

APPROVAL SHEET

Product Name : Metal Film Anti-Surge Low Ohm Chip Resistor

Part No. : RGL Series

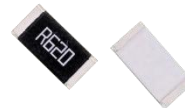
Description : Size 1206-2512

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

Metal Film Anti-Surge Low Ohm Chip Resistor - RGL Series

■ Applications

- Computer & relative products
- Communication devices
- Industrial / Power supply
- Battery management system



■ Features

- Excellent long term stability
- High rated power capability and excellent Anti-Surge
- Halogen free and lead free
- RoHs compliant

■ Part Number Explanation

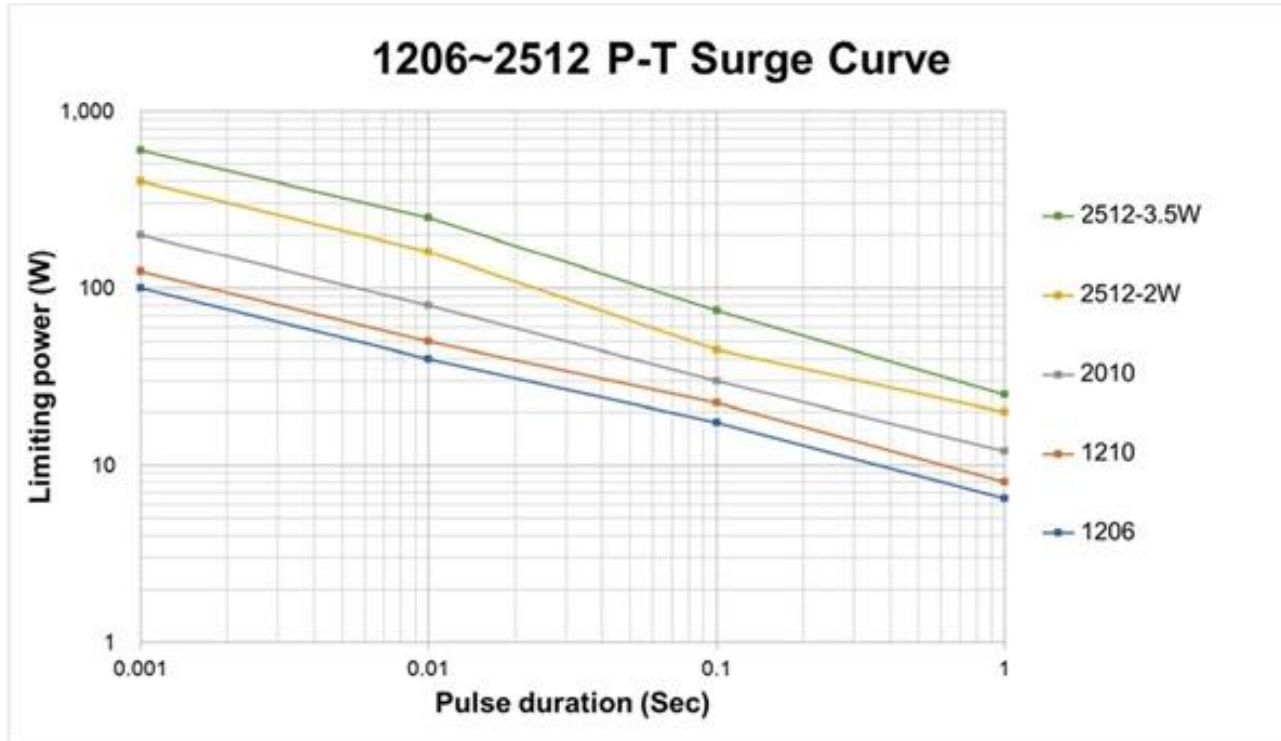
RGL	1206	F	R470	T	S
Product	Size (Inch)	Tolerance	Resistance	Packaging	Functional
Metal Film Anti-Surge Low Ohm Chip Resistor	1206 1210 2010 2512	D = $\pm 0.5\%$ F = $\pm 1.0\%$ G = $\pm 2.0\%$ J = $\pm 5.0\%$	R470=0.47 Ω 4R70=4.7 Ω 47R0=47 Ω	T=Tape & Reel	S= Standard U= Ultra Power

Standard Electrical Specifications

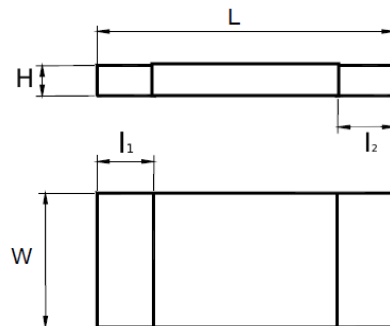
Type	Rated Power at 70°C	Max Rated Current	Max Overload Current	T.C.R. (PPM/°C)	Resistance Range
					D(0.5%) F(±1%) G(2.0%) J(5.0%)
RGL1206	1 W	4.47A	10.00A	±100	50mΩ ≤ R ≤ 100mΩ
				±50	100mΩ ≤ R ≤ 33Ω
RGL1210	1 W	4.47A	10.00A	±100	50mΩ ≤ R ≤ 100mΩ
				±50	100mΩ ≤ R ≤ 33Ω
RGL2010	1.5 W	5.48A	12.25A	±50	50mΩ ≤ R ≤ 33Ω
RGL2512	2W	6.32A	14.14A		
	*3.5W	8.37A	18.71A		

- Standard Type functional code: S
- “*”Ultra High Power functional code: U
- Beyond the above specification also can meet the special requirements. For detail questions, please contact us freely.

Anti-Surge Ability

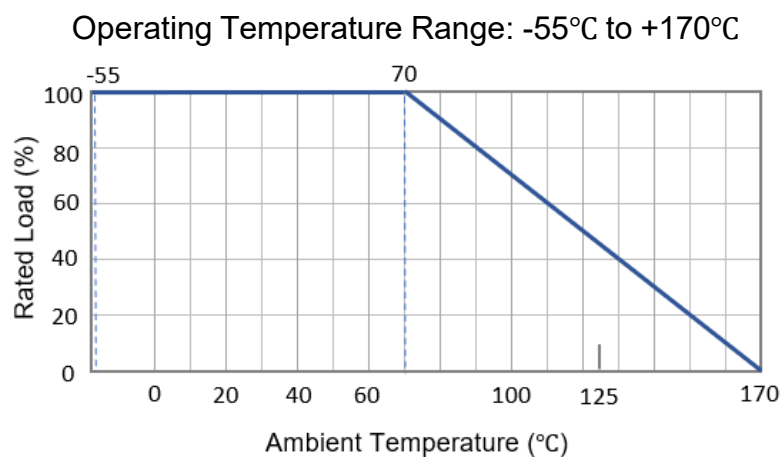


■ Dimension



TYPE	L	W	H	l ₁	l ₂
RGL1206	3.10 ± 0.10	1.60 ± 0.10	0.55 ± 0.10	0.40 ± 0.20	0.45 ± 0.20
RGL1210	3.10 ± 0.10	2.50 ± 0.15	0.55 ± 0.15	0.50 ± 0.20	0.50 ± 0.20
RGL2010	5.00 ± 0.20	2.50 ± 0.20	0.55 ± 0.10	0.60 ± 0.25	0.60 ± 0.25
RGL2512	6.30 ± 0.20	3.20 ± 0.20	0.55 ± 0.10	0.65 ± 0.25	0.65 ± 0.25
RGL2512(3.5W)	6.30 ± 0.20	3.20 ± 0.20	0.70 ± 0.15	0.65 ± 0.25	0.65 ± 0.25

■ Derating Curve



■ 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



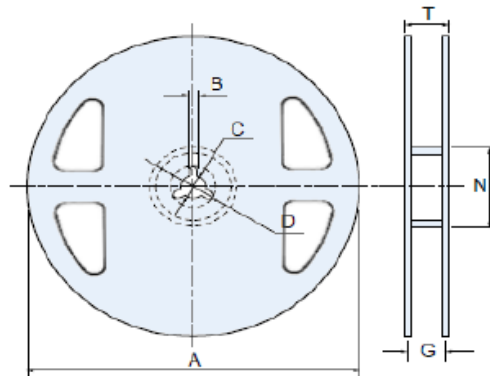
Unit : mm

TYPE	D	L	W
RGL1206	1.00	4.20	1.80
RGL1210	1.20	4.40	2.70
RGL2010	1.40	6.60	2.70
RGL2512	1.60	8.10	3.40

■ 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	At 25 / -55°C and 25°C /+155°C, 25°C is the reference temperature	Refer to Ratings
Short Time Overload	JIS-C-5201-1 4.13 IEC-60115-1 4.13	5 times rated power whichever is less for 5 seconds	$\pm(1.0\%+0.001\Omega)$
Insulation Resistance	JIS-C-5201-1 4.6 IEC-60115-1 4.6	Applied 100VDC for 1 minute	$\geq 10G\Omega$
Dielectric Withstanding Voltage	JIS-C5201-1 4.7	Applied 500VDC for 1 minute	No short or burned on the appearance
Core Body Strength	JIS-C5201-1 4.15	Central part pressurizing force: 10N,10 seconds	No broken
Solderability	JIS-C-5201-1 4.17 IEC-60115-1 4.17	245 $\pm$ 5°C for 3 seconds.	>95% Coverage No Visual damage
Resistance to Soldering Heat	JIS-C-5201-1 4.18 IEC-60115-1 4.18	260 $\pm$ 5°C for 10 seconds.	$\pm(1.0\%+0.001\Omega)$ No Visual damage
Leaching	JIS-C-5201-1 4.18 IEC-60068-2-58 8.2.1	260 $\pm$ 5°C for 30 seconds.	>95% Coverage No Visual damage
Rapid Change of Temperature	JIS-C-5201-1 4.19 IEC-60115-1 4.19	-55°C to +155°C ,300 cycles	$\pm(1.0\%+0.001\Omega)$ No Visual damage
Damp Heat With Load	JIS-C-5201-1 4.24 IEC-60115-1 4.24	40 $\pm$ 2°C,90~95% R.H RCWV or Max. working voltage whichever is less for 1000hrs with 1.5hrs "ON" and 0.5hrs "OFF"	$\pm(1.0\%+0.001\Omega)$
Biased humidity	MIL-STD-202 Method 103	1,000hours; 85°C/85% RH,10% of operating power, Measurement at 24 $\pm$ 4 hours after test conclusion	$\pm(0.5\%+0.05\Omega)$
Load Life (Endurance)	JIS-C-5201-1 4.25 IEC-60115-1 4.25.1	70 $\pm$ 2°C,RCWV or Max. working voltage whichever is less for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"	$\pm(1.0\%+0.001\Omega)$
High Temperature Exposure	JIS-C-5201-1 4.25 IEC-60068-2-2	At +170 $\pm$ 5°C for 1000+48/-0 hours	$\pm(1.0\%+0.001\Omega)$
Resistance to Solvent	JIS-C-5201-1 4.29	The tested resistor be immersed into isopropyl alcohol of 20~25°Cfor 60 secs. Then the resistor os left in the room for 48hrs.	$\pm(1.0\%+0.001\Omega)$ No Visual damage
Terminal Strength (SMD)	JIS-C-5201-1 4.32 AEC Q200-006	Pressurizing force for 60 seconds 1206 and above:17.7N	No broken
Bending Strength	JIS-C-5201-1 4.33 IEC-60115-1 4.33	Bending once for 5 seconds D:1206,1210,=3mm 2010,2512=2mm	$\pm(1.0\%+0.001\Omega)$ No Visual damage

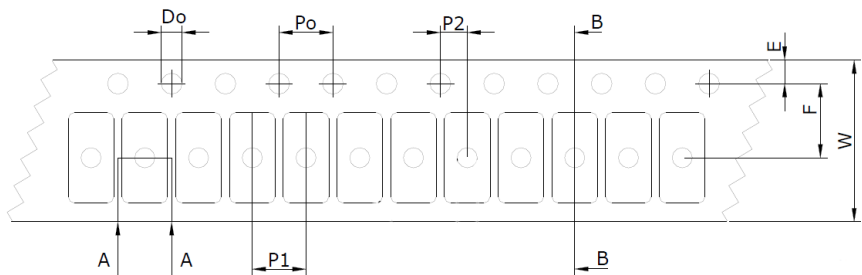
■ Packaging Information



Unit : mm

Size	Packaging Q'ty	A	N	C	D	B	G	T
1206 1210	5kpcs/Reel	178.0±2.0	60.0±0.5	13.0±0.5	20(Min.)	2.0±0.5	10.0±1.5	14.9max.
2010 2512	4kpcs/Reel	178.0±2.0	60.0±0.5	13.0±0.5	20(Min.)	2.0±0.5	13.8±1.5	16.7max.

■ Tapping Specification



Unit : mm

Size	A	B	W	F	E	P1	P2	P0	D
1206	2.00±0.20	3.60±0.20	8.00±0.30	3.50±0.05	1.75±0.10	4.00±0.10	2.00±0.05	4.00±0.10	1.50+0.10/-0
1210	3.00±0.20	3.60±0.20	8.00±0.30	3.50±0.05	1.75±0.10	4.00±0.10	2.00±0.05	4.00±0.10	1.50+0.10/-0
2010	2.80±0.20	5.50±0.20	12.00±0.30	5.50±0.05	1.75±0.10	4.00±0.10	2.00±0.05	4.00±0.10	1.50+0.10/-0
2512	3.50±0.20	6.70±0.20	12.00±0.30	5.50±0.05	1.75±0.10	4.00±0.10	2.00±0.05	4.00±0.10	1.50+0.10/-0

■ Marking

4 digit marking for 1206/1210/2010/2512

Example:

Resistance	68mΩ
Digits Code	R068