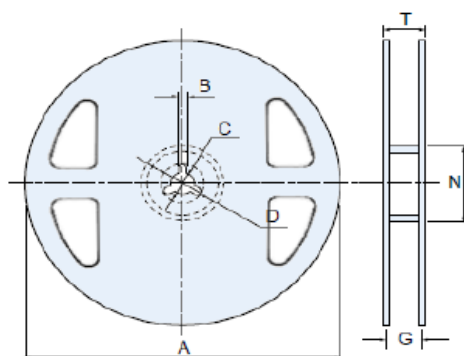
Unit:mm



Reliability Test and Requirement

Test Item	Test Method	Procedure	Requirements
Temperature Coefficient of Resistance (T.C.R)	JIS-C-5201-1 4.8 IEC-60115-1 4.8	Temperature: (T1. +25°C) ~ (T2. +125°C) TCR(ppm/°C) = $(R2-R1)/R1 \times 1/(T2-T1) \times 10^6$ (+25~ -55°C please contact factory)	As Spec
Short Time Overload	JIS-C-5201-1 4.13 IEC-60115-1 4.13	2 × Rated power for 5 seconds	$\Delta R \leq \pm(2\% + 0.05\Omega)$
Insulation Resistance	JIS-C-5201-1 4.6 IEC-60115-1 4.6	Apply the maximum overload voltage (DC) for 1minute	$\Delta R \geq 10G\Omega$
Solderability	JIS-C-5201-1 4.17 IEC-60115-1 4.17	After immersing flux, dip in the 245±2°C molten solder bath for 3±0.5 sec.	Over 95% of termination must be covered with Solder.
Resistance to Soldering Heat	JIS-C-5201-1 4.18 IEC-60115-1 4.18	260±5°C for 10 seconds.	$\Delta R \leq \pm(1\% + 0.05\Omega)$
Load Life	JIS-C-5201-1 4.25 IEC-60115-1 4.25.	Permanent resistance change after 1000+48/-0 hours (1.5 hours ON , 0.5 hour OFF) at RCWV or Max.Keep the resistor at 70±2°C ambient"	$\Delta R \leq \pm(2\% + 0.05\Omega)$
Bending Strength	JIS-C-5201-1 4.33 IEC-60115-1 4.33	Bend: 3mm for 0508, 0612, 1020, 1225	$\Delta R \leq \pm(1\% + 0.05\Omega)$
Damp Heat	JIS-C-5201-1 4.24 IEC-60115-1 4.24	Maintain the temperature of the resistor at 40±2°C and 90~95% R.H. with the rated voltage applied. Cycle ON for 1.5 hours and OFF for 0.5 hour for 1000+48/-0 hours.	$\Delta R \leq \pm(2\% + 0.05\Omega)$
Leaching	JIS-C-5201-1 4.18 IEC-60068-2-58 8.2.1	260±5°C for 30 seconds.	Individual leaching area ≤5% Total leaching area ≤ 10%
Temperature Cycling	JIS-C-5201-1 4.19 IEC-60115-1 4.19	Repeat 5 cycles as follows-55°C(30 min.) + 25°C(2~3 min.) +125°C(30 min.) + 25°C(2~3 min.)	$\Delta R \leq \pm(0.5\% + 0.05\Omega)$

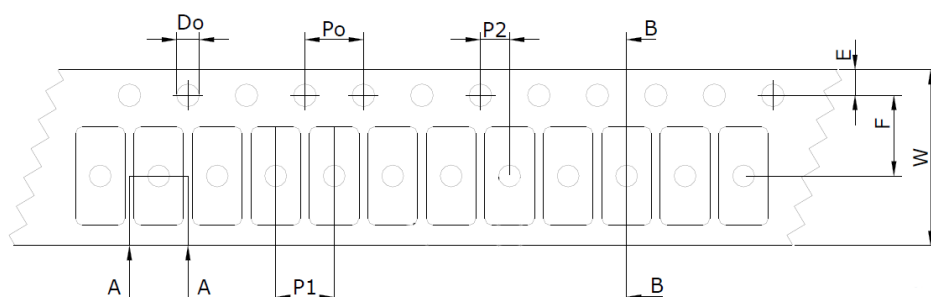
■ Packaging Information



Unit : mm

Size	Packaging Q'ty	A	N	C	D	B	G	T
0508	5kpcs/Reel	178.0±1.0	60.0±1.0	13.0±0.7	20(Min.)	2.0±0.5	9.5±0.1	11.5±1.0
0612	5kpcs/Reel	178.0±1.0	60.0±1.0	13.0±0.7	20(Min.)	2.0±0.5	9.5±0.1	11.5±1.0
1020	4kpcs/Reel	178.0±1.0	60.0±1.0	13.0±0.7	20(Min.)	2.0±0.5	13.5±1.0	15.5±1.0
1225	4kpcs/Reel	178.0±1.0	60.0±1.0	13.0±0.7	20(Min.)	2.0±0.5	13.5±1.0	15.5±1.0

■ Tapping Specification



Unit : mm

Size	A	B	W	F	E	P1	P2	P0	D
0508	1.60±0.10	2.40±0.20	8.0±0.20	3.50±0.05	1.75±0.10	4.00±0.05	2.00±0.05	4.00±0.05	1.50+0.10/-0
0612	1.90±0.10	3.50±0.20	8.00±0.20	3.50±0.05	1.75±0.10	4.00±0.05	2.00±0.05	4.00±0.10	1.50+0.10/-0
1020	2.80±0.10	5.40±0.20	12.0±0.30	5.5±0.05	1.75±0.10	4.00±0.10	2.00±0.05	4.00±0.05	1.50+0.10/-0
1225	3.38±0.10	6.68±0.10	12.0±0.30	5.50±0.10	1.75±0.10	4.00±0.10	2.00±0.05	4.00±0.10	1.50+0.10/-0

■ Marking

1% for 0508/0612/1020/1225: 4 digits marking

Example:

Resistance	68mΩ
Digits Code	R068