

# Thick Film Network Resistor

## Features

- Miniature, high density assembly.
- Combinations of different ohmic value are available.
- High reliability with RuO<sub>2</sub> paste.



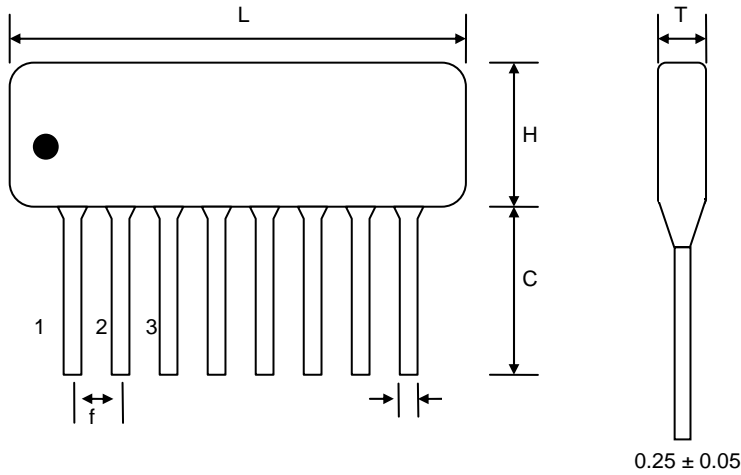
## How to Order

D	09	472	J
A	B	C	D

A		B		C	D	
Circuits		Number of Pin		Resistance Value	Tolerance	
Style		Code	Pin	The first two digits are significant figure of resistance and the third one expresses number of following zeros. For example: 104=100KΩ	Code	%
A	04	04pin	F		±1%	
B	05	05pin	G		±2%	
C	06	06pin	J		±5%	
D	07	07pin				
E	08	08pin				
F	09	09pin				
G	10	10pin				
H	11	11pin				
	12	12pin				
	13	13pin				
	14	14pin				

Refer to pg2

## Dimensions



Model No.	L(MAX)	H(MAX)A	T(MAX)	C±0.5	d±0.05	f±0.2
4	10.2	5.08	2.5	3.5	0.5	2.54 (1.778)
5	12.7					
6	15.3					
7	17.8					
8	20.4					
9	22.9					
10	25.4					
11	28.0					
12	30.5					
13	33.1					
14	35.6					

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## Circuit Construction

Type	Equivalent Circuit	Type	Equivalent Circuit
A	<p style="text-align: center;"><math>R_1 = R_2 = \dots = R_n</math></p>	B	<p style="text-align: center;"><math>R_1 = R_2 = \dots = R_n</math></p>
C	<p style="text-align: center;"><math>R_1 = R_2 = \dots = R_n</math></p>	D	<p style="text-align: center;"><math>R_1 = R_2 = \dots = R_n</math></p>
E	<p style="text-align: center;"><math>R_1 = R_2 \text{ or } R_1 \neq R_2</math></p>	F	<p style="text-align: center;"><math>R_1 = R_2 \text{ or } R_1 \neq R_2</math></p>
G	<p style="text-align: center;"><math>R_1 = R_2 = \dots = R_n</math></p>	H	<p style="text-align: center;"><math>R_1 = R_2 \text{ or } R_1 \neq R_2</math></p>
T	<p style="text-align: center;"><math>R_1 = R_2 \text{ or } R_1 \neq R_2</math></p>		

## Rated Power

Item	A	B
Rated power	1/8W(1/4W)	1/8W(1/4W)
Max. Operating Voltage	200V	
Resistance Tolerance	$\pm 1\%(F)\pm 2\%(G)\pm 5\%(J)$	
Resistance Range	E-24 Series	
Operating Temperature Range	$-55^{\circ}\text{C} \sim +125^{\circ}\text{C}$	
Temperature Coefficient	$\pm 250\text{ppm}/^{\circ}\text{C}/\pm 100\text{ppm}/^{\circ}\text{C}/$	
Rated temperature	$+70^{\circ}\text{C}$	

## Characteristics

Item	Specifications	Test Methods (JIS C 4202)
Temperature Cycling	$+(1.0\%+0.05\Omega)$	$-55^{\circ}\text{C} \sim +125^{\circ}\text{C}$ for 5 cycles
Short Time Over Load	$+(2\%+0.1\Omega)$	Rated Voltage x2.5 for 5 seconds
Resistance To Soldering Heat	$+(1.0\%+0.05\Omega)$	$260^{\circ}\text{C} \pm 5^{\circ}\text{C}$ for 10 seconds
Moisture Loading Life	$+(3\%+0.1\Omega)$	1000Hrs at RcwV 1.5 Hrs ON 0.5Hrs ON,Off
Load Life	$+(3\%+0.1\Omega)$	$70^{\circ}\text{C} \pm 2^{\circ}\text{C}$ , 1000Hrs at RCWV 1.5Hrs ON, 0.5Hrs OFF
Solderability	$\geq 95\%$ Coverage	$235^{\circ}\text{C} + 5^{\circ}\text{C}$ for 3 seconds

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### Standard Resistance Value(Ohm)

E-12SERIES

10	12	15	18	22	33	39	47	56	68	82
100	120	150	180	220	330	390	470	560	680	820
1K	1.2K	1.5K	1.8K	2.2K	3.3K	3.9K	4.7K	5.6K	6.8K	8.2K
10K	12K	15K	18K	22K	33K	39K	47K	56K	68K	82K
100K	120K	150K	180K	220K	330K	390K	470K	560K	680K	820K
1M	1.2M	1.5M	1.8M	2.2M	3.3M					

### Packaging Quantity

<b>Bulk Package(B)</b>	<b>200pcs per plastic bag, 5 bags per box</b>
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