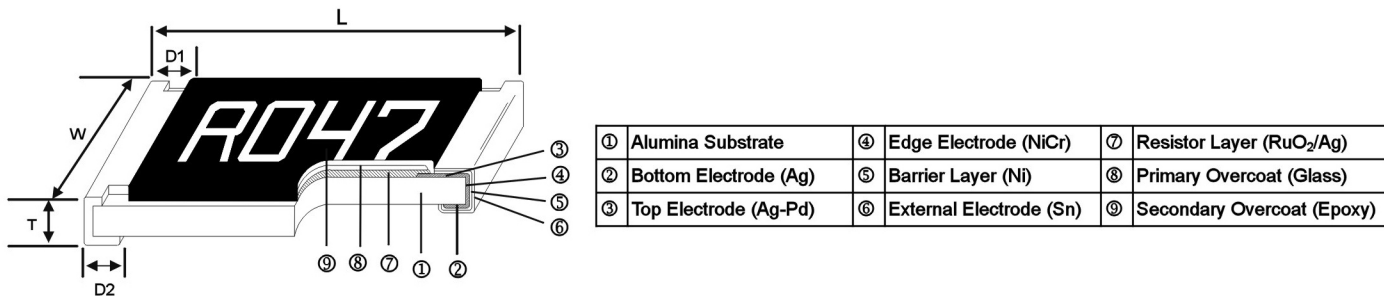


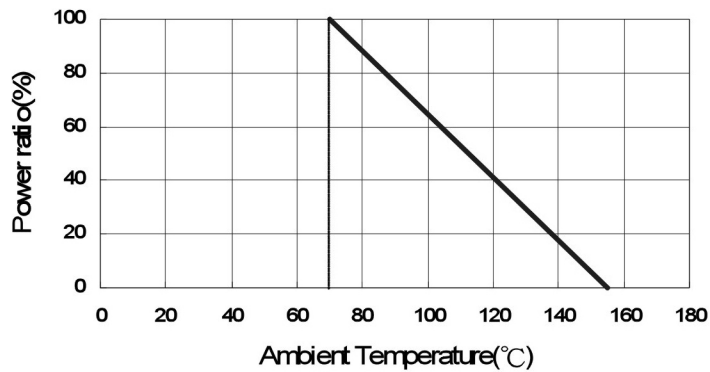
Construction



Dimensions

Type	Size (Inch)	L	W	T	D1	D2
0402	0402	1.00±0.05	0.50±0.05	0.35±0.05	0.20±0.10	0.20±0.10
0603	0603	1.60±0.10	0.80±0.10	0.45±0.10	0.30±0.20	0.30±0.20
0805	0805	2.00±0.10	1.25±0.10	0.50±0.10	0.35±0.20	0.40±0.20
1206	1206	3.10±0.10	1.55±0.10	0.55±0.10	0.50±0.25	0.50±0.20
1210	1210	3.20±0.20	2.60±0.15	0.55±0.10	0.50±0.25	0.50±0.20
2010	2010	5.00±0.20	2.50±0.15	0.55±0.10	0.60±0.25	0.50±0.20
2512	2512	6.35±0.20	3.20±0.15	0.55±0.10	0.60±0.25	0.50±0.20

Derating Curve



■ Standard Electrical Specifications

Type	Item	Power Rating at 70°C	Operating Temp. Range	Resistance Range (mΩ)		TCR (PPM/°C)
				±1%	±5%	
RL0402	1/16W	-55~+155°C	50 - 99 100 - 499 500 - 976	±800 ±500 ±200		
RL0603	1/10W				20 - 47 50 - 99 100 - 499 500 - 976	±1200 ±800 ±500 ±200
RL0805	1/8W					
RL1206	1/4W	-55~+155°C	10 - 18 20 - 47 50 - 99 100 - 499 500 - 976	±1500 ±1200 ±800 ±500 ±200		
RL1210	1/3W					
RL2010	3/4W					
RL2512	1W					

Operating Voltage= $\sqrt{P \cdot R}$

Overload Voltage= $2.5 \cdot \sqrt{P \cdot R}$

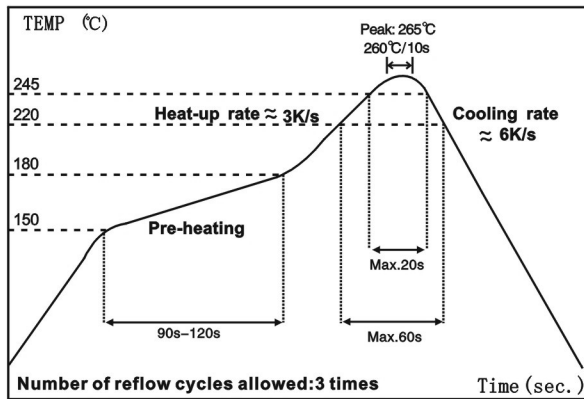
High Power Rating Electrical Specifications

Type	Item	Power Rating at 70 C	e	Resistance Range (mΩ)		TCR (PPM/ C)
				±1%	±5%	
RL0402	1/10W	-55~+155 C	50 - 99 100 - 499 500 - 976	800 500 200		
RL0603	1/8W				20 - 47 50 - 99 100 - 499 500 - 976	1200 800 500 200
RL0805	1/4W					
RL1206	1/3W	-55~+155 C	10 - 18 20 - 47 50 - 99 100 - 499 500 - 976	1500 1200 800 500 200		
RL1210	1/2W					
RL2010	1W					
RL2512	2W	-55~+155 C	10 - 18 20 - 47 50 - 99 100 - 499 500 - 976	1500 800 800 200 200		

Operating Voltage= $\sqrt{P \cdot R}$

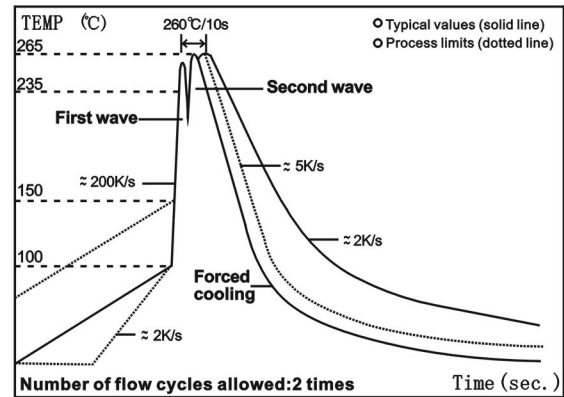
Overload Voltage= $2.5 \cdot \sqrt{P \cdot R}$

Soldering Condition



IR Reflow Soldering

- (1) Time of IR reflow soldering at maximum temperature point 260 C : 10s
- (2) Time of wave soldering at maximum temperature point 260 C : 10s
- (3) Time of soldering iron at maximum temperature point 410 C : 5s



Wave Soldering (Flow Soldering)

■ Environmental Characteristics

Item	Requirement		Test Method
	1%	5%	
Temperature Coefficient of Resistance (T.C.R.)	As Spec.		JIS C 5201-1 4.8 IEC 60115-1 4.8 -55°C~+125°C, 25°C is the reference temperature
Short Time Overload	± (1.0%+0.05Ω)	± (2.0%+0.05Ω)	JIS C 5201-1 4.13 IEC 60115-1 4.13 2.5 times RCWV or Max. overload voltage for 5 seconds, 2 seconds for high power series
Insulation Resistance	≥ 10G		JIS C 5201-1 4.6 IEC 60115-1 4.6 Max. overload voltage for 1 minute
Endurance	± (2.0%+0.10Ω)	± (3.0%+0.10Ω)	JIS C 5201-1 4.25 IEC 60115-1 4.25.1 70±2°C, Max. working voltage for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"
Damp Heat with Load	± (2.0%+0.10Ω)	± (3.0%+0.10Ω)	JIS C 5201-1 4.24 40±2°C, 90~95% R.H., Max. working voltage for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"
Dry Heat	± (1.0%+0.05Ω)	± (1.5%+0.10Ω)	JIS C 5201-1 4.23.2 IEC 60115-1 2.23.2 at +155°C for 1000 hrs
Bending Strength	± (1.0%+0.05Ω)	± (1.0%+0.05Ω)	JIS C 5201-1 4.33 IEC 60115-1 4.33 Bending once for 5 seconds with 3mm 2010, 2512 sizes: 2 mm
Solderability	>95% coverage		JIS C 5201-1 4.17 IEC 60115-1 4.17 245±5°C for 3 seconds
Resistance to Soldering Heat	± (0.5%+0.05Ω)	± (1.0%+0.05Ω)	JIS C 5201-1 4.18 IEC 60115-1 4.18 260±5°C for 10 seconds
Voltage Proof	No breakdown or flashover		JIS C 5201-1 4.7 IEC 60115-1 4.7 1.42 times RCWV (RMS) for 1 minute
Leaching	Individual leaching area ≤ 5% Total leaching area ≤ 10%		JIS C 5201-1 4.18 IEC 60068-2-58 8.2.1 260±5°C for 30 seconds
Rapid Change of Temperature	± (0.5%+0.05Ω)	± (1.0%+0.05Ω)	JIS C 5201-1 4.19 IEC 60115-1 4.19 -55°C to +155°C, 5 cycles

■ Storage Temperature: 25±3°C; Humidity < 80%RH