

## Description

Thick film resistor network have Metal Glaze Element on the ceramic substrates with strong clip construction terminal, and are coated with special epoxy resin. They are the most suitable to meet the density of circuit assembling.

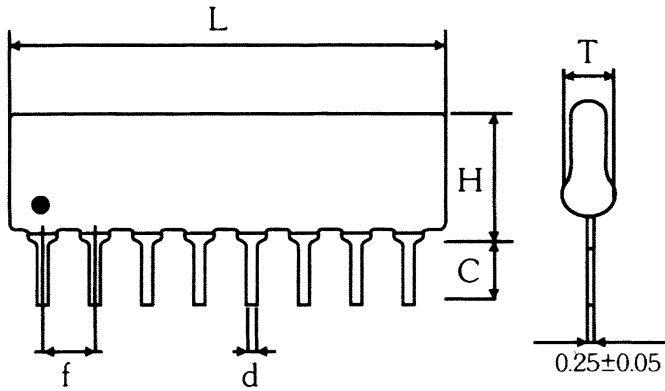
## Features

- Miniature, high density packaging.
- Combinations of different ohmic values is available.
- High reliability with RUO2 paste.

## Application

- Control circuits of V.T.R.
- Computer
- Facsimile
- Air-conditioner.
- Color T.V.
- Other Electronic equipments for consumer use.

## Dimension: mm



TYPE	L (Max)	H (MAX)	T (Max)	C <sup>+0.3</sup> <sub>-0.2</sub>	d <sup>±0.05</sup>	f <sup>±0.2</sup>
4 pin	10.2	5.08	2.5	3.2	0.5	2.54
5 pin	12.7					
6 pin	15.3					
7 pin	17.8					
8 pin	20.4					
9 pin	22.9					
10 pin	25.4					
11 pin	28.0					
12 pin	30.5					
13 pin	33.1					
14 pin	35.6					

## Rating

Wattage / Element	B Style	Others	Resistance Range (E-12 Series)	R Style	Others
	0.2 W	0.125W		100Ω-10KΩ	10Ω-1MΩ
Resistance Tolerance	F=1%, G=2%, J=5%		Operating Temp. Range	-55°C ~ +125°C	
Max. Working Voltage	100 V		T.C.R.	± 200PPM	50 ohm ~ 1 Mohm
Rating Ambient Temp.	+70°C			± 250PPM	< 50 ohm or > 1 Mohm

## Circuits Construction

A	B	C	D
<p><math>R_1 = R_2 = \dots = R_n</math></p>	<p><math>R_1 = R_2 = \dots = R_n</math></p>	<p><math>R_1 = R_2 = \dots = R_n</math></p>	<p><math>R_1 = R_2 = \dots = R_n</math></p>
E	P	T	R
<p><math>R_1 = R_2</math> or <math>R_1 \neq R_2</math></p>	<p><math>R_1 = R_2</math> or <math>R_1 \neq R_2</math></p>	<p><math>R_1 = R_2 = \dots = R_n</math></p>	<p><math>R_1 = R_2</math> or <math>R_1 \neq R_2</math></p>

# Characteristic

Item	Test Methods	Specifications
<b>Resistance Temperature Characteristic</b>	-55°C - +125°C	±200ppm/°C for 50Ω ~-1MΩ ±250ppm/°C for < 50Ω > 1MΩ
<b>Temperature Cycling</b>	-55°C - +125°C, for 5 Cycle	△ R ≤ ± (0.5% + 0.1Ω)
<b>Short-Time Overload</b>	Rated Voltage x 2.5 for 5 sec.	△ R ≤ ± (0.5% + 0.1Ω)
<b>Resistance to Soldering Heat</b>	260°C for 5sec.	△ R ≤ ± (0.5% + 0.1Ω)
<b>Insulation Resistance</b>	100V for 1 minute	△ 10,000 Megohm Min.
<b>Terminal Strength</b>	Tensile: 1 Kg, 30 sec. Bending: 500g, 2 Times	△ R ≤ ± (0.5% + 0.1Ω)
<b>Thermal Shock</b>	Load V, Room Temp. 30 minute Unload, -55°C, 15 minute Over 2 hrs in Room Temp. before measuring	△ R ≤ ± (0.5% + 0.1Ω)
<b>Solderability</b>	230°C ±5°C, 5 sec.	Covering 95%
<b>Moisture Load Life</b>	40°C, 90-95% RH rated Voltage Rated Voltage for 1000 hours	△ R ≤ ± (3% + 0.1Ω)
<b>Load Life</b>	70°C at Rated Voltage for 1000 hours	△ R ≤ ± (3% + 0.1Ω)

## Standard Resistance (Ohm) E-12 Series

10	12	15	18	22	27	33	39	47	56	68	82
100	120	150	180	220	270	330	390	470	560	680	820
1K	1.2K	1.5K	1.8K	2.2K	2.7K	3.3K	3.9K	4.7K	5.6K	6.8K	8.2K
10K	12K	15K	18K	22K	27K	33K	39K	47K	56K	68K	82K
100K	120K	150K	180K	220K	270K	330K	390K	470K	560K	680K	820K
1M											

## Dual Terminators (R1/R2) (Ohm)

160/240	330/390
180/390	330/470
220/270	1.5K/3.3K
220/330	3.0K/6.2K

## Derating Curve

