

# RAF Series — New 0201 x 4 Chip Resistor Array

## Features

- Thick film resistor element
- Flat termination for better solderability and reliability
- RoHS compliant / lead free

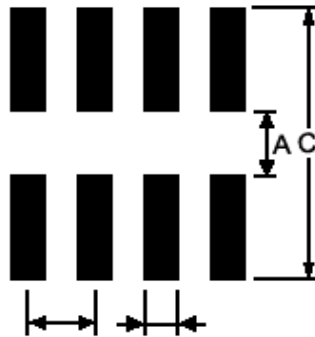
## Electrical Specifications

Type	Power Rating (Watts) @ 70°C	Maximum Working Voltage	Maximum Overload Voltage	Resistance Temperature Coefficient	Ohmic Range and Tolerance	
					1%	5%
RAF 05-4D	W1/32W	12.5V	25V	± 200ppm/°C	10Ω – 1M	10Ω – 1M

## Recommended Land Pattern

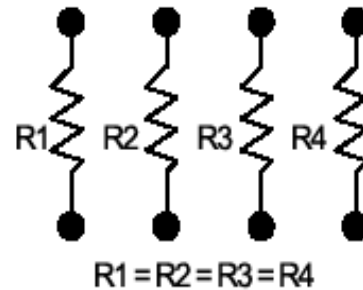
A	0.3
B	0.2
C	0.9
P	0.4

Unit: mm



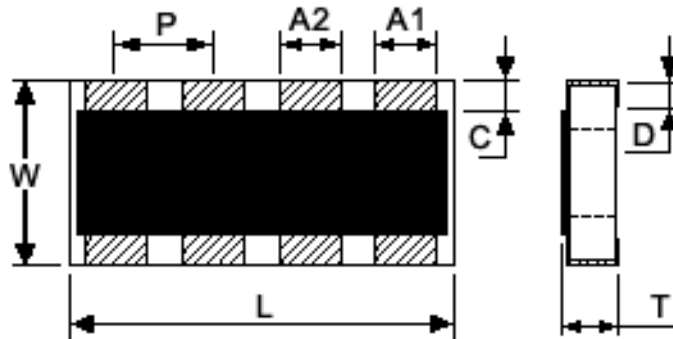
## Schematics

Isolated Circuit - 4D



## Mechanical Specifications

Dimension	L	W	A1, A2	T	P'	C	D
mm	1.4 ± 0.1	0.6 ± 0.1	0.2 ± 0.1	0.35 ± 0.1	0.4 typical	0.1 ± 0.1	0.15 ± 0.1



## How to Order

RAF	05	4	D	4	5%	R			
SEI Type	Code	# Elements	Circuit Type	Nominal Resistance	Tolerance	Packaging			
SEI Type	Code	Elements	Circuit Type	Tolerance	Values	Code	Type	Description	Pkg Qty
RAF	05	4	D = Isolated	5%	E24	R	05	Paper	10,000

# RAF Series — New 0201 x 4 Chip Resistor Array

Performance Characteristics		
Test	Test Specification	Typical
Short Time Overload	$\Delta R: \pm (2.0\% + 0.1)\Omega$ Without damage by flashover, spark, arcing, burning or breakdown	1) Applied voltage: 2.5 x rated voltage or 2 x maximum operating voltage whichever is less 2) Test time: 5 seconds (JIS C 5201 4.6)
Insulation Resistance	Over 100 M $\Omega$ on Overcoat layer face up Over 1,000 M $\Omega$ on Substrate side face up	1) Setup as figure 2 2) Test voltage: 100V DC 3) Test time: 60 + 10 / -0 seconds (JIS C 5201 4.7)
Dielectric Withstanding Voltage	$\Delta R: \pm (1.0\% + 0.05)\Omega$ Without damage by flashover, spark, arcing, burning or breakdown	1) Setup as figure 2 2) Test voltage: 100V AC (rms.) 3) Test time: 60 + 10 / -0 (JIS C 5201 4.7)
Solderability	The surface of terminal immersed shall be minimum of 95% covered with a new coating of solder	Solder bath: After immersing in a flux, dip in a 245 $\pm$ 5 $^{\circ}$ C molten solder bath for 2 $\pm$ 0.5 seconds (JIS C 5201 4.17)
Resistance to Soldering Heat	$\Delta R: \pm (1.0\% + 0.05)\Omega$ Without distinct deformation in appearance	1) Pre-heat: 100-110 $^{\circ}$ C for 30 seconds 2) Immersed at solder bath for 270 $\pm$ 5 $^{\circ}$ C for 10 $\pm$ 1 seconds 3) Measuring resistance 1 hour after test (JIS C 5201 4.18)
Vibration	$\Delta R: \pm (0.5\% + 0.05)\Omega$ Without mechanical damage such as break	1) Vibration frequency: (10Hz to 55Hz to 10Hz) in 60 seconds as a period 2) Vibration time: period cycled for 2 hours in each of 3 mutual perpendicular directions 3) Amplitude: 1.5mm (JIS C 5201 4.21)
Shock	$\Delta R: \pm (0.25\% + 0.05)\Omega$ Without mechanical damage such as break	1) Peak value: 490N 2) Duration of pulse: 11ms 3) 3 times in each positive and negative direction of 3 mutual perpendicular directions (JIS C 5201 4.21)
Bending Strength	$\Delta R: \pm (1.0\% + 0.05)\Omega$ Without mechanical damage such as break	Bending value: 3mm for 30 $\pm$ 1 seconds (JIS C 5201 4.33)
Temperature Cycling	$\Delta R: \pm (1.0\% + 0.05)\Omega$ Without distinct damage in appearance	1) Repeat 5 cycles as follows: (-55 $\pm$ 3 $^{\circ}$ C, 30 minutes) -> (Room temperature, 2-3 minutes) -> (+125 $\pm$ 2 $^{\circ}$ C, 30 minutes) -> Room temperature, 2-3 minutes) 2) Measuring resistance 1 hour after test (JIS C 5201 4.19)
Load Life in Moisture	$\Delta R: \pm (3.0\% + 0.1)\Omega$ Without distinct damage in appearance Marking should be legible	1) Environmental condition: 40 $\pm$ 2 $^{\circ}$ C, 90-95% RH 2) Applied Voltage: Rated voltage 3) Test period: (1.5 hour ON) -> (0.5 hour OFF) cycled for total 1,000 + 48 / -0 hours 4) Measuring resistance 1 hour after test (JIS C 5201 4.24)
Load Life	$\Delta R: \pm (3.0\% + 0.1)\Omega$ Without distinct damage in appearance	1) Test temperature: 70 $\pm$ 2 $^{\circ}$ C 2) Applied voltage: rated voltage 3) Test period: (1.5 hour ON) -> (0.5 hour OFF) cycled for total 1,000 + 48 / -0 hours 4) Measuring resistance 1 hour after test (JIS C 5201 4.25.1)

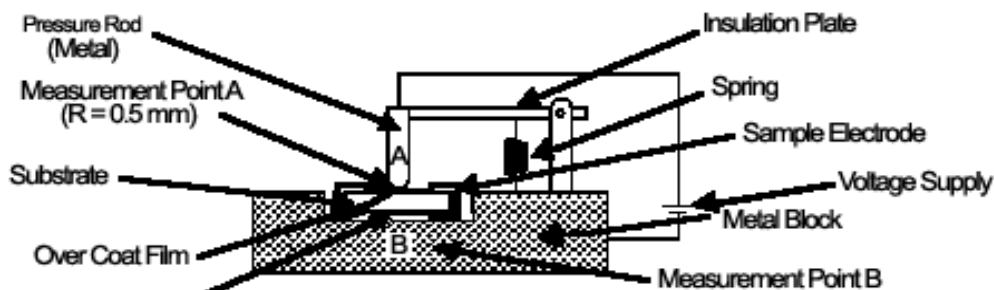


Figure 2: Measurement Setup