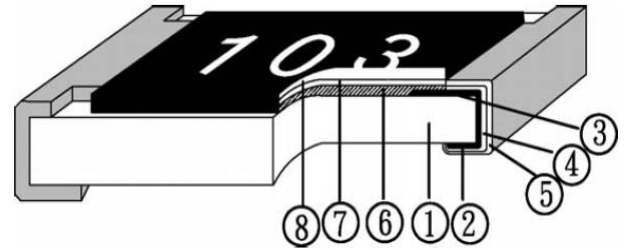


# RC series Thick Film High Ohm Chip Resistor

## ◆ Features

- » Small size and light weight.
- » Compatible with wave and reflow soldering.
- » Suitable for lead free soldering.
- » RoHS compliant & Halogen Free.



## ◆ Applications

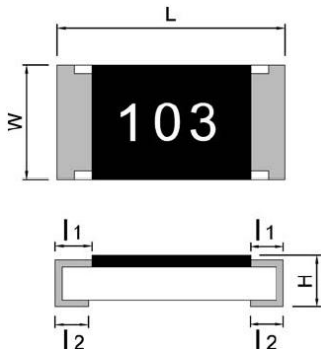
- » Automotive industry.
- » Consumer Electronics.
- » Measurement instrument.
- » Computer.

## ◆ Configuration

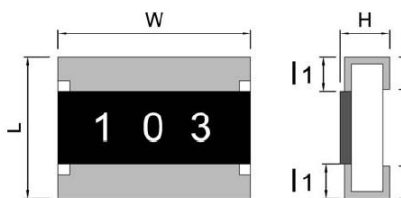
1	Alumina Substrate	5	External Electrode (Sn)
2	Bottom Electrode (Ag)	6	Resistor Layer (RuO <sub>2</sub> )
3	Top Electrode (Ag/Pd)	7	Primary Overcoat (Glass)
4	Barrier Layer (Ni)	8	Secondary Overcoat (Epoxy)

## ◆ Dimension

Unit: mm



RC0402 / RC0603 / RC0805 / RC1206  
RC1210 / RC2010 / RC2512



RC1218

TYPE	L	W	H	l1	l2
RC0402	1.00±0.01	0.50±0.05	0.30±0.05	0.20±0.10	0.25±0.10
RC0603	1.60±0.10	0.80±0.10	0.45±0.10	0.30±0.15	0.30±0.15
RC0805	2.00±0.10	1.25±0.10	0.50±0.10	0.35±0.20	0.35±0.15
RC1206	3.05±0.10	1.55±0.10	0.55±0.15	0.45±0.20	0.35±0.15
RC1210	3.05±0.10	2.55±0.10	0.55±0.10	0.50±0.20	0.50±0.20
RC2010	5.00±0.20	2.50±0.20	0.55±0.10	0.60±0.20	0.60±0.20
RC1218	3.10±0.10	4.60±0.10	0.55±0.05	0.40±0.20	0.50±0.20
RC2512	6.40±0.20	3.20±0.20	0.60±0.15	0.60±0.25	0.90±0.25

## ◆ Standard & High Power Electrical Specifications

TYPE	Power Rating At 70°C (W)		Max Working Voltage	Max Overload Voltage	TCR (ppm/°C) Lower Available	Resistance Range (mΩ)	
	Standard	High Power				1%	5%
RC0402	1/16 W (0.063 W)	-	50V	100V	±200	10.1M-54M	10.1M-100M
RC0603	1/10W (0.1W)	1/8 W (0.125 W)	50V	100V	±200	10.1M-54M	10.1M-100M
RC0805	1/8 W (0.125 W)	1/4 W (0.25 W)	150V	300V	±200	10.1M-54M	10.1M-100M
RC1206	1/4 W (0.25 W)	1/2 W (0.5 W)	200V	400V	±200	10.1M-54M	10.1M-100M
RC1210	1/3 W (0.33 W)	1/1.5W (0.66W)	200V	400V	±200	10.1M-54M	10.1M-100M
RC2010	1/2 W (0.5 W)	1W	200V	400V	±200	10.1M-54M	10.1M-100M
RC1218	1W	-	200V	400V	±200	10.1M-54M	10.1M-100M
RC2512	1W	2W	200V	400V	±200	10.1M-54M	10.1M-100M

- Note: Lower TCR value is available for customer's requirement.

◆ Part Number

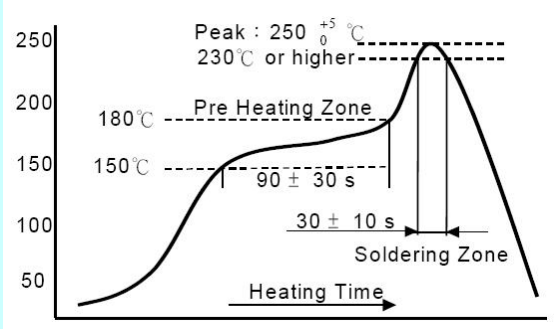
RC	0603	J	20M	□	□□
Type	Size	Tolerance	R VALUE	Reel Size	Package quantity
RC	0402	J=5%	20MΩ= 20M	Blank = 7"	(Standard Package As below)
	0603	F=1%		B= 13"	10 = 10K per reel
	0805			C= 10"	20 = 20K per reel
	1206				08= 8K per reel
	1210				16= 16K per reel
	1218				
	2512				

» Standard Package Q'ty for each size is as following.

TYPE	Standard Package Q'ty
RC0402	10K per reel
RC0603	5K per reel
RC0805	5K per reel
RC1206	5K per reel
RC1210	5K per reel
RC2010	4K per reel
RC1218	4K per reel
RC2512	4K per reel

## ◆ Specification

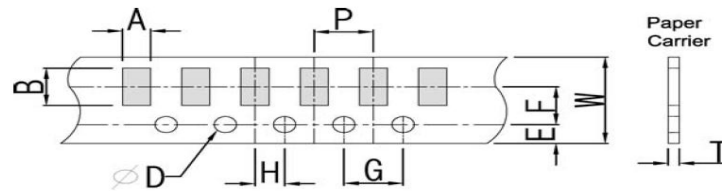
### Specification and Test Methods

TEST ITEM	TEST METHOD	SPECIFICATON	REQUIREMENTS
Temperature Coefficient of Resistance (T.C.R)	JIS C 5201-1 clause 4.8	-55°C ~+155°C, 20°C is the reference temperature	Refer to Ratings
Short Time Overload	JIS C 5201-1 clause 4.13	General : 2.5 times RCWV or Max. Overload voltage for 5 seconds. High Power : 2.5 times RCWV or Max. Overload voltage for 2 seconds.	±1% : ±(1.0%+0.05Ω) ±5% : ±(2.0%+0.1Ω)
IR Reflow	Sony SS-00254	 <p>The graph shows a temperature profile for IR reflow. The y-axis is temperature in °C (50 to 250) and the x-axis is Heating Time. Key points include: a pre-heating zone starting at 150°C and reaching 180°C; a peak temperature of 250°C ±5°C, which is 230°C or higher; a soldering zone with a duration of 30 ± 10 s; and a total heating time of 90 ± 30 s.</p>	±1% : ±(1.0%+0.05Ω) ±5% : ±(1.0%+0.05Ω)
Leaching	Sony SS-00254-9	260±5°C for 30 seconds.	>95% Coverage
Soldering Heat	JIS C 5201-1 clause 4.18	260±5°C for 10 seconds.	±1% : ±(0.5%+0.05Ω) ±5% : ±(1.0%+0.05Ω)
Temperature Cycling	JIS C 5201-1 clause 4.19	-55°C to +155°C, 5 cycles	±1% : ±(0.5%+0.05Ω) ±5% : ±(1.0%+0.10Ω)
Electric Iron	Sony SS-00254-5	Preheating temperature : 350±10°C Electric iron preheating time : 3+1/-0 sec	±1% : ±(1.0%+0.05Ω) ±5% : ±(1.0%+0.05Ω)
Resistance to Solvent	JIS C 5201-1 clause 4.29	The tested resistor be immersed into isopropyl alcohol of 20~25°C for 60 secs. Then the resistor is left in the room for 48 hrs.	±1% : ±(0.5%+0.05Ω) ±5% : ±(0.5%+0.05Ω)
Load Life in Humidity	JIS C 5201-1 clause 4.24	40±2°C, 90~95% R.H. or Max. working voltage for 1000 hrs with 1.5 hrs "ON" and 0.5 hr "OFF" .	±1% : ±(0.5%+0.05Ω) ±5% : ±(2.0%+0.05Ω)
Load Life (Endurance)	JIS C 5201-1 clause 4.25	70±2°C, or Max. working voltage for 1000 hrs with 1.5 hrs "ON" and 0.5 hr "OFF" .	±1% : ±(1.0%+0.05Ω) ±5% : ±(3.0%+0.10Ω)
Terminal Bending Strength	JIS C 5201-1 clause 4.33	Bending once for 5 seconds D : 0402、0603、0805=5mm 1206、1210=3mm 1218、2010、2512=2mm	±1% : ±(1.0%+0.05Ω) ±5% : ±(1.0%+0.05Ω)
Insulation Resistance	JIS C 5201-1 clause 4.6	Max. Overload voltage for 1 minute.	≥ 10GΩ

## ◆ Packing

### Tape Dimension

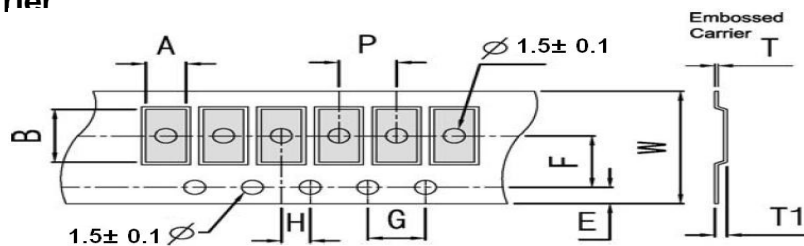
#### » Paper Carrier



Unit: mm

TYPE	A	B	W	E	F	G	H	T	$\phi D$	P
RC0402	0.70± 0.1	1.20± 0.1	8.0± 0.2	1.75± 0.1	3.5± 0.05	4.0± 0.1	2.0± 0.05	0.45± 0.1	1.5± 0.1	2.0± 0.1
RC0603	1.05± 0.2	1.80± 0.2	8.0± 0.2	1.75± 0.1	3.5± 0.05	4.0± 0.1	2.0± 0.05	0.60± 0.1	1.5± 0.1	4.0± 0.1
RC0805	1.55± 0.2	2.30± 0.2	8.0± 0.2	1.75± 0.1	3.5± 0.05	4.0± 0.1	2.0± 0.05	0.75± 0.1	1.5± 0.1	4.0± 0.1
RC1206	1.90± 0.2	3.50± 0.2	8.0± 0.2	1.75± 0.1	3.5± 0.05	4.0± 0.1	2.0± 0.05	0.75± 0.1	1.5± 0.1	4.0± 0.1
RC1210	2.85± 0.2	3.50± 0.2	8.0± 0.2	1.75± 0.1	3.5± 0.05	4.0± 0.1	2.0± 0.05	0.75± 0.1	1.5± 0.1	4.0± 0.1

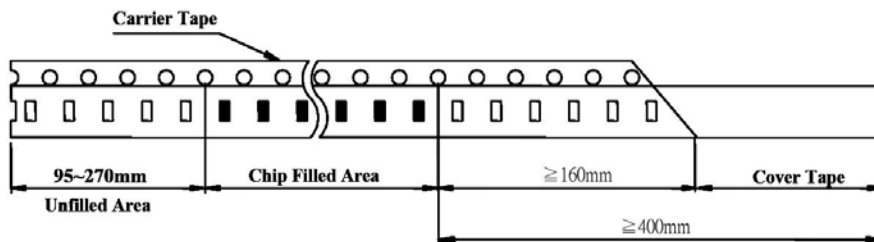
#### » Embossed Carrier



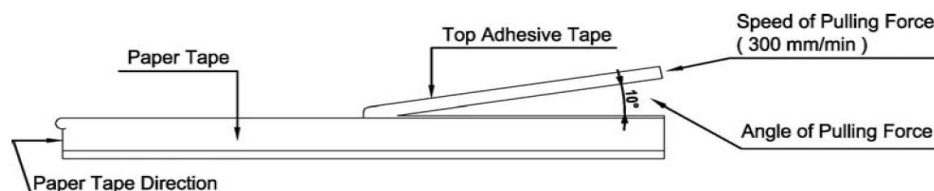
Unit: mm

TYPE	A	B	W	E	F	G	H	T	T1	P
RC2010	2.80± 0.2	5.60± 0.2	12.0± 0.2	1.75± 0.1	5.5± 0.05	4.0± 1	2.0± 0.05	0.23± 0.1	0.85± 0.15	4.0± 0.1
RC1218	3.30± 0.2	4.60± 0.2	12.0± 0.2	1.75± 0.1	5.5± 0.05	4.0± 1	2.0± 0.05	0.23± 0.1	0.85± 0.15	4.0± 0.1
RC2512	3.40± 0.2	6.70± 0.2	12.0± 0.2	1.75± 0.1	5.5± 0.05	4.0± 1	2.0± 0.05	0.23± 0.1	0.85± 0.15	4.0± 0.1

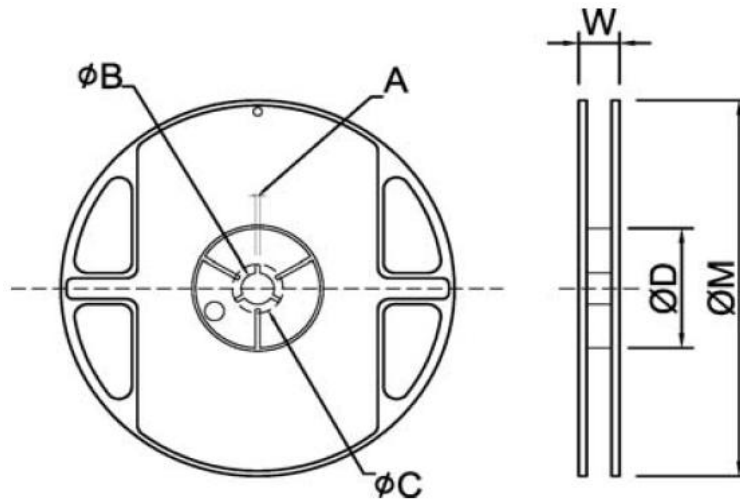
### Lead Dimensions



Top Adhesive Peel Off Strength : 10~70g



◆ **Packing**  
**Reel Dimensions**



Unit: mm

TYPE	SIZE		A	$\phi B$	$\phi C$	$\phi D$	W	$\phi M$
RC0402	7"	10K/Reel	2.0±0.5	13.5±1.0	21±1.0	60±1.0	11.5±2.0	178±2.0
RC0603 RC0805 RC1206 RC1210	7"	5K/Reel	2.0±0.5	13.5±1.0	21±1.0	60±1.0	11.5±2.0	178±2.0
RC2010 RC1218 RC2512	7"	4K/Reel	2.0±0.5	13.5±1.0	21±1.0	60±1.0	16.0±2.0	178±2.0