

THICK FILM RESISTOR NETWORKS

THICK FILM RESISTOR NETWORK (SIP TYPE)

Thick film resistor networks have metal glaze elements on the ceramic substrates with strong clip-construction terminals, and are coated with special epoxy resin. They are originally designed, as a style of single in line package, and are the most suitable to meet the density of circuit assembling.

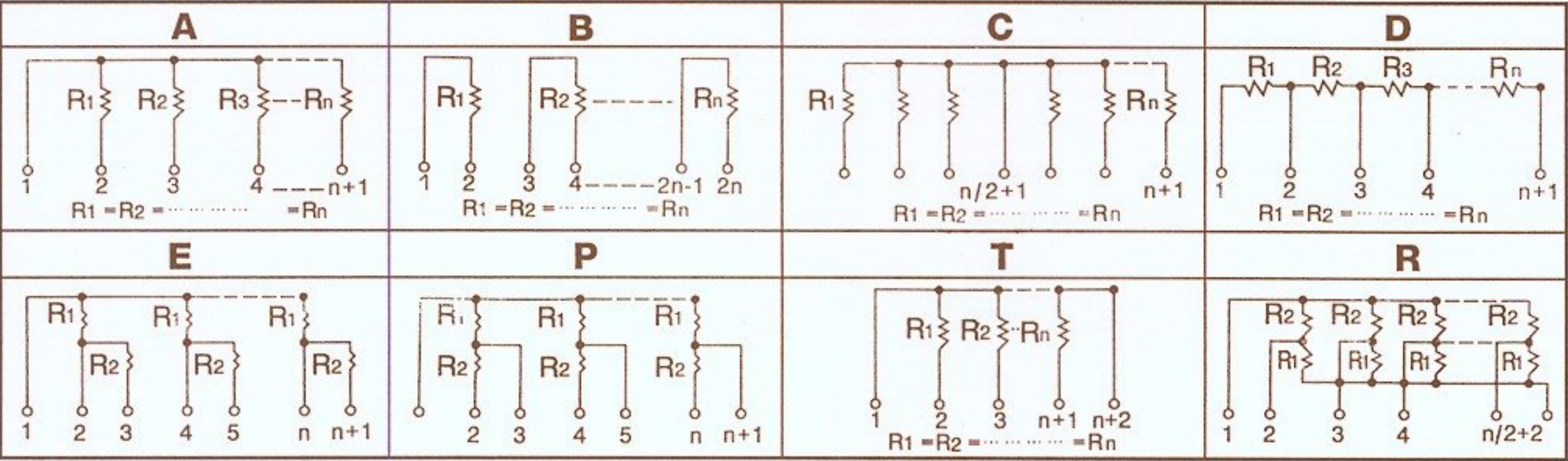
Features:

- 1. Small in size with high precision package. It is suitably used in printed circuit board.
- 2. Automated machinery mass production and competitive prices accordingly.
- 3. Extremely high stability, accuracy and reliability.

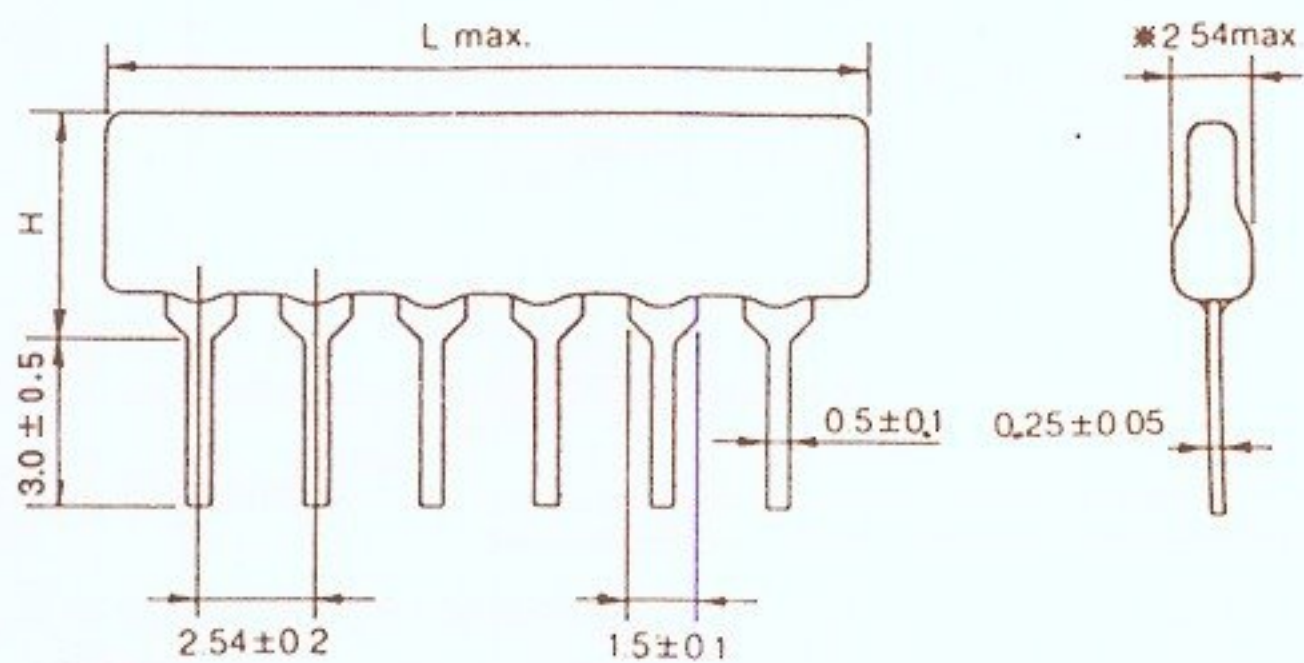
General Specification

Operating Temp. Range		- 55°C~+ 125°C		Wattage/Element	RA		RB
T.C.R.	± 100 PPM 50 ohm ~ 2.2M ohm				B Circuits	Others	All Circuits
	± 250 PPM <50 ohm or 2.2M ohm				0.2W	0.125W	0.25W
Rating Ambient Temp.		+ 70°C		Max. Working Voltage	100V		200V
Resistance Range (E-12 Series)		R Circuit	Others	Resistance Tolerance	F = ± 1%, G = ± 2%, J = ± 5%		
		100 Ω -10K	10 Ω -4.7M Ω				

Internal Circuit



DIMENSIONS (STANDARD TYPE)



DUAL TERMINATORS (R1/R2) (OHM)

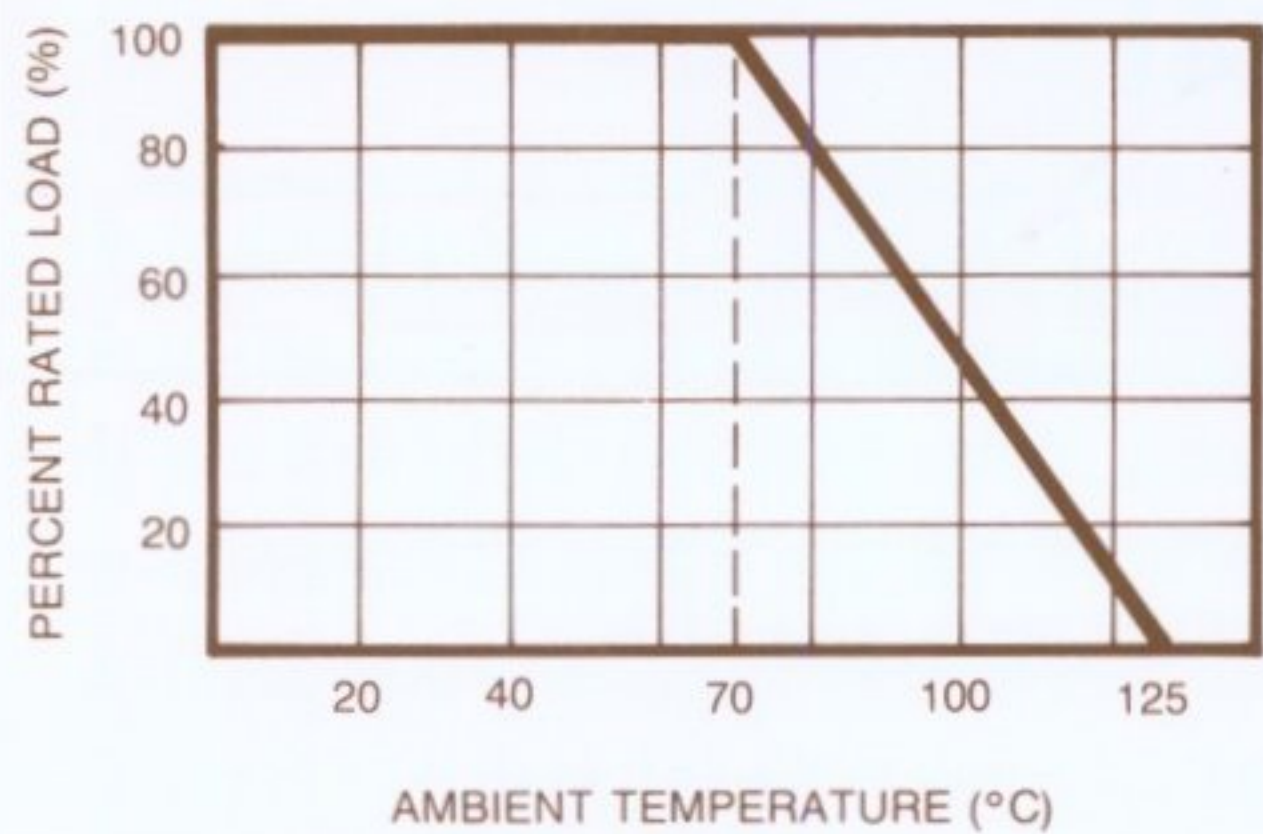
160/240	330/390
180/390	330/470
220/270	1.5K/3.3K
220/330	3.0K/6.2K

L

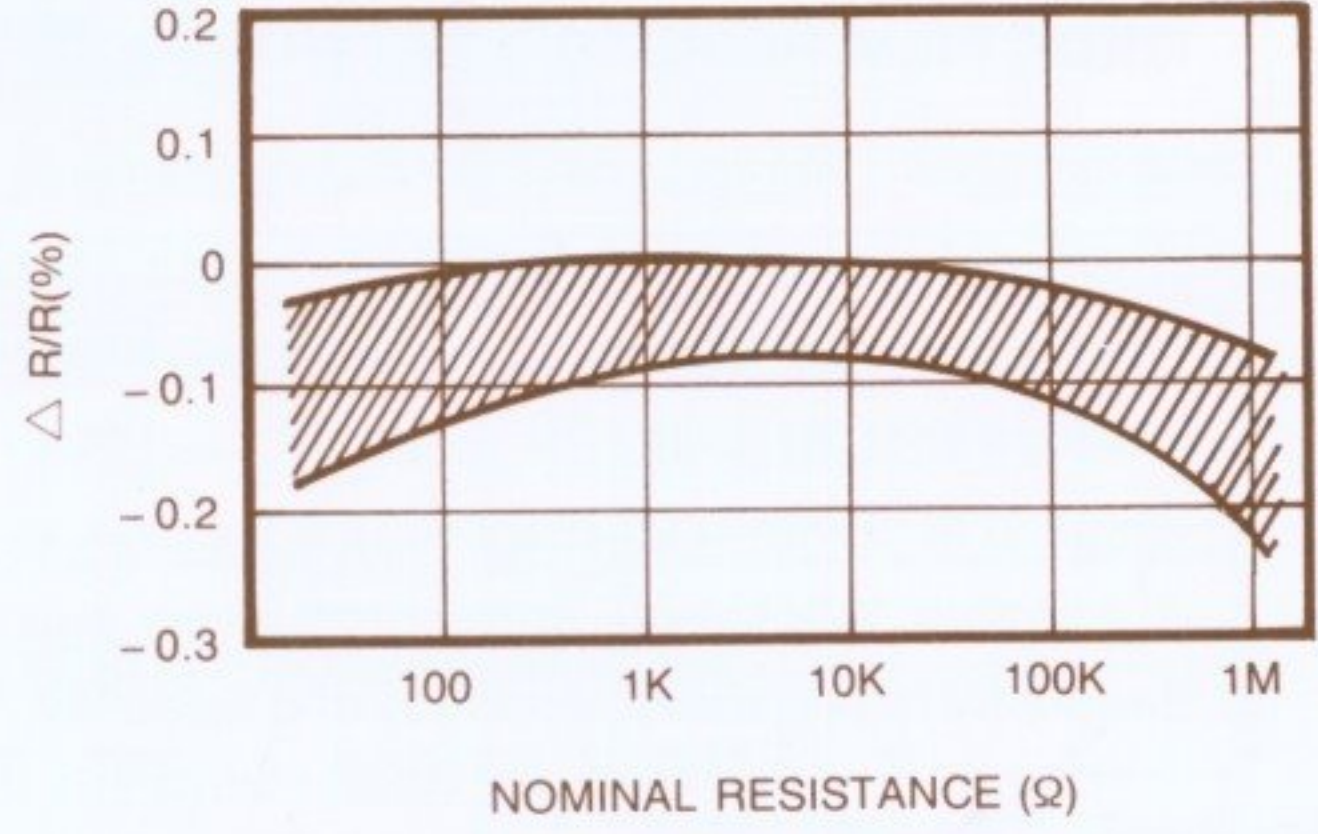
H MAX

NO: PS											RA	RB
4	5	6	7	8	9	10	11	12	13	14	5.08	7.5
10.2 MM	12.7	15.3	17.8	20.4	22.1	25.4	28.0	30.5	33.1	35.6		

DERATING CURVE



SHORT TIME OVERLOAD



Characteristic Performance

Test Items	Specification
Insulation Resistance (200Vdc Applied)	10 ⁴ M Ω or Greater
Thermal Shock (− 55°C to + 125°C, Cycles)	Δ R/R:± (0.5% + 0.1 Ω)
Short Time Overload (2.5 × Rated Voltage, 5 Sec.)	Δ R/R:± (0.5% + 0.1 Ω)
Resistance to Soldering Heat	Δ R/R:± (0.5% + 0.1 Ω)
Heat Shock (+ 25°C to + 125°C, 5 Cycles)	Δ R/R:± (0.5% + 0.1 Ω)
Moisture Resistance, Constant State (40°C, 95% R.H., 1,000Hrs.)	Δ R/R:± (1% + 0.1 Ω)
High Temperature Exposure (125°C, 100Hrs.)	Δ R/R:± (1% + 0.1 Ω)
Moisture Load Life (1,000Hrs., 40°C, 95% R.H., -Rated Voltage Cycling)	Δ R/R:± (3% + 0.1 Ω)
Load Life (1,000Hrs., Rated Voltage Cycling at 70°C)	Δ R/R:± (3% + 0.1 Ω)
Load Pull Strength (1kg, 10 Sec.)	Δ R/R:± (0.5% + 0.1 Ω)
Temperature Coefficient (− 55°C to 125°C)	± 100ppm/°C, ± 250ppm/°C for < 50 Ω or > 2.2M Ω
Solderability (230°C for 5 Sec.)	95% min. coverage
Note: Test methods and conditions are in accordance with MIL-R-83401	

Marking

9A103G

1 st Letter : Number of Pins

2 nd Letter : Type of Circuit

3 rd, 4th & 5 th Letters : Resistance Value

6 th Letter : Tolerance

Dot : The First Pin

Part Number System

RA **9** **A** **103** **G**

Single In-Line Resistor Network No. of Pins Circuit Type Resistance Code Resistance Tolerance

RA= Low profile

RB= High profile

4 To 14

A, E

B, P

C, T

D, R

3-digit Code 2%, 5%

4-digit Code 1%

F= ± 1%

G= ± 2%

J= ± 5%