



**THE DATASHEET OF  
RC1005F203CS**



# Thick Film General Chip Resistors



- 0402(01005), 0603(0201), 1005(0402), 1608(0603), 2012(0805), 3216(1206), 3225(1210), 5025(2010), 6432(2512)

## ■ Features

- Small, thin and lightweight
- High reliability
- Applicable Both flow and reflow soldering.
- Suitable size and package for surface mount assembly
- RoHS Compliant.

## ■ Part Number System

RC	
Type (Series)	General purpose chip resistor

0603	
Size : mm (inch)	
0402	0.4×0.2mm (01005)
0603	0.6×0.3mm (0201)
1005	1.0×0.5mm (0402)
1608	1.6×0.8mm (0603)
2012	2.0×1.2mm (0805)
3216	3.2×1.6mm (1206)
3225	3.2×2.5mm (1210)
5025	5.0×2.5mm (2010)
6432	6.4×3.2mm (2512)

F	
Tolerance	
D	±0.5%
F	±1.0%
G	±2.0%
J	±5.0%

\* Jumper : 'J'

2552	
Resistance Value	
-	3-digit code System (E-24 series)
-	4-digit code System (E-96 series)
-	Jumper : '000'
-	2552 : 25.5KΩ

## ■ Structure and Dimensions



[ Side View ]



[ Bottom View ]



Size(mil)	L	W	T	A
RC0402(01005)	0.40±0.02	0.20±0.02	0.13±0.02	0.10±0.03
RC0603(0201)	0.60±0.03	0.30±0.03	0.23±0.03	0.10±0.05
RC1005(0402)	1.00±0.05	0.50±0.05	0.35±0.05	0.20±0.10
RC1608(0603)	1.60±0.10	0.80±0.10	0.45±0.10	0.30±0.20
RC2012(0805)	2.00±0.20	1.25±0.15	0.55±0.10	0.40±0.20
RC3216(1206)	3.20±0.20	1.60±0.15	0.55±0.10	0.45±0.20
RC3225(1210)	3.20±0.20	2.55±0.20	0.55±0.10	0.45±0.20
RC5025(2010)	5.00±0.20	2.50±0.20	0.55±0.10	0.60±0.20
RC6432(2512)	6.30±0.20	3.20±0.20	0.55±0.10	0.60±0.20

## ■ Applications and Ratings

Type	Size (mil)	Rated Power [W]	Rated Voltage [V]	Max Working Voltage [V]	Tolerance [%]	Resistance Range [Ω]	T.C. [ppm/°C]
RC0402	01005	1/32	$\sqrt{P \times R}$	15	±1(F) ±5(J)	1 ~ 1M	1~9.9Ω : 10~1MΩ
		1/20					
RC0603	0201	1/16	$\sqrt{P \times R}$	25	±0.5(D) ±1(F) ±5(J)	1 ~ 10M	1~9.9Ω : 10~10MΩ
		1/10					
RC1005	0402	1/8	$\sqrt{P \times R}$ P : Rated Power(W) R : Resistance(Ω)	50		1 ~ 10M	1~9.9Ω : 10~10MΩ
RC1608	0603	1/4		50			
RC2012	0805	1/2		150			
RC3216	1206	1/3		200			
RC3225	1210	2/3		200			
RC5025	2010	1		200			
RC6432	2512	1		200			

• Please contact our sales representatives or engineers for other specifications

## ■ Power Derating Curve



## ■ Jumper Ratings

Type	Rated Current [A]	Max Over Current
0402, 0603	0.5	1
1005, 1608	1	2
2012 and bigger sizes	2	4

## ■ Rated Voltage

$$V = \sqrt{P \times R}$$

E : Rated Voltage  
P : Rated Power  
R : Resistance

## ■ Standard Soldering Pad Dimensions



Size (mil)	Reflow Soldering		
	A	B	2A + B
RC0402(01005)	0.17	0.20	0.54
RC0603(0201)	0.37	0.28	1.02
RC1005(0402)	0.60	0.50	1.70
RC1608(0603)	0.80	0.80	2.40
RC2012(0805)	0.90	1.40	3.20
RC3216(1206)	1.30	1.80	4.40
RC3225(1210)	1.30	1.80	4.40
RC5025(2010)	1.40	3.30	6.10
RC6432(2512)	1.40	4.60	7.40


## ■ Performance Characteristics

ITEM	Requirements Specification	Test (JIS)
Resistance	Within the specified tolerance	JIS C 5201-1 4.5
Temperature Characteristic	Within the specified T.C.R	JIS C 5201-1 4.8 +20°C → -55°C / +20°C
Short time Overload	$\Delta R < \pm 1\% + 0.1\Omega$	JIS C 5201-1 4.13 Rated Voltage $\times 2.5$ , 1 sec
Solderability	Immersed over 95%	JIS C 5201-1 4.17 Rosin Ethanol (25%V) 245 $\pm$ 5/-0°C, 2 $\pm$ 0.5 sec
Resistance to Solder Heat	$\Delta R < \pm 1\% + 0.1\Omega$	JIS C 5201-1 4.18 260 $\pm$ 5°C, 10 $\pm$ 1 sec
Temperature Cycle	$\Delta R < \pm 1\% + 0.1\Omega$	JIS C 5201-1 4.19 -55°C ↔ +125°C, 100 cycles
Moisture Resistance	$\Delta R < \pm 3\% + 0.1\Omega$	JIS C 5201-1 4.24 40 $\pm$ 2°C, 90~95%RH, 90mins ON, 30mins OFF
Load Life	$\Delta R < \pm 3\% + 0.1\Omega$	JIS C 5201-1 4.25 Rated Voltage, 70 $\pm$ 2% 90mins ON, 30mins OFF
High Temp. Exposure	$\Delta R < \pm 3\% + 0.1\Omega$	JIS C 5201-1 4.25.3 155 $\pm$ 2°C, 1,000 $^{+48}$ hours

※ The reliability test condition can be replaced by the corresponding accelerated test condition.



Thick Film Chip Resistors (RC General)

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-  Product specifications included in the specifications are effective as of March 01, 2015.
- Please be advised that they are standard product specifications for reference only.
- We may change, modify or discontinue the product specifications without notice at any time.
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- Should you have any question regarding the product specifications,  
please contact our sales personnel or application engineers.
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