

# **DATA SHEET**

# **GENERAL PURPOSE CHIP RESISTORS**

RC\_L series

±0.1%, ±0.5%, ±1%, ±5% Sizes 0075/0100/0201/0402/0603/0805/ 1206/1210/1218/2010/2512

RoHS compliant & Halogen free



**YAGEO** 



## 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
- MSL class: MSL I

#### 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) (

(I) SIZE

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

#### (2) TOLERANCE

 $B = \pm 0.1\%$ 

 $D = \pm 0.5\%$ 

 $F = \pm 1.0\%$ 

 $J = \pm 5.0\%$  (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 & POWER

07 = 7 inch dia. Reel & Standard power

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:

 $97R6 = 97.6\Omega$ 

 $9K76 = 9760\Omega$ 

 $IM = 1,000,000\Omega$ 

## (7) DEFAULT CODE

Letter L is the system default code for ordering only.  $\ensuremath{^{\text{(Note)}}}$ 

## **ORDERING EXAMPLE**

The ordering code for a RC0402 0.0625W chip resistor value  $100 \text{K}\Omega$  with  $\pm$  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.



**Chip Resistor Surface Mount** 

RC\_L

SERIES

0075 to 2512

# **MARKING**

# RC0075 / RC0100 / RC0201 / RC0402



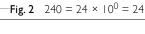
No Marking

...Fig. I

#### RC0603



1%, 0.5%,E24 exception values 10/11/13/15/20/75 of E24 series





1%, 0.5%, E96 refer to EIA-96 marking method, including values 10/11/13/15/20/75 of E24 series



Fig. 4 Value =  $10 \text{ K}\Omega$ 

5%, E24

5%, E24 series: 3 digits

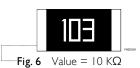
First two digits for significant figure and 3rd digit for number of zeros

# RC0805 / RC1206 / RC1210 / RC2010 / RC2512



1%, 0.5%, E24/E96 series : 4 digits

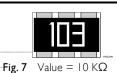
First three digits for significant figure and 4th digit for number of zeros



5%, E24 series: 3 digits

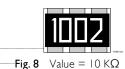
First two digits for significant figure and 3rd digit for number of zeros

# RC1218



E-24 series: 3 digits, ±5%

First two digits for significant figure and 3rd digit for number of zeros



Both E-24 and E-96 series: 4 digits, ±1% & ±0.5%

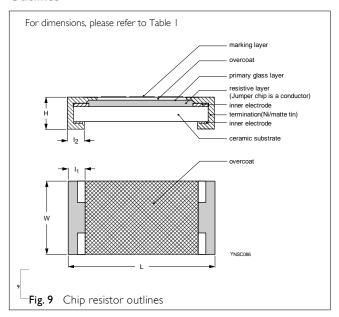
First three digits for significant figure and 4th digit for number of zeros

For further marking information, please see special data sheet "Chip resistors marking".

# **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 I

TYPE	L (mm)	W (mm)	H (mm)	I <sub>I</sub> (mm)	l <sub>2</sub> (mm)
RC0075	0.30±0.01	0.15±0.01	0.13±0.01	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	0.45±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	0.60±0.20	0.55±0.20
RC2512	6.35±0.10	3.10±0.15	0.55±0.10	0.60±0.20	0.60±0.20

# **ELECTRICAL CHARACTERISTICS**

Table 2

CHARAC- TERISTICS	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) $10\Omega \le R \le IM\Omega$ 1% (E24/E96) $10\Omega \le R \le IM\Omega$ Jumper< $50m\Omega$	$10\Omega \le R<100\Omega$ $-200\sim+600ppm$ °C $100\Omega \le R \le IM\Omega$ $\pm 200ppm$ °C	Rated Current 0.5A Maximum Current 1.0A
RC0100	1/32 W	-55°C to 125°C	15V	30V	30V	$\begin{array}{c} 5\% \text{ (E24)} \\ \text{I } \Omega \leqq \text{R} \leqq 22\text{M}\Omega \\ \text{I } \% \text{ (E24/E96)} \\ \text{I } \Omega \leqq \text{R} \leqq \text{IOM}\Omega \\ \text{0.5\% (E24/E96)} \\ 33\Omega \leqq \text{R} \leqq 470\text{K}\Omega \\ \text{Jumper} < 50\text{m}\Omega \end{array}$	$\begin{split} &I\Omega \leqq R < I0\Omega \\ -200 \sim +600 ppm^{\circ}C \\ &I0\Omega \le R < I00\Omega : \\ &\pm 300 ppm/^{\circ}C \\ &I00\Omega \le R \le I0M \\ &\Omega : \pm 200 ppm/^{\circ}C \\ &I0M\Omega < R \le 22M \\ &\Omega : \pm 250 ppm/^{\circ}C \end{split}$	Rated Current 0.5A Maximum Current 1.0A



Chip Resistor Surface Mount RC\_L SERIES 0075 to 2512

Table 2

CHARAC- TERISTICS	POWER	OPERATING TEMPERATURE RANGE	MAXIMUM WORKING VOLTAGE	MAXIMUM OVERLOAD V VOLTAGE	DIELECTRIC WITHSTANDING VOLTAGE	resistance Range	TEMPERATURE COEFFICIENT	JUMPER CRITERIA
RC0201	1/20 W	-55°C to 125°C	25V	50V	50V	$5\% \text{ (E24)}$ $1\Omega \leq R \leq 10\text{M}\Omega$ $1\% \text{ (E24/E96)}$ $1\Omega \leq R \leq 10\text{M}\Omega$ $0.5\% \text{ (E24/E96)}$ $1\Omega \leq R \leq 1\text{M}\Omega$ $0.1\% \text{ (E24/E96)}$ $10\Omega \leq R \leq 1\text{M}\Omega$ $\text{Jumper} < 50\text{m}\Omega$	I $\Omega$ ≤ R ≤ I0 $\Omega$ -I00~+350ppm°C I0 $\Omega$ < R ≤ I0M $\Omega$ ±200ppm°C	Rated Current 0.5A Maximum Current 1.0A
RC0402	1/16 W	-55°C to 155°C	50V	100V	100V	$5\% \text{ (E24)}$ $1\Omega \leq R \leq 22M\Omega$ $1\% \text{ (E24/E96)}$ $1\Omega \leq R \leq 10M\Omega$ $0.5\% \text{ (E24/E96)}$ $1\Omega \leq R \leq 1M\Omega$ $0.1\% \text{ (E24/E96)}$ $10\Omega \leq R \leq 1M\Omega$ $\text{Jumper} \leq 50m\Omega$	$\begin{split} & I \Omega \leqq R \leqq I 0 \Omega \\ & \pm 200 ppm^{\circ} C \\ & I 0 \Omega < R \leqq I 0 M \Omega \\ & \pm I 00 ppm^{\circ} C \\ & I 0 M \Omega < R \leqq \\ & 22 M \Omega \\ & \pm 200 ppm^{\circ} C \end{split}$	Rated Current I.0A Maximum Current 2.0A
	1/8W	-55°C to 155°C	50V	100V	100V	5% (E24) I $\Omega \le R \le IM\Omega$ I% (E24/E96) I $\Omega \le R \le IM\Omega$	IΩ≦R≦IMΩ ±200ppm°C	
RC0603	1/10 W	-55°C to 155°C	<b>75</b> V	150V	150V	$5\% \text{ (E24)}$ $1\Omega \leq R \leq 22M\Omega$ $1\% \text{ (E24/E96)}$ $1\Omega \leq R \leq 10M\Omega$ $0.5\% \text{ (E24/E96)}$ $1\Omega \leq R \leq 1M\Omega$ $0.1\% \text{ (E24/E96)}$ $10\Omega \leq R \leq 1M\Omega$ $\text{Jumper} < 50m\Omega$	$\begin{split} & \hspace{-0.1cm} $	Rated Current I.0A Maximum Current 2.0A
	1/5 W	-55°C to 155°C	75V	150V	150V	5% (E24) I $\Omega \le R \le I M \Omega$ I% (E24/E96) I $\Omega \le R \le I M \Omega$	IΩ≦R≦IMΩ ±200ppm°C	
RC0805	1/8 W	-55°C to 155°C	150V	300V	300V	$\begin{array}{c} 5\% \ (\text{E24}) \\ \text{I} \ \Omega \leqq R \leqq \text{I} 00 \text{M} \Omega \\ \text{I} \ \% \ (\text{E24/E96}) \\ \text{I} \ \Omega \leqq R \leqq \text{I} 0 \text{M} \Omega \\ 0.5\% \ (\text{E24/E96}) \\ \text{I} \ \Omega \leqq R \leqq \text{I} \text{M} \Omega \\ 0.1\% \ (\text{E24/E96}) \\ \text{I} \ \Omega \leqq R \leqq \text{I} \text{M} \Omega \\ \text{I} \ 0.0 \cong R \leqq \text{I} \text{M} \Omega \\ \text{I} \ 0.0 \cong R \leqq \text{I} \text{M} \Omega \\ \text{I} \ 0.0 \cong R \leqq \text{I} \text{M} \Omega \\ \text{I} \ 0.0 \cong R \cong \text{I} \text{M} \Omega \\ \text{I} \ 0.0 \cong R \cong \text{I} \text{M} \Omega \\ \text{I} \ 0.0 \cong R \cong \text{I} \text{M} \Omega \\ \text{I} \ 0.0 \cong R \cong \text{I} \text{M} \Omega \\ \text{I} \ 0.0 \cong R \cong \text{I} \text{M} \Omega \\ \text{I} \ 0.0 \cong R \cong \text{I} \text{M} \Omega \\ \text{I} \ 0.0 \cong R \cong \text{I} \text{M} \Omega \\ \text{I} \ 0.0 \cong R \cong \text{I} \text{M} \Omega \\ \text{I} \ 0.0 \cong R \cong \text{I} \text{M} \Omega \\ \text{I} \ 0.0 \cong R \cong \text{I} \text{M} \Omega \\ \text{I} \ 0.0 \cong R \cong \text{I} \text{M} \Omega \\ \text{I} \ 0.0 \cong R \cong \text{I} \text{M} \Omega \\ \text{I} \ 0.0 \cong R \cong \text{I} \text{M} \Omega \\ \text{I} \ 0.0 \cong R \cong \text{I} \text{M} \Omega \\ \text{I} \ 0.0 \cong R \cong \text{I} \text{M} \Omega \\ \text{I} \ 0.0 \cong R \cong \text{I} \text{M} \Omega \\ \text{I} \ 0.0 \cong \text{I} \ 0.0 \cong \text{I} \ 0.0 \cong \text{I} \\ \text{I} \ 0.0 \cong \text{I} \ 0.0 \cong \text{I} \ 0.0 \cong \text{I} \\ \text{I} \ 0.0 \cong \text{I} \ 0.0 \cong \text{I} \ 0.0 \cong \text{I} \\ \text{I} \ 0.0 \cong $	$\begin{split} & \hspace{-0.1cm} $	Rated Current 2.0A Maximum Current 5.0A
	1/4 W	-55°C to 155°C	150V	300V	300V	5% (E24) $I \Omega \leq R \leq I M \Omega$ I% (E24/E96) $I \Omega \leq R \leq I M \Omega$	IΩ≦R≦IMΩ ±200ppm°C	



# FOOTPRINT AND SOLDERING PROFILES

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

	Гаb	le	2
'	au		_

CHARAC- TERISTICS	POWER	OPERATING TEMPERATURE RANGE	MAXIMUM WORKING VOLTAGE	MAXIMUM OVERLOAD V VOLTAGE	DIELECTRIC /ITHSTANDING VOLTAGE	resistance range	TEMPERATURE COEFFICIENT	JUMPER CRITERIA
RC1206	1/4 W	-55°C to 155°C	200V	400V	500V	$\begin{array}{c} 5\% \ (\text{E24}) \\ \text{I} \ \Omega \leqq R \leqq 100M\Omega \\ \text{I} \% \ (\text{E24/E96}) \\ \text{I} \ \Omega \leqq R \leqq 10M\Omega \\ \text{0.5} \% \ (\text{E24/E96}) \\ \text{I} \ \Omega \leqq R \leqq \text{IM}\Omega \\ \text{0.1} \% \ (\text{E24/E96}) \\ \text{I} \ \Omega \leqq R \leqq \text{IM}\Omega \\ \text{0.0} \ \Omega \leqq R \leqq \text{IM}\Omega \\ \text{I} \ \Omega \% \ 20\% \ (\text{E24}) \\ \text{24M} \ \Omega \leqq R \leqq 100M\Omega \\ \text{Jumper} < 50m\Omega \end{array}$	$\begin{split} & \hspace{-0.1cm} $	Rated Current 2.0A Maximum Current 10.0A
	1/2 W	-55°C to 155°C	200V	400V	500V	$5\% \text{ (E24)}$ $I \Omega \leq R \leq IM\Omega$ $I\% \text{ (E24/E96)}$ $I \Omega \leq R \leq IM\Omega$	IΩ≦R≦IMΩ ±200ppm°C	
RC1210	1/2 W	-55°C to 155°C	200V	500∨	500V	$\begin{array}{c} 5\% \text{ (E24)} \\ \text{I } \Omega \leqq \text{R} \leqq 22\text{M}\Omega \\ \text{I } \% \text{ (E24/E96)} \\ \text{I } \Omega \leqq \text{R} \leqq 10\text{M}\Omega \\ \text{0.1\%, 0.5\% (E24/E96)} \\ \text{I } 0\Omega \leqq \text{R} \leqq \text{I } \text{M}\Omega \\ \text{Jumper} < 50\text{m}\Omega \end{array}$	$I \Omega \leq R \leq I0 \Omega$ $\pm 200 \text{ppm}^{\circ} \text{C}$ $I0\Omega < R \leq I0M\Omega$ $\pm 100 \text{ppm}^{\circ} \text{C}$ $I0M\Omega < R \leq$ $22M\Omega$ $\pm 200 \text{ppm}^{\circ} \text{C}$	Rated Current 2.0A Maximum Current 10.0A
RC1218	ΙW	-55°C to 155°C	200V	500V	500V	$5\% \text{ (E24)}$ $1\Omega \leq R \leq IM\Omega$ $1\% \text{ (E24/E96)}$ $1\Omega \leq R \leq IM\Omega$ $0.1\%, 0.5\% \text{ (E24/E96)}$ $10\Omega \leq R \leq IM\Omega$ $Jumper<50m\Omega$	$I\Omega$ ≦R ≤ $I0\Omega$ $\pm 200 ppm$ °C $I0\Omega$ <r <math="" ≤="">IM\Omega <math>\pm 100 ppm</math>°C</r>	Rated Current 6.0A Maximum Current 10.0A
RC2010	3/4 W	-55°C to 155°C	200V	500∨	500V	$5\% \text{ (E24)}$ $1\Omega \leq R \leq 22M\Omega$ $1\% \text{ (E24/E96)}$ $1\Omega \leq R \leq 10M\Omega$ $0.1\%, 0.5\% \text{ (E24/E96)}$ $10\Omega \leq R \leq 1M\Omega$ $\text{Jumper} \leq 50m\Omega$	$I \Omega \leq R \leq I0\Omega$ $\pm 200 \text{ppm}^{\circ} \text{C}$ $I0\Omega < R \leq I0M\Omega$ $\pm I00 \text{ppm}^{\circ} \text{C}$ $I0M\Omega < R \leq$ $22M\Omega$ $\pm 200 \text{ppm}^{\circ} \text{C}$	Rated Current 2.0A Maximum Current 10.0A
RC2512	ΙW	-55°C to 155°C	200V	500∨	500V	$5\% \text{ (E24)}$ $1\Omega \leq R \leq 22M\Omega$ $1\% \text{ (E24/E96)}$ $1\Omega \leq R \leq 10M\Omega$ $0.1\%, 0.5\% \text{ (E24/E96)}$ $10\Omega \leq R \leq 1M\Omega$ $\text{Jumper} \leq 50m\Omega$	$I \Omega \leq R \leq I0\Omega$ $\pm 200 \text{ppm}^{\circ} \text{C}$ $I0\Omega < R \leq I0M\Omega$ $\pm I00 \text{ppm}^{\circ} \text{C}$ $I0M\Omega < R \leq$ $22M\Omega$ $\pm 200 \text{ppm}^{\circ} \text{C}$	Rated Current 2.0A Maximum Current 10.0A
	2 W	-55°C to 155°C	200V	400V	500V	5% (E24) $I \Omega \leq R \leq I M \Omega$ $I \% (E24/E96)$ $I \Omega \leq R \leq I M \Omega$	IΩ≦R≦IMΩ ±200ppm°C	

# PACKING STYLE AND PACKAGING QUANTITY

Table 3 Packing style and packaging quantity

PACKING STYLE	PAPER TAPING REEL (R)			ESD SAFE REEL (S) (4MM WIDTH, IMM PITCH PLASTIC EMBOSSED)	EMBOSSED TAPING REEL		
REEL DIMENSION	7" (178 mm)	10" (254mm)	13" (330 mm)	7" (178 mm)	7" (178 mm)	13" (330 mm)	
RC0075				20000			
RC0100	20000		80000	40000			
RC0201	10000	20000	50000				
RC0402	10000	20000	50000				
RC0603	5000	10000	20000				
RC0805	5000	10000	20000				
RC1206	5000	10000	20000				
RC1210	5000	10000	20000				
RC1218					4000		
RC2010					4000	16000	
RC2512					4000		

#### NOTE

For tape and reel specification/dimensions, please refer to data sheet "Chip resistors packing".

# **FUNCTIONAL DESCRIPTION**

## **OPERATING TEMPERATURE RANGE**

RC0402 to RC2512 Range: -55°C to +155°C (Fig. 10-1) RC0075 to RC0201 Range: -55°C to +125°C (Fig. 10-2)

# **POWER RATING**

Each type rated power at 70 °C:

RC0075=1/50W

RC0100=1/32W

RC0201=1/20W

RC0402=1/16W, 1/8W

RC0603=1/10W, 1/5W

RC0805=1/8W, 1/4W

RC1206=1/4W, 1/2W

RC1210=1/2W

RC1218=1W

RC2010=3/4W

RC2512=1W, 2W

#### **RATED VOLTAGE**

The DC or AC (rms) continuous working voltage corresponding to the rated power is determined by the following formula:

$$V = \sqrt{(PxR)}$$

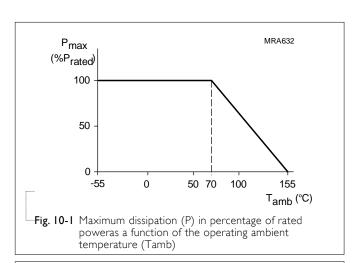
or max. working voltage whichever is less

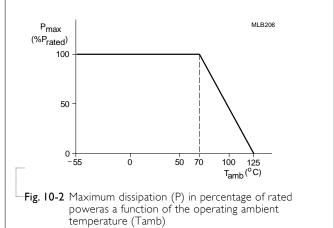
Whore

V = Continuous rated DC or AC (rms) working voltage (V)

P = Rated power (W)

 $R = Resistance value (\Omega)$ 







SERIES 0075 to 2512

# TESTS AND REQUIREMENTS

# Table 4 Test condition, procedure and requirements

TEST	TEST METHOD	PROCEDURE	REQUIREMENTS
Temperature Coefficient of Resistance	MIL-STD-202 Method 304	At +25/–55°C and +25/+125°C	Refer to table 2
(T.C.R.)		Formula:	
		T.C.R= $\frac{R_2 - R_1}{R_1(t_2 - t_1)} \times 10^6 \text{ (ppm/°C)}$	
		Where $t_1$ =+25 °C or specified room temperature	
		$t_2$ =-55 °C or +125 °C test temperature	
		$R_1$ =resistance at reference temperature in ohms $R_2$ =resistance at test temperature in ohms	
Life/ Endurance	MIL-STD-202 Method 108 IEC 60115-1 7.1	At 70±2°C for 1,000 hours; RCWV applied for 1.5 hours on and 0.5 hour off, still air required	$0075: \pm (5\% + 100 \text{m}\Omega)$ $< 100 \text{m}\Omega \text{ for jumper}$ $01005: \pm (3\% + 50 \text{m}\Omega)$ $< 100 \text{m}\Omega \text{ for jumper}$ $Others:$ $\pm (1\% + 50 \text{m}\Omega) \text{ for B/D/F tol}$ $\pm (3\% + 50 \text{m}\Omega) \text{ for J tol}$ $< 100 \text{mR for jumper}$
High Temperature Exposure	MIL-STD-202 Method 108 IEC 60068-2-2	I,000 hours at maximum operating temperature depending on specification, unpowered.	$0075$ : $\pm$ (5%+100m $\Omega$ ) <100m $\Omega$ for jumper 01005: $\pm$ (1% +50m $\Omega$ ) < 50m $\Omega$ for jumper Others:
			$\pm$ (1%+50m $\Omega$ ) for B/D/F tol $\pm$ (2%+50m $\Omega$ ) for J tol <50mR for jumper
Moisture Resistance	MIL-STD-202 Method I06	Each temperature / humidity cycle is defined at 8 hours, 3 cycles / 24 hours for 10d with 25°C / 65°C 95% R.H, without steps	$0075$ : $\pm (2\%+100\text{m}\Omega)$ $<100\text{m}\Omega \text{ for jumper}$ $01005$ : $\pm (2\%+50\text{m}\Omega)$ $<100\text{m}\Omega \text{ for jumper}$
		7a & 7b, unpowered Parts mounted on test-boards, without condensation on parts	Others: $ \pm (0.5\% + 50 \text{m}\Omega) \text{ for B/ D/F tol} $ $ \pm (2\% + 50 \text{m}\Omega) \text{ for J tol} $ $ < 100 \text{mR for jumper} $
Humidity	IEC 60115-1 10.4	Steady state for 1000 hours at 40°C / 95% R.H. RCWV applied for 1.5 hours on and 0.5 hour off	0075: $\pm$ (5%+100m $\Omega$ ) no visible damage 01005: $\pm$ (3% +50m $\Omega$ ) < 100m $\Omega$ for jumper
			Others: $\pm (1\% + 50 \text{m}\Omega) \text{ for B/D/F tol}$ $\pm (2\% + 50 \text{m}\Omega) \text{ for J tol}$ $< 100 \text{mR for jumper}$



# Chip Resistor Surface Mount RC\_L SERIES 0075 to 2512

Thermal Shock	MIL-STD-202 Method 107	-55/+125°C  Note Number of cycles required is 300.  Devices mounted  Maximum transfer time is 20 seconds.  Dwell time is 15 minutes. Air - Air	0075/01005: $\pm$ (1% +50m $\Omega$ ) < 50m $\Omega$ for jumper Others: $\pm$ (0.5%+50m $\Omega$ ) for B/D/F tol $\pm$ (1%+50m $\Omega$ ) for J tol < 50mR for jumper
Short Time Overload	IEC 60115-1 8.1	2.5 times RCWV or maximum overload voltage which is less for 5 seconds at room temperature	0075/01005: $\pm$ (2% $\pm$ 50m $\Omega$ ) $<$ 50m $\Omega$ for jumper Others: $\pm$ (1% $\pm$ 50m $\Omega$ ) for B/D/F tol $\pm$ (2% $\pm$ 50m $\Omega$ ) for J tol <50mR for jumper No visible damage
Board Flex/ Bending	IEC 60115-1 9.8	Device mounted or as described only I board bending required bending time: 60±5 seconds 0075/0100/0201/0402:5mm; 0603/0805:3mm; 1206 and above:2mm	0075/01005: $\pm$ (1% +50m $\Omega$ ) < 50m $\Omega$ for jumper Others: $\pm$ (1%+50m $\Omega$ ) for B/D/F/J tol <50mR for jumper No visible damage
Solderability - Wetting	J-STD-002 test BI	Electrical Test not required Magnification 50X SMD conditions:  Ist step: method BI, aging 4 hours at I55°C dry heat  2nd step: leadfree solder bath at 245±3°C Dipping time: 3±0.5 seconds	Well tinned (>95% covered) No visible damage
-Leaching	J-STD-002 test D	Leadfree solder ,260°C, 30 seconds immersion time	No visible damage
-Resistance to Soldering Heat	MIL-STD-202 Method 210 IEC 60115-1 4.18	Condition B, no pre-heat of samples Leadfree solder, 260°C ±5°C, 10 ±1 seconds immersion time Procedure 2 for SMD: devices fluxed and cleaned with isopropanol	$0075: \pm (3\% + 50 \text{m}\Omega)$ $< 50 \text{m}\Omega \text{ for jumper}$ $01005: \pm (1\% + 50 \text{m}\Omega)$ $< 50 \text{m}\Omega \text{ for jumper}$ Others: $\pm (0.5\% + 50 \text{m}\Omega) \text{ for B/D/F tol.}$ $\pm (1\% + 50 \text{m}\Omega) \text{ for J tol.}$ $< 50 \text{mR for jumper}$ No visible damage

Chip Resistor Surface Mount RC\_L SERIES 0075 to 2512

# **REVISION HISTORY**

REVISION	DATE	CHANGE NOTIFICATION	DESCRIPTION
Version 12	Aug. 02, 2022	-	- 12 dimension updated, for size 1206, size 2010, size 2512.
Version 11	May 15, 2020	-	- Extend RC0201, RC0402, RC0603, RC0805, RC1206 D tol resistance range to lohm
Version 10	Dec. 12, 2018	-	- Updated 0075 dimensions
Version 9	Mar. 06, 2018	-	- Add 0.5%/1% marking rule for RC0603 ~ RC2512 based on marking datasheet
Version 8	July 10, 2017	-	- Add "3W" part number coding for 13" Reel & double power
Version 7	Mar. 7, 2017	-	- Add 10" packing
Version 6	Feb.15, 2017	-	- Extend RC0805 and RC1206 resistance range to 100Mohm
Version 5	Oct. 06, 2016	-	- Description: Update Dimension of I2 of RC2512 (2W)
Version 4	Jan. 22, 2016	-	- Update resistance range
Version 3	Dec. 24, 2015	-	- Updated test and requirements
Version 2	Jul. 23, 2015	-	- Updated test and requirements
Version I	Jan. 21, 2015	-	- ESD Safe Reel update
Version 0	Dec. 15, 2014	-	- First issue of this specification



11 11

SERIES

0075 to 2512

# LEGAL DISCLAIMER

YAGEO, its distributors and agents (collectively, "YAGEO"), hereby disclaims any and all liabilities for any errors, inaccuracies or incompleteness contained in any product related information, including but not limited to product specifications, datasheets, pictures and/or graphics. YAGEO may make changes, modifications and/or improvements to product related information at any time and without notice.

YAGEO makes no representation, warranty, and/or guarantee about the fitness of its products for any particular purpose or the continuing production of any of its products. To the maximum extent permitted by law, YAGEO disclaims (i) any and all liability arising out of the application or use of any YAGEO product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for a particular purpose, non -infringement and merchantability.

YAGEO products are designed for general purpose applications under normal operation and usage conditions. Please contact YAGEO for the applications listed below which require especially high reliability for the prevention of defects which might directly cause damage to the third party's life, body or property: Aerospace equipment (artificial satellite, rocket, etc.), Atomic energy-related equipment, Aviation equipment, Disaster prevention equipment, crime prevention equipment, Electric heating apparatus, burning equipment, Highly public information network equipment, data-processing equipment, Medical devices, Military equipment, Power generation control equipment, Safety equipment, Traffic signal equipment, Transportation equipment and Undersea equipment, or for any other application or use in which the failure of YAGEO products could result in personal injury or death, or serious property damage. Particularly YAGEO Corporation and its affiliates do not recommend the use of commercial or automotive grade products for high reliability applications or manned space flight.

Information provided here is intended to indicate product specifications only. YAGEO reserves all the rights for revising this content without further notification, as long as products are unchanged. Any product change will be announced by PCN.

# **X-ON Electronics**

Largest Supplier of Electrical and Electronic Components

Click to view similar products for Thick Film Resistors - SMD category:

Click to view products by Yageo manufacturer:

Other Similar products are found below:

CR-05FL7--150R CR-05FL7--698K CR-12JP4--680R CRCW04021K20FKEE CRCW04028R20JNEE CRCW06032K10FKEC

CRCW06036K80FKEE M55342K03B499DRS6 M55342K06B14E0RS6 M55342K06B1E78RS3 M55342K06B6E19RWL

M55342K06B6E81RS3 M55342K09B5D62RS6 M55342M05B200DRWB M55342M06B26E7RS3 M55342M06B4K70MS3

742C083750JTR MCR01MZPF1202 MCR01MZPF1601 MCR01MZPF1800 MCR01MZPF6201 MCR01MZPF9102 MCR01MZPJ121

MCR01MZPJ125 MCR01MZPJ751 MCR03EZHJ103 MCR03EZPFX2004 MCR03EZPJ270 MCR03EZPJ821 MCR10EZPF1102

MCR10EZPF2700 MCR18EZPJ330 RC1005F1152CS RC1005F1182CS RC1005F1372CS RC1005F203CS RC1005F2052CS

RC1005F303CS RC1005F4321CS RC1005F471CS RC1005F4751CS RC1005F5621CS RC1005F6041CS RC1005J121CS RC1005J122CS

RC1005J180CS RC1005J181CS RC1005J202CS RC1005J391CS RC1005J512CS