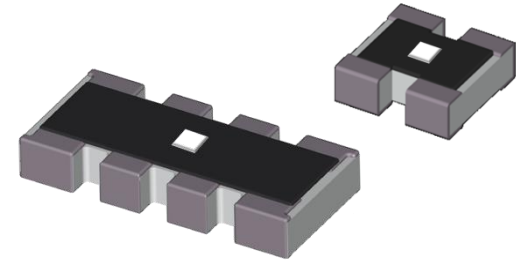


Anti-Sulfur Array Resistors

(Convex type : RPS Series)

■ Features

- ASTM B-809-95 Passed.
- Reducing SMD cost (75% reduced)
- Stable resistance in the H₂S gas Atmosphere.
- RoHS Compliant.



■ Part Number System

RPS	
Type	
RPS	Anti-Sulfur Convex Type Array Resistor

10	
Size	
10	1005
16	1608

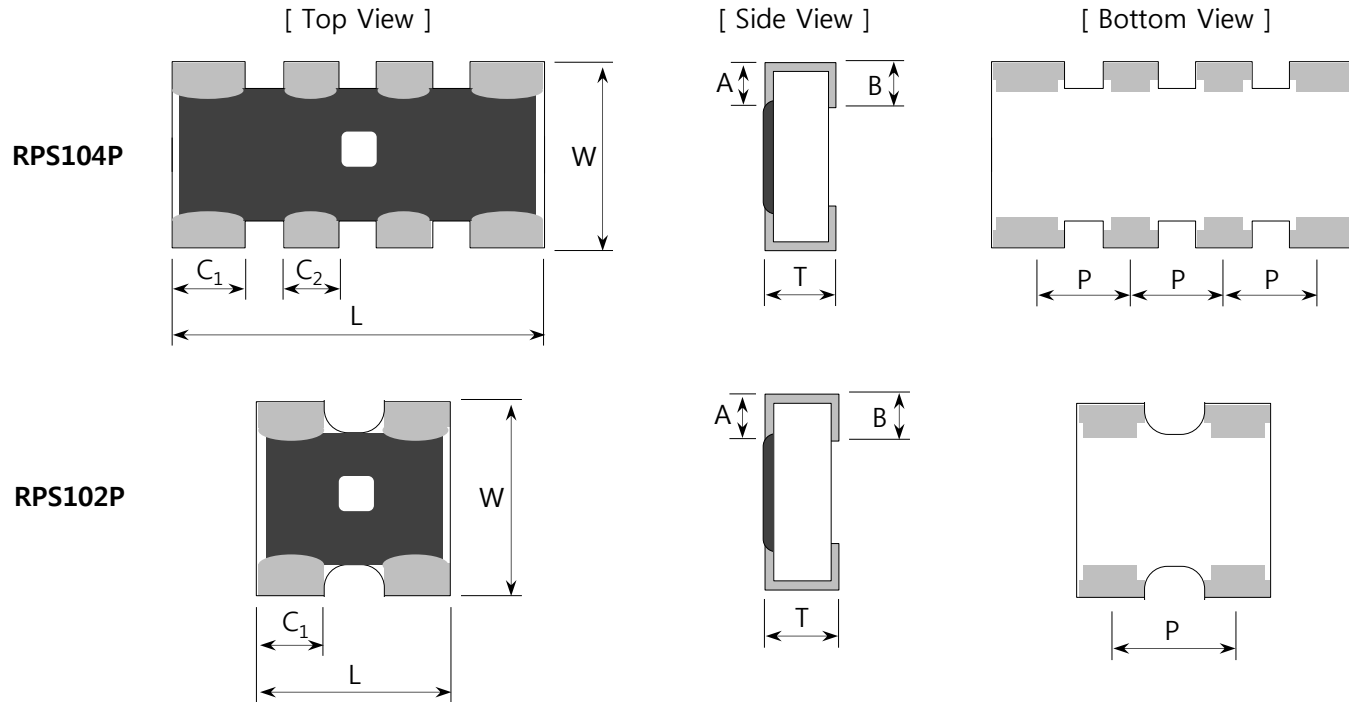
4P	
# of Resistors	
2P	2 pieces
4P	4 pieces

J	
Tolerance	
J	±5%
* Jumper : 'J'	

100	
Resistance Value	
3-digit coding (E-24 series)	
* Jumper : '000'	

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

■ Structure and Dimensions



[Unit : mm]

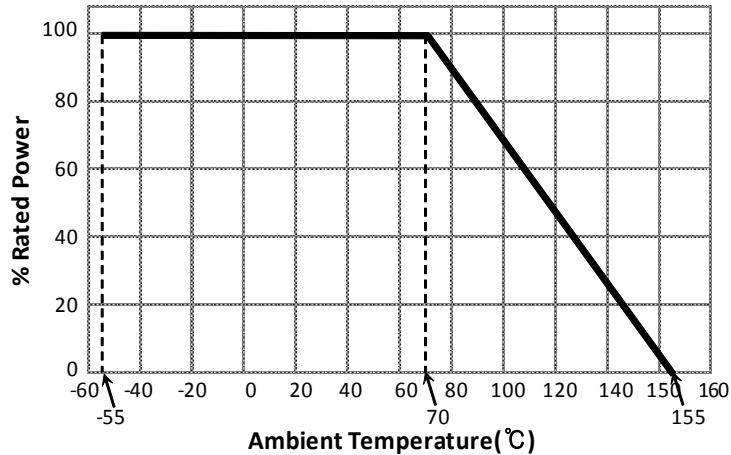
Size(mil)	L	W	T	A	B	C ₁	C ₂	P	Unit Weight
RPS102P(0404)	1.00±0.10	1.00±0.10	0.35±0.10	0.20±0.10	0.25±0.10	0.33±0.10	-	0.65±0.10	1.1mg
RPS104P(0804)	2.00±0.10	1.00±0.10	0.35±0.10	0.20±0.10	0.25±0.10	0.40±0.10	0.30±0.10	0.50±0.10	2.2mg
RPS164P(1206)	3.20±0.10	1.60±0.10	0.50±0.10	0.30±0.15	0.30±0.15	0.60±0.15	0.40±0.15	0.80±0.15	8.9mg

■ Applications and Ratings

Type	Size [inch]	Rated Power [W]	Rated Voltage [V]	Max Working Voltage [V]	Tolerance [%]	Resistance Range [Ω]	T.C.R [ppm/°C]	Working Temp. [°C]	Moisture Level
RPS102P	0404	1/16	$\sqrt{P \times R}$ P : Rated Power(W) R : Resistance(Ω)	25	±5(J)	1 ~ 1M	1~9.9 : ±300 10~1M : ±200	-55 ~ 155	Level 1
RPS104P	0804	1/16		25					
RPS164P	1206	1/16		50					

• Please contact our sales representatives or engineers for other specifications

■ Power Derating Curve



■ Jumper Ratings

TYPE	Rated Current (A)	Max Overload Current (A)
102P, 104P	1	2
162P, 164P	1	2

■ Rated Voltage

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

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

■ Rated Voltage

1. The rated voltage for resistor can be a DC continuous working voltage or AC(rms) voltage in commercial line frequency wave form at rated power. It can be expressed as below.

$$E = \sqrt{P \times R} \quad E : \text{Rated Voltage(V)} \quad P : \text{Rated Power(W)} \quad R : \text{Nominal Resistance}(\Omega)$$

If the value calculated by the equation exceeds Max working Voltage, the rated voltage is limited to max working voltage. In other words, the lower value is the rated voltage.

ex) For RC1608 Series [P=0.1(W), Max working voltage = 50(V)]

1) The rated voltage, when R=1K Ω

$$E = \sqrt{0.1 \times 1000} = 10(V)$$

Value is lower than Max working voltage,
therefore $E = 10(V)$

2) The rated voltage, when R=100K Ω

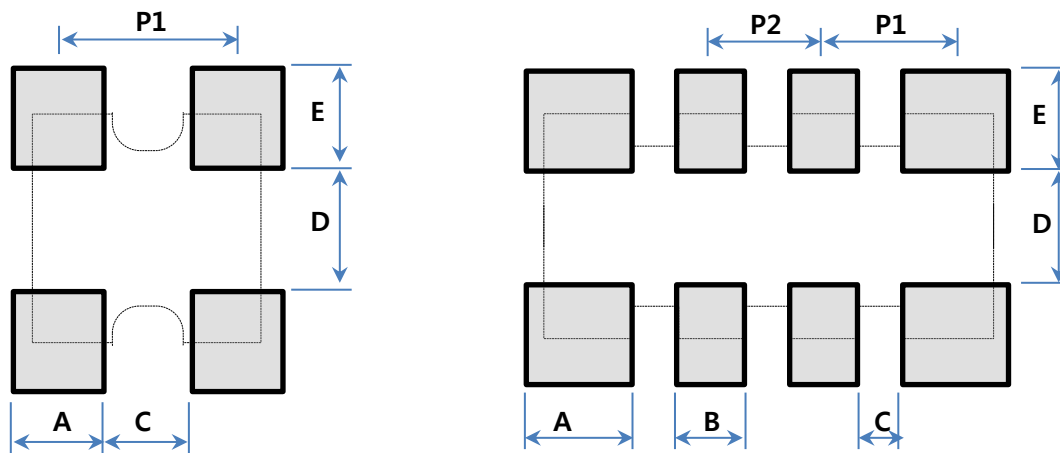
$$E = \sqrt{0.1 \times 100000} = 100(V)$$

Value is higher than Max working voltage,
therefore $E = 50(V)$

2. When the rated voltage is applied to the resistor, check the ambient temperature and decrease the lower according to the power derating curve.
3. If higher voltage than rated voltage, the reliability condition and performance cannot be guaranteed.

* If pulse wave is applied, the maximum pulse power should be below the rated voltage.

■ Standard Soldering Pad Dimensions



[Unit : mm]

Size(mil)	A	B	C	D	E	P1	P2
RPS102P(0404)	0.4	-	0.25	0.5	0.5	0.65	-
RPS104P(0804)	0.5	0.3	0.2	0.5	0.5	0.55	0.5
RPS164P(1206)	0.7	0.5	0.3	0.9	0.8	0.9	0.8

■ Performance Characteristics

ITEM	Requirements Specification		Test Conditions (JIS C 5201-1)
	Resistors	Jumpers	
Resistance	Within the specified tolerance	Max 50mΩ	JIS C 5201-1 4.5
Temperature Characteristic	Within the specified T.C.R	Max 50mΩ	JIS C 5201-1 4.8 +20°C → -55°C / +20°C → +125°C
Short time Overload	$\Delta R < \pm 1\% + 0.1\Omega$	Max 50mΩ	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°C, 2±0.5 sec
Resistance to Solder Heat	$\Delta R < \pm 1\% + 0.1\Omega$	Max 50mΩ	JIS C 5201-1 4.18 260±5°C, 10±1 sec
Temperature Cycle	$\Delta R < \pm 1\% + 0.1\Omega$	Max 50mΩ	JIS C 5201-1 4.19 -55°C ↔ +125°C, 100 cycle
Moisture Resistance	$\Delta R < \pm 3\% + 0.1\Omega$	Max 50mΩ	JIS C 5201-1 4.24 40±2°C, 90~95%RH, 1000 ⁺⁴⁸ hours
Load Life	$\Delta R < \pm 3\% + 0.1\Omega$	Max 50mΩ	JIS C 5201-1 4.25 Rated Voltage, 70±2°C, 1000 ⁺⁴⁸ hours 90mins ON, 30mins OFF
High Temp. Exposure	$\Delta R < \pm 3\% + 0.1\Omega$	Max 50mΩ	JIS C 5201-1 4.23 155±2°C, 1000 ⁺⁴⁸ hours
Flower of Sulfur (FOS)	$\Delta R < \pm 1\% + 0.1\Omega$	Max 50mΩ	105°C, Dry sulfur 50g, 750 ⁺⁴⁸ hours

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

 Product specifications included in the specifications are effective as of January 04, 2019.

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,

please contact our sales personnel or application engineers.
