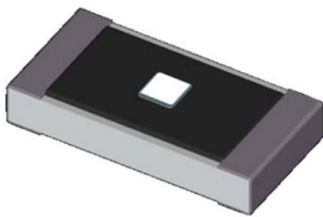


# RCS2012F243CS Datasheet

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|                              |  |
|------------------------------|--|
| DiGi Electronics Part Number | RCS2012F243CS-DG   |
| Manufacturer                 | <a href="#">Samsung Electro-Mechanics</a>  |
| Manufacturer Product Number  | RCS2012F243CS  |
| Description                  | RES 24K OHM 1% 1/8W 0805   |
| Detailed Description         | 24 kOhms $\pm$ 1% 0.125W, 1/8W Chip Resistor 0805 (2012 Metric) Anti-Sulfur, Moisture Resistant Thick Film |

This model RCS2012F243CS is available at DiGi Electronics.

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## Purchase and inquiry

Manufacturer Product Number:

RCS2012F243CS

Series:

RCS

Resistance:

24 kOhms

Power (Watts):

0.125W, 1/8W

Features:

Anti-Sulfur, Moisture Resistant

Operating Temperature:

-55°C ~ 155°C

Supplier Device Package:

0805

Height - Seated (Max):

0.026" (0.66mm)

Failure Rate:

-

Manufacturer:

Samsung Electro-Mechanics

Product Status:

Active

Tolerance:

±1%

Composition:

Thick Film

Temperature Coefficient:

±100ppm/°C

Package / Case:

0805 (2012 Metric)

Size / Dimension:

0.079" L x 0.049" W (2.00mm x 1.25mm)

Number of Terminations:

2

## Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8533.21.0030

Moisture Sensitivity Level (MSL):

1 (Unlimited)

ECCN:

EAR99

# 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  |                           |
|------|---------------------------|
| Type |                           |
| RCS  | Anti-Sulfur chip resistor |

| 1005             |                  |
|------------------|------------------|
| Size : mm (inch) |                  |
| 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) |

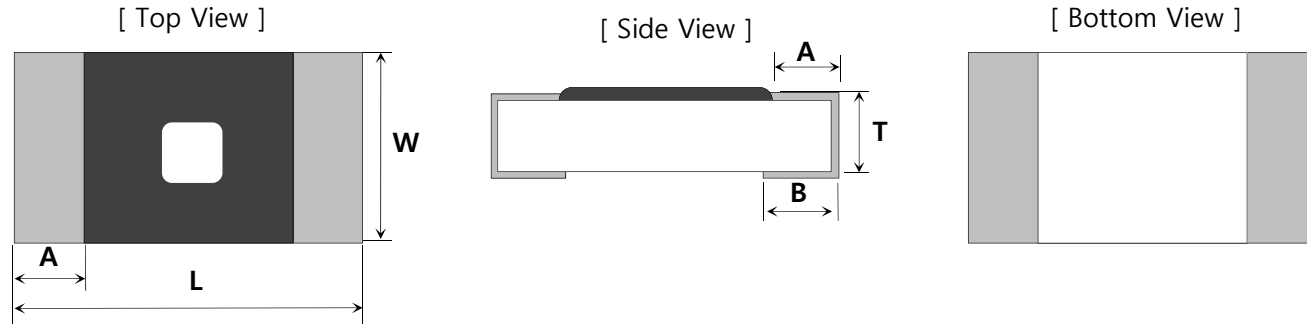
| J         |     |
|-----------|-----|
| Tolerance |     |
| F         | ±1% |
| G         | ±2% |
| J         | ±5% |

\* Jumper : 'J'

| 150                                   |  |
|---------------------------------------|--|
| Resistance Value                      |  |
| - 3-digit coding System (E-24 series) |  |
| - 4-digit coding System (E-96 series) |  |
| - Jumper : '000'                      |  |

| CS           |          |
|--------------|----------|
| Packing Type |          |
| CS           | 7" reel  |
| ES           | 10" reel |
| AS           | 13" reel |

## ■ Structure and Dimensions



[ 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/°C]                  | Working Temp. [°C] | Moisture Level |
|---------|------------|-----------------|--|-------------------------|---------------------------|----------------------|---------------------------------|--------------------|----------------|
| RCS0603 | 0201       | 1/20            | $\sqrt{P \times R}$<br>P : Rated Power(W)<br>R : Resistance(Ω) | 25                      | ±1(F)<br>±5(J)            | 1 ~ 10M              | 1~9.9Ω : ±300<br>10~10MΩ : ±250 | -55~125            | Level 1        |
| RCS1005 | 0402       | 1/16            |  | 50                      | ±0.5(D)<br>±1(F)<br>±5(J) | 1 ~ 10M              | 1~9.9Ω : ±300<br>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<br>+20°C → -55°C / +20°C → +125°C  |
| Short time Overload       | $\Delta R < \pm 1\% + 0.1\Omega$ | JIS C 5201-1 4.13<br>Rated Voltage×2.5, 5sec  |
| Solderability             | Immersed over 95%                | JIS C 5201-1 4.17<br>Rosin Ethanol (25%WT)<br>245±5/-0°C, 2±0.5 sec                             |
| Resistance to Solder Heat | $\Delta R < \pm 1\% + 0.1\Omega$ | JIS C 5201-1 4.18<br>260±5°C, 10±1 sec  |
| Temp. Cycle               | $\Delta R < \pm 1\% + 0.1\Omega$ | JIS C 5201-1 4.19<br>-55°C ↔ +125°C, 100 cycle  |
| Moisture Resistance       | $\Delta R < \pm 3\% + 0.1\Omega$ | JIS C 5201-1 4.24<br>40±2°C, 90~95%RH, 1,000 <sup>+48</sup> hours                               |
| Load Life                 | $\Delta R < \pm 3\% + 0.1\Omega$ | JIS C 5201-1 4.25<br>Rated Voltage, 70±2°C, 1,000 <sup>+48</sup> hours<br>90mins ON, 30mins OFF |
| High Temp. Exposure       | $\Delta R < \pm 3\% + 0.1\Omega$ | JIS C 5201-1 4.25.3<br>155±2°C, 1,000 <sup>+48</sup> hours                                      |
| Flower of Sulfur (FOS)    | $\Delta R < \pm 1\% + 0.1\Omega$ | 105°C, FoS, 720 <sup>+2</sup> 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.

So, you need to approve the product specifications before placing an order.

Should you have any question regarding the product specifications,

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