RCS2012F5904CS Datasheet

DiGi Electronics Part Number	RCS2012F5904CS-DG
Manufacturer	Samsung Electro-Mechanics
Manufacturer Product Number	RCS2012F5904CS
Description	RES 5.9M OHM 1% 1/8W 0805
Detailed Description	5.9 MOhms ±1% 0.125W, 1/8W Chip Resistor 0805 (2012 Metric) Anti-Sulfur, Moisture Resistant Thick F ilm

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Manufacturer Product Number:	Manufacturer:
RCS2012F5904CS	Samsung Electro-Mechanics
Series:	Product Status:
RCS	Active
Resistance:	Tolerance:
5.9 MOhms	±1%
Power (Watts):	Composition:
0.125W, 1/8W	Thick Film
Features:	Temperature Coefficient:
Anti-Sulfur, Moisture Resistant	±100ppm/°C
Operating Temperature:	Package / Case:
-55°C ~ 155°C	0805 (2012 Metric)
Supplier Device Package:	Size / Dimension:
0805	0.079" L x 0.049" W (2.00mm x 1.25mm)
Height - Seated (Max):	Number of Terminations:
0.026" (0.66mm)	2
Failure Rate:	
-	

Environmental & Export classification

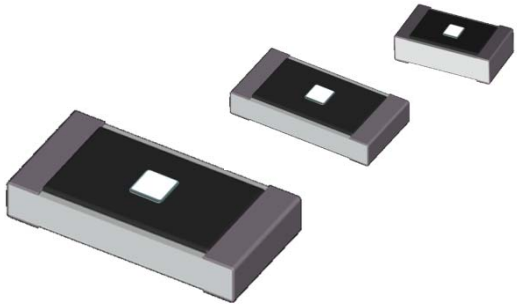
RoHS Status:	Moisture Sensitivity Level (MSL):
ROHS3 Compliant	1 (Unlimited)
REACH Status:	ECCN:
REACH Unaffected	EAR99
HTSUS:	
8533.21.0030	

Anti-Sulfur Thick Film Chip Resistors

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

■ Features

- Small, thin and lightweight
- High reliability
- Stable in Sulfur Atmosphere (Anti-sulfur)
- Suitable size and package for surface mount assembly
- RoHS Compliant.



■ Part Number System

RCS	1005	J	150	CS
Type	Size : mm (inch)	Tolerance	Resistance Value	Packing Type

RCS	Anti-Sulfur chip resistor

1005	
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)

J	
F	±1%
G	±2%
J	±5%

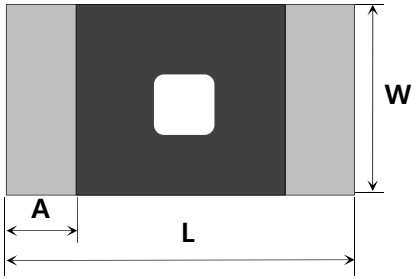
* Jumper : 'J'

- 3-digit coding System (E-24 series)
- 4-digit coding System (E-96 series)
- Jumper : '000'

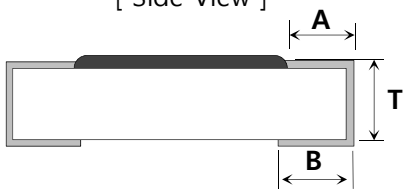
CS	
CS	7" reel
ES	10" reel
AS	13" reel

■ Structure and Dimensions

[Top View]



[Side View]



[Bottom View]

[Unit : mm]

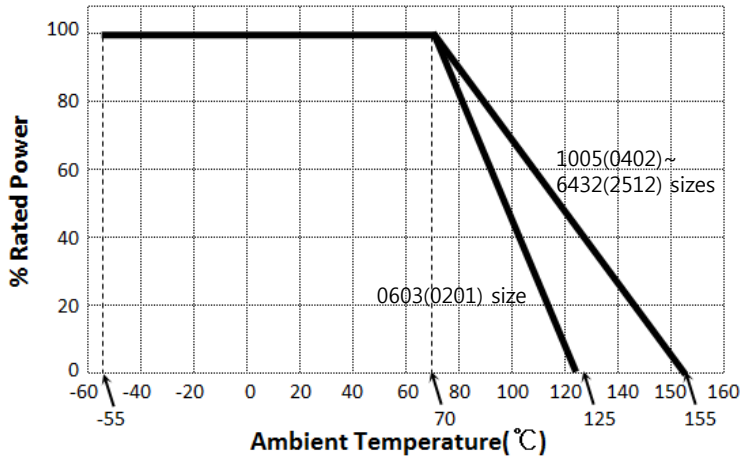
Size(mil)	L	W	T	A	B	Unit Weight
RCS0603(0201)	0.60±0.03	0.30±0.03	0.23±0.03	0.15±0.05	0.15±0.05	0.15mg
RCS1005(0402)	1.00±0.05	0.50±0.05	0.35±0.05	0.20±0.10	0.25±0.10	0.6mg
RCS1608(0603)	1.60±0.10	0.80±0.10	0.45±0.10	0.30±0.20	0.35±0.10	2.1mg
RCS2012(0805)	2.00±0.20	1.25±0.15	0.55±0.10	0.40±0.20	0.35±0.20	4.9mg
RCS3216(1206)	3.20±0.20	1.60±0.15	0.55±0.10	0.45±0.20	0.40±0.20	9.5mg
RCS3225(1210)	3.20±0.20	2.55±0.20	0.55±0.10	0.45±0.20	0.40±0.20	16mg
RCS5025(2010)	5.00±0.20	2.50±0.20	0.55±0.10	0.60±0.20	0.60±0.20	26mg
RCS6432(2512)	6.30±0.20	3.20±0.20	0.55±0.10	0.60±0.20	0.60±0.20	41mg

■ Applications and Ratings

Type	Size (mil)	Rated Power [W]	Rated Voltage [V]	Max Working Voltage [V]	Tolerance [%]	Resistance Range [Ω]	T.C.R [ppm/℃]	Working Temp. [℃]	Moisture Level
RCS0603	0201	1/20	$\sqrt{P \times R}$ P : Rated Power(W) R : Resistance(Ω)	25	±1(F) ±5(J)	1 ~ 10M	1~9.9Ω : ±300 10~10MΩ : ±250	-55~125	Level 1
RCS1005	0402	1/16		50	±0.5(D) ±1(F) ±5(J)	1 ~ 10M	1~9.9Ω : ±300 10~10MΩ : ±100	-55 ~ 155	
RCS1608	0603	1/10		50					
RCS2012	0805	1/8		150					
RCS3216	1206	1/4		200					
RCS3225	1210	1/3		200					
RCS5025	2010	2/3		200					
RCS6432	2512	1		200					

• Please contact our sales representatives or engineers for other specifications

■ Power Derating Curve



■ Jumper Ratings

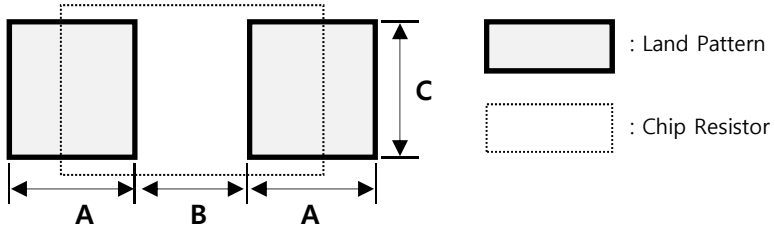
Type	Rated Current (A)	Max Overload Current (A)
0603	0.5	1
1005, 1608	1	2
2012, 3216, 3225, 5025, 6432	2	4

■ Rated Voltage

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

E : Rated Voltage (V)
P : Rated Power (W)
R : Resistance Value (Ω)

■ Standard Soldering Pad Dimensions



[Unit : mm]

Size(mil)	Reflow Soldering			
	A	B	2A + B	C
RCS0603(0201)	0.37	0.28	1.02	0.29
RCS1005(0402)	0.60	0.50	1.70	0.50
RCS1608(0603)	0.80	0.80	2.40	0.80
RCS2012(0805)	0.90	1.40	3.20	1.20
RCS3216(1206)	1.30	1.80	4.40	1.50
RCS3225(1210)	1.30	1.80	4.40	2.40
RCS5025(2010)	1.40	3.30	6.10	2.40
RCS6432(2512)	1.40	4.60	7.40	3.00

■ Performance Characteristics

ITEM	Requirements Specification	Test Conditions (JIS C 5201-1)
Resistance	Within the specified tolerance	JIS C 5201-1 4.5
Temp. Characteristic	Within the specified T.C.R	JIS C 5201-1 4.8 +20℃ → -55℃ / +20℃ → +125℃
Short time Overload	ΔR < ±1%+0.1Ω	JIS C 5201-1 4.13 Rated Voltage×2.5, 5sec
Solderability	Immersed over 95%	JIS C 5201-1 4.17 Rosin Ethanol (25%WT) 245+5/-0℃, 2±0.5 sec
Resistance to Solder Heat	ΔR < ±1%+0.1Ω	JIS C 5201-1 4.18 260±5℃, 10±1 sec
Temp. Cycle	ΔR < ±1%+0.1Ω	JIS C 5201-1 4.19 -55℃ ↔ +125℃, 100 cycle
Moisture Resistance	ΔR < ±3%+0.1Ω	JIS C 5201-1 4.24 40±2℃, 90~95%RH, 1,000^{+48}hours
Load Life	ΔR < ±3%+0.1Ω	JIS C 5201-1 4.25 Rated Voltage, 70±2℃, 1,000^{+48}hours 90mins ON, 30mins OFF
High Temp. Exposure	ΔR < ±3%+0.1Ω	JIS C 5201-1 4.25.3 155±2℃, 1,000^{+48}hours
Flower of Sulfur (FOS)	ΔR < ±1%+0.1Ω	105℃, FoS, 720^{+2}hours

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

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,

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