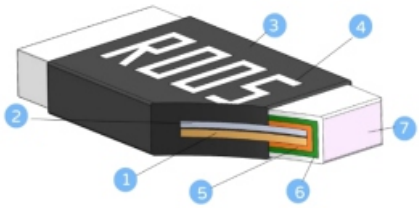
Features

-Heavy copper connectors
-Metallic Material
-Excellent long term stability and halogen free
-Stabilized materials allow for high power rating
-High reliability and stability
-High Rated Power
-RoHs compliant
-Low Inductance ⩽5nH
-Low TCR

Application

-Battery management system
-New energy vehicles
-Motherboard/notebook
-Electrical tools
-Consumer electrical equipment
-Fast charger
-Current sensing and voltage division
-Lithium battery protection
-Home appliances
-LED driver board
-Power Supply
-Smart home

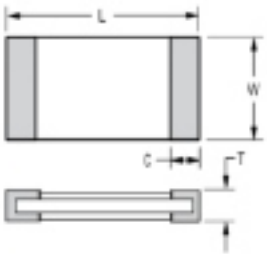
Construction



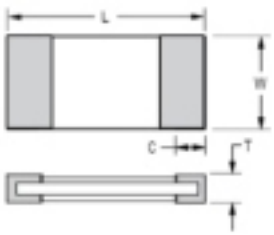
Item No.	Part name
1	Alloy material
2	Heat sink
3	Overcoat
4	Marking
5	Cu Layer
6	Ni Layer
7	Sn Layer

Dimensions

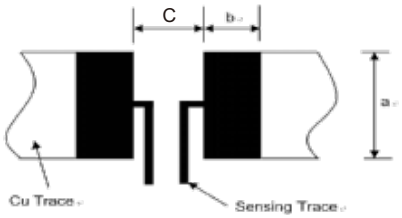
1206



1206S



Recommend Land Pattern



Type	Size (mm)	Power (W)	Resistance Range (mΩ)	L	W	C	T	a	b	b
LRB	2512	3W	2 ~100mΩ	6.4±0.20	3.2±0.20	0.95±0.25	0.9±0.2	4.0±0.1	3.1±0.1	1.3±0.1
	2512	2W	101~500mΩ							
	2512S	3W	1mΩ	6.4±0.20	3.2±0.20	2.1±0.25	0.9±0.2	4.0±0.1	2.1±0.1	4.1±0.1
	2512S	3W	2-4mΩ							

Ordering Information

Example

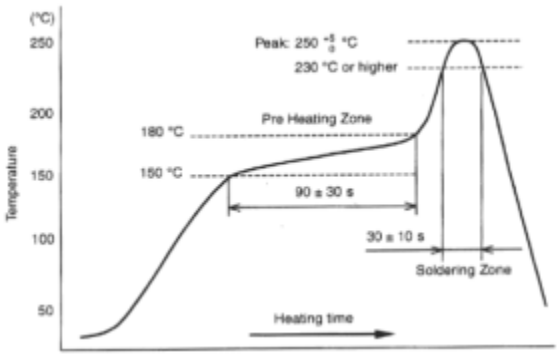
LRB	2512	2W	J	1mΩ	E
(1)	(2)	(3)	(4)	(5)	(6)
Type	Size (inch)	Reatd Power	Resistance Tolerance	Reisitance	Package

(1)Type:LRB
(2)Size:2512、2512S
(3)Reatd power:2W、3W
(4)Resistance Tolerance: D=±0.5%, F=±1%, G=±2%, J=±5%
(5)Reisitance:R001=1mΩ,R020=20mΩ,
(6)Package:E= Embossed taping

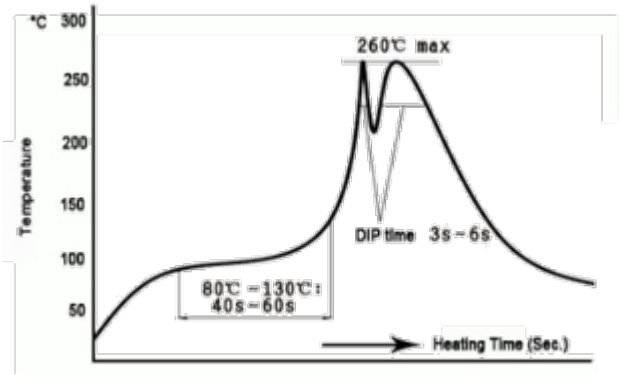
Power And Resistance etc

Item / Type	Power (W)	Resistance Range (mΩ)	Operating Temp. Range	TCR (PPM/℃)	Tolerance (%)	Rating Current	Overload Current
LRB (2512)	2-3W	2-100	-55~+170℃	±50	D=±0.5% F=±1% G=±2% J=±5%	$\sqrt{P.R}$	86.6
		101-500		±50			10
LRB(2512S)	3W	1		±75			122.47
		2-4		±50			96.60

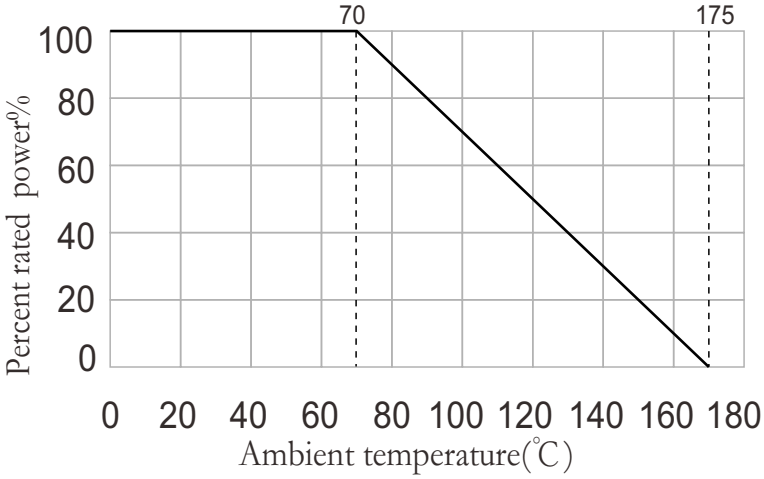
IR Reflow-Soldering Profile



Wave- Soldering Profile



Derating Curve



Performance

<table>
<tr><th>Item</th><th>Requirement</th><th>Test Method</th></tr>
<tr><td>Temperature Coefficient of Resistance (T.C.R.)</td><td>TCR (ppm/℃) = (R2-R1/R1*(T2-T1))X 106
R1:Room Temp. R value (Ω) R2: 125 ℃ Temp. R value (Ω)
T1:Room Temp.(℃) T2: 125 ℃ Refer to JIS C 5201-1 4.8</td><td>±50ppm/° C</td></tr>
<tr><td>Short Time Overload</td><td>Applied Overload for 5 seconds and release the load for about 24H, then measure its resistance variance rate. (Overload condition refer to below):Refer to JIS-C5201-14.13
<table>
<tr><th>Type</th><th>Power(W)</th><th>Power rating</th></tr>
<tr><td>2512</td><td>3W</td><td>R001~R100 * 5 times</td></tr>
<tr><td>2512S</td><td>3W</td><td>R101~R500 * 5 times</td></tr>
</table></td><td>⩽ ±0.5%</td></tr>
<tr><td>Biased Humidity</td><td>Put the tested resistor in chamber under 85℃and 85%RH with 10% bias and load the rated power for 90 minutes on, 30 minutes off, total 1,000 hours. Then leaving the tested resistor in room temperature for 60 minutes, and measure its resistance variance rate.Refer to MIL-STD-202 Method 103</td><td>≦ ±0.5%</td></tr>
<tr><td>Temperature Cycling</td><td>Put the tested resistor in the chamber under the temperature cycling which shown in the following table shall be repeated 1,000 times consecutively. Then leaving the tested resistor in the room temperature for 60 minutes, and measure its resistance variance rate.Refer to JESD22 Method JA-104
<table>
<tr><th colspan="2">Testing Condition</th></tr>
<tr><td>Lowest Temperature</td><td>-55℃ +0/-10℃</td></tr>
<tr><td>Highest Temperature</td><td>150℃ +10/-0℃</td></tr>
<tr><td>Dwell time)</td><td>30min maximum</td></tr>
</table></td><td>⩽ ±0.5%</td></tr>
<tr><td>Load Life</td><td>Put the tested resistor in chamber under temperature 70±2℃ and load the rated current for 90 minutes on 30 minutes off, total 1000 hours. Then leaving the tested resistor in room temperature for 60 minutes, and measure its resistance variance rate. Refer to JIS-C5201-1 4.25</td><td>⩽ ±1.0%</td></tr>
<tr><td>Low Temperature Exposure (Storage)</td><td>Put the tested resistor in chamber under temperature -55±2℃ for 1000hours. Then leaving the tested resistor in room temperature for 60 minutes, and measure its resistance variance rate.Refer to JIS-C5201-1 4.23.4</td><td>⩽ ±0.5%</td></tr>
<tr><td>High Temperature Exposure (Storage)</td><td>Put tested resistor in chamber under temperature 170℃ ±5℃ for 1,000 hours. Then leaving the tested resistor in room temperature for 60 minutes , and measure its resistance variance rate.Refer to JIS-C5201-1 4.23.2</td><td>⩽ ±1.0%</td></tr>
<tr><td>Resistance to Solder Heat</td><td>The tested resistor be immersed 25 mm/sec into molten solder of 260±5℃ for 10±1secs. Then the resistor is left in the room for 1 hour, and measured its resistance variance rate.。
Refer to JIS-C5201-1 4.18</td><td>≦ ±0.5%
Without mechanical damage</td></tr>
<tr><td>Solderability</td><td>Temperature of Solder: 245±5℃ Dipping time:3±1s</td><td>New solder coverage over 95%</td></tr>
<tr><td rowspan="2">Joint Strength of Solder</td><td>Test item 1 (Bending Strength): Solder tested resistor on to PC board add force in the middle down, and under load measured its resistance variance rate. D:2mm
Refer to JIS-C5201-1 4.33</td><td>ΔR:.≦ ±0.5%
without mechanical damage.
and No terminal peeling off
and core body cracked.</td></tr>
<tr><td>Test item 2 (Adhesion): A static load using a R0.5 scratch tool shall be applied on the core of the component and in the direction of the arrow and held for 10 seconds and under load measured its resistance variance rate. Load:17.7N
Refer to JIS-C5201-1 4.32</td><td>ΔR:≦ ±0.5% .
Without mechanical damage.
and No terminal peeling off.</td></tr>
</table>