

SCOPE

This specification describes RC series chip resistors with lead free terminations made by thick film process.

APPLICATIONS

- All general purpose application

FEATURES

- Halogen Free Epoxy
- RoHS compliant
 - Products with lead free terminations meet RoHS requirements
 - Pb-glass contained in electrodes, resistors element and glass are exempted by RoHS
- Reducing environmentally hazardous wastes
- High component and equipment reliability
- Saving of PCB space
- None forbidden-materials used in products/production

ORDERING INFORMATION - GLOBAL PART NUMBER

Global part numbers are identified by the series, size, tolerance, packing type, temperature coefficient, taping reel and resistance value.

GLOBAL PART NUMBER

RC XXXX X X X XX XXXX L
 (1) (2) (3) (4) (5) (6) (7)

(1) SIZE

0075/0100/0201/0402/0603/0805/1206/1210/1218/2010/2512

(2) TOLERANCE

B = ±0.1%
 D = ±0.5%
 F = ±1.0%
 J = ±5.0% (for jumper ordering, use code of J)

(3) PACKAGING TYPE

R = Paper taping reel
 K = Embossed taping reel
 S = ESD safe reel (0075/0100 only)

(4) TEMPERATURE COEFFICIENT OF RESISTANCE

- = Based on spec.

(5) TAPING REEL

07= 7 inch dia. Reel
 10=10 inch dia. Reel
 13=13 inch dia. Reel
 7W = 7 inch dia. Reel & 2 x standard power
 7N = 7 inch dia. Reel, ESD safe reel (0075/0100 only)
 3W = 13 inch dia. Reel & 2 x standard power

(6) RESISTANCE VALUE

There are 2~4 digits indicated the resistance value.
 Letter R/K/M is decimal point

Example:
 97R6 = 97.6Ω
 9K76 = 9760Ω
 1M = 1,000,000Ω

(7) DEFAULT CODE

Letter L is the system default code for ordering only.^(Note)

ORDERING EXAMPLE

The ordering code for a RC0402 0.0625W chip resistor value 100KΩwith ±5% tolerance, supplied in 7-inch tape reel of 10,000 units per reel is: RC0402JR-07100KL.

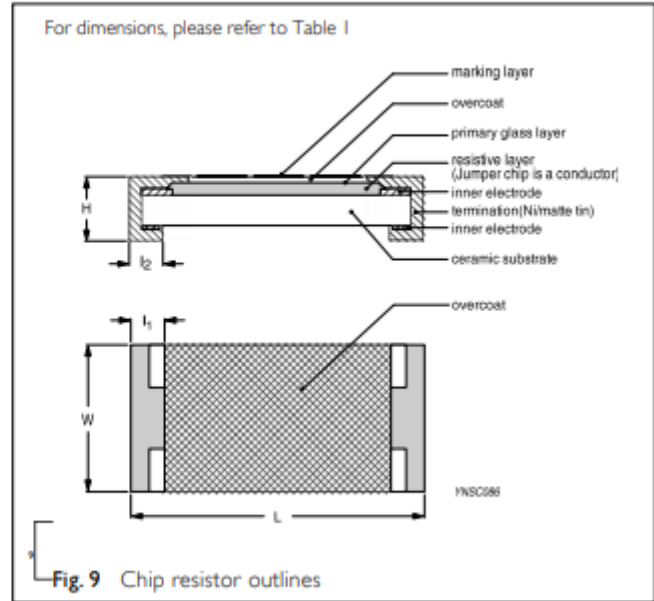
NOTE

1. All our RSMD products meet RoHS compliant and Halogen Free. "LFP" of the internal 2D reel label mentions "Lead Free Process".
2. On customized label, "LFP" or specific symbol can be printed.

CONSTRUCTION

The resistor is constructed on top of a high-grade ceramic body. Internal metal electrodes are added on each end to make the contacts to the thick film resistive element. The composition of the resistive element is a noble metal imbedded into a glass and covered by a second glass to prevent environmental influences. The resistor is laser trimmed to the rated resistance value. The resistor is covered with a protective epoxy coat, finally the two external terminations (matte tin on Ni-barrier) are added, as shown in Fig. 9.

Outlines



DIMENSION

Table 1

TYPE	L (mm)	W (mm)	H (mm)	L ₁ (mm)	L ₂ (mm)
RC0075	0.30±0.015	0.15±0.015	0.13±0.02	0.08±0.03	0.08±0.03
RC0100	0.40±0.02	0.20±0.02	0.13±0.02	0.10±0.03	0.10±0.03
RC0201	0.60±0.03	0.30±0.03	0.23±0.03	0.10±0.05	0.15±0.05
RC0402	1.00±0.05	0.50±0.05	0.35±0.05	0.20±0.10	0.25±0.10
RC0603	1.60±0.10	0.80±0.10	0.45±0.10	0.25±0.15	0.25±0.15
RC0805	2.00±0.10	1.25±0.10	0.50±0.10	0.35±0.20	0.35±0.20
RC1206	3.10±0.10	1.60±0.10	0.55±0.10	0.45±0.20	0.40±0.20
RC1210	3.10±0.10	2.60±0.15	0.55±0.10	0.45±0.15	0.50±0.20
RC1218	3.10±0.10	4.60±0.10	0.55±0.10	0.45±0.20	0.40±0.20
RC2010	5.00±0.10	2.50±0.15	0.55±0.10	0.45±0.15	0.50±0.20
RC2512	6.35±0.10	3.10±0.15	0.55±0.10	0.60±0.20	0.50±0.20

ELECTRICAL CHARACTERISTICS

Table 2

CHARACTERISTICS	POWER	OPERATING TEMPERATURE RANGE	MAXIMUM WORKING VOLTAGE	MAXIMUM OVERLOAD VOLTAGE	DIELECTRIC WITHSTANDING VOLTAGE	RESISTANCE RANGE	TEMPERATURE COEFFICIENT	JUMPER CRITERIA
RC0075	1/50 W	-55°C to 125°C	10V	25V	25V	5% (E24) 10Ω ≤ R ≤ 1MΩ 1% (E24/E96) 100Ω ≤ R ≤ 1MΩ Jumper < 50mΩ	100Ω ≤ R < 100Ω -200~+600ppm/°C 100Ω ≤ R ≤ 1MΩ ±200ppm/°C	Rated Current 0.5A Maximum Current 1.0A
RC0100	1/32 W	-55°C to 125°C	15V	30V	30V	5% (E24) 1Ω ≤ R ≤ 22MΩ 1% (E24/E96) 1Ω ≤ R ≤ 10MΩ 0.5% (E24/E96) 33Ω ≤ R ≤ 470KΩ Jumper < 50mΩ	1Ω ≤ R < 10Ω -200~+600ppm/°C 10Ω ≤ R < 100Ω: ±300ppm/°C 100Ω ≤ R ≤ 10MΩ: ±200ppm/°C 10MΩ < R ≤ 22MΩ: ±250ppm/°C	Rated Current 0.5A Maximum Current 1.0A

Table 2

CHARACTERISTICS	POWER	OPERATING TEMPERATURE RANGE	MAXIMUM WORKING VOLTAGE	MAXIMUM OVERLOAD VOLTAGE	DIELECTRIC WITHSTANDING VOLTAGE	RESISTANCE RANGE	TEMPERATURE COEFFICIENT	JUMPER CRITERIA
RC0201	1/20 W	-55°C to 125°C	25V	50V	50V	5% (E24) 1Ω≤R≤10MΩ 1% (E24/E96) 1Ω≤R≤10MΩ 0.1%, 0.5% (E24/E96) 10Ω≤R≤1MΩ Jumper<50mΩ	1Ω≤R≤10Ω -100~+350ppm°C 10Ω<R≤10MΩ ±200ppm°C	Rated Current 0.5A Maximum Current 1.0A
						RC0402	1/16 W	-55°C to 155°C
RC0603	1/8W	-55°C to 155°C	50V	100V	100V			
						RC0805	1/10 W	-55°C to 155°C
RC0805	1/5 W	-55°C to 155°C	75V	150V	150V			
						RC0805	1/8 W	-55°C to 155°C
RC0805	1/4 W	-55°C to 155°C	150V	300V	300V			

FOOTPRINT AND SOLDERING PROFILES

For recommended footprint and soldering profiles, please refer to data sheet "Chip resistors mounting"

Table 2

CHARACTERISTICS	POWER	OPERATING TEMPERATURE RANGE	MAXIMUM WORKING VOLTAGE	MAXIMUM OVERLOAD VOLTAGE	DIELECTRIC WITHSTANDING VOLTAGE	RESISTANCE RANGE	TEMPERATURE COEFFICIENT	JUMPER CRITERIA
RC1206	1/4 W	-55°C to 155°C	200V	400V	500V	5% (E24) 1Ω≤R≤100MΩ 1% (E24/E96) 10Ω≤R≤10MΩ 0.1%, 0.5% (E24/E96) 100Ω≤R≤1MΩ 10%, 20% (E24) 24MΩ≤R≤100MΩ Jumper<50mΩ	1Ω≤R≤10Ω ±200ppm/°C 10Ω<R≤10MΩ ±100ppm/°C 10MΩ<R≤22MΩ ±200ppm/°C 24MΩ≤R≤100MΩ ±300ppm/°C	Rated Current 2.0A Maximum Current 10.0A
	1/2 W	-55°C to 155°C	200V	400V	500V	5% (E24) 1Ω≤R≤1MΩ 1% (E24/E96) 1Ω≤R≤1MΩ	1Ω≤R≤1MΩ ±200ppm/°C	
RC1210	1/2 W	-55°C to 155°C	200V	500V	500V	5% (E24) 1Ω≤R≤22MΩ 1% (E24/E96) 10Ω≤R≤10MΩ 0.1%, 0.5% (E24/E96) 100Ω≤R≤1MΩ Jumper<50mΩ	1Ω≤R≤10Ω ±200ppm/°C 10Ω<R≤10MΩ ±100ppm/°C 10MΩ<R≤22MΩ ±200ppm/°C	Rated Current 2.0A Maximum Current 10.0A
RC1218	1 W	-55°C to 155°C	200V	500V	500V	5% (E24) 1Ω≤R≤1MΩ 1% (E24/E96) 10Ω≤R≤1MΩ 0.1%, 0.5% (E24/E96) 100Ω≤R≤1MΩ Jumper<50mΩ	1Ω≤R≤10Ω ±200ppm/°C 10Ω<R≤1MΩ ±100ppm/°C	Rated Current 6.0A Maximum Current 10.0A
RC2010	3/4 W	-55°C to 155°C	200V	500V	500V	5% (E24) 1Ω≤R≤22MΩ 1% (E24/E96) 10Ω≤R≤10MΩ 0.1%, 0.5% (E24/E96) 100Ω≤R≤1MΩ Jumper<50mΩ	1Ω≤R≤10Ω ±200ppm/°C 10Ω<R≤10MΩ ±100ppm/°C 10MΩ<R≤22MΩ ±200ppm/°C	Rated Current 2.0A Maximum Current 10.0A
RC2512	1 W	-55°C to 155°C	200V	500V	500V	5% (E24) 1Ω≤R≤22MΩ 1% (E24/E96) 10Ω≤R≤10MΩ 0.1%, 0.5% (E24/E96) 100Ω≤R≤1MΩ Jumper<50mΩ	1Ω≤R≤10Ω ±200ppm/°C 10Ω<R≤10MΩ ±100ppm/°C 10MΩ<R≤22MΩ ±200ppm/°C	Rated Current 2.0A Maximum Current 10.0A
	2 W	-55°C to 155°C	200V	400V	500V	5% (E24) 1Ω≤R≤1MΩ 1% (E24/E96) 1Ω≤R≤1MΩ	1Ω≤R≤1MΩ ±200ppm/°C	