

## **SPECIFICATION**

• Supplier : Samsung electro-mechanics • Samsung P/N: RC1608J\*\*\*CS

• Product : Thick - Film chip RESISTOR • Description : 1608, ±5%, (1Ω~10№), 1/10₩

## A. Samsung Part Number

 RC
 1608
 J
 \*\*\*
 CS

 ①
 ②
 ③
 ④
 ⑤

1 Code designation Samsung Thick - Film Chip Resistor 2 Dimension 1608 (mm code) L:  $1.6 \pm 0.1$ mm W:  $0.8 \pm 0.15$ mm T:  $0.45 \pm 0.1$ 3 Resistancs tolerance ±5 % 4 Nominal resistance value \*\* 3digits Left 2 digits: Resistance value, Right 1 digits: Exponential number of 10. ex)  $101 : 10 \times 10^1 = 10 \times 10 = 100\Omega$ \* 4digits Left 3 digits: Resistance value, Right 1 digits: Exponential number of 10. ex)  $4222:422\times10^2=422\times100=42.2k\Omega$ "000" :  $Jumper(0\Omega)$ Read alphabet "R" as decimal point ex)  $3R7: 3.7 = 3.7\Omega / 88R7: 88.7 = 88.7\Omega$ ⑤ Packing code 7" Reel packaging

## B. Samsung Reliablility Test and Judgement condition

	Judgement		Test condition	
	Resistor	Jumper	Resistor	Jumper
Direct Current	Within the regulated resistance	50mΩ Max	Voltage apply Within 5 sec	
Resistance	tolerance.			
Short-time	Less than $\pm (1\%+0.1\Omega)$ of the initial value	50mΩ Max	Apply 2.5 times rated voltage for 5sec	Max Surge
Overload	No evidence of mechanical damage			Current
Intermittent	Less than $\pm(3\%+0.1\Omega)$ of the initial value	50mΩ Max	2.5 times of rated voltage.	Max Surge
Overload	No evidence of mechanical damage		1 sec On, 25 sec Off / 10,000cycles	Current
Dielectric	No evidence of mechanical damage		Apply Voltage for 1minute	
Withstanding Voltage	,		0603:50v	
Insulation	Over 1,000MΩ		1005,1608:100v	
Resistance			Other: 500v	
	■ J-Grade		Test Temperature(°C) 20°C→-55°C/20°C→1	25℃
Temperature	1Ω≤R<10Ω:+300/-200ppm/℃		T.C.R(ppm/°C) = $\frac{R - R_0}{R_0} \times \frac{1}{T - T_0} \times 10^{-10}$	06
Characteristic	10Ω≤R≤1MΩ:±100ppm/°C (0603±250ppm)		$R_0 \times \frac{1}{T-T_0} \times 10$	0"
	1MΩ <r≤10mω:±300ppm td="" °c<=""><td></td><td></td><td>_</td></r≤10mω:±300ppm>			_
	■ F-Grade		T₀: 20 ± 2°C, R0: Resistance at T	Γ0 (Ω)
	10Ω≤R≤1MΩ:±100ppm/°C(0603±250ppm)		T : Test temperature , R : Resistance at T ( $\Omega$ )	
Solderability	Coverage: 95%≤ each termination.		Solder Temp : 245 ℃	
			Dipping time: 3 sec	

	Judgement		Test condition	
Bending test	Less than $\pm (0.5\% + 0.05 \Omega)$ of the initial value	50mΩ Max	3mm of bending shall be applied	
	No evidence of mechanical damage		for 5sec.	
Adhesive strength	No mechanical damage or sign of disconnection		Test strengh : 5N	
of termination			Test time: Applying pressure for 10seconds	
Resistance to	Less than ±(1%+0.05Ω)of the initial value	50mΩ Max	260±5℃, 10 sec	
soldering heat	No evidence of mechanical damage			
Anti-Vibration	Less than ±(1%+0.05Ω)of the initial value	50mΩ Max	Test amplitude : 1.5mm	
test	No evidence of mechanical damage		Frequency 10Hz-55Hz-10Hz / 2hr in x,y,z direction.	
Temperature	Less than ±(1%+0.1Ω)of the initial value	50mΩ Max	100cycles, -55 ℃/30min ↔125 ℃/30min	
cycle	No evidence of mechanical damage		sweep time:5min	
Load life	Less than ±(3%+0.1Ω)of the initial value	50mΩ Max	Test voltage: rated voltage / 70±2 ℃	
	No evidence of mechanical damage		1,000hours(90min:On, 30min:Off)	
Low Temp.	Less than ±(3%+0.1Ω)of the initial value	50mΩ Max	Dwell in -55 ℃ chamber without loading	
Exposure	No evidence of mechanical damage		for 1,000hours	
High Temp	Less than ±(3%+0.1Ω)of the initial value	50mΩ Max	Dwel in 125 ℃ or 155 ℃ chamber without loading	
Exposure	No evidence of mechanical damage		for 1,000hours	
Moisture	Less than ±(3%+0.1Ω)of the initial value	50mΩ Max	Test voltage: rated voltage / 40±2 ℃	
Resistance	No evidence of mechanical damage		1,000hours(90min:On,30min:Off) / 90~95% RH	

## C. Recommended Soldering method :

Reflow ( Reflow Peak Temperature : 260+0/-5  $^{\circ}\!\!\mathrm{C}$  , 10sec. Max )

<sup>\*</sup> For the more detail Specification, Please refer to the samsung chip RESISTOR catalogue.