THICK FILM RESISTOR NETWORKS

RA(RB) SERIES

Thick Film resistor networks SIP type 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

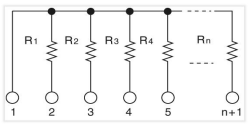
- Small in size with high precision package. It is suitably used in printed circuit board.
- Automated machinery mass production and competitive prices accordingly.
- Extremely high stability, accuracy and reliability.

General Specification

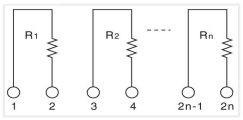
<table>
<tr><td colspan="2">Operating Temp. Range</td><td colspan="2">- 55˚C to ~ +125˚C</td><td rowspan="3">Wattage/Element</td><td>RA</td><td></td><td>RB</td></tr>
<tr><td rowspan="2">T.C.R.</td><td colspan="3">±100 ppm 50 ohm ~ 2.2 M ohm</td><td>B Circuits</td><td>Others</td><td>All Circuits</td></tr>
<tr><td colspan="3">±250 ppm < 50 ohm ~ > 2.2 M ohm</td><td>0.2W</td><td>0.125W</td><td>0.25W</td></tr>
<tr><td colspan="2">Rating Ambient Temp.</td><td colspan="2">+70˚C</td><td>Max.Working Voltage</td><td colspan="2">100V</td><td>200V</td></tr>
<tr><td colspan="2" rowspan="2">Resistance Range
(E-12 Series)</td><td>R Circuit</td><td>Others</td><td rowspan="2">Resistance Tolerance</td><td colspan="3" rowspan="2">F = 1% G = ± 2%, J = ± 5%</td></tr>
<tr><td>100Ω-10K</td><td>10Ω-4.7MΩ</td></tr>
</table>

Internal Circuit

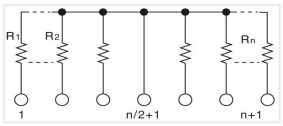
A



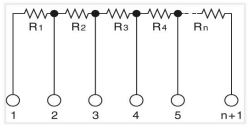
B



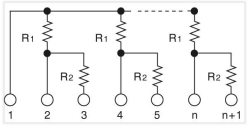
C



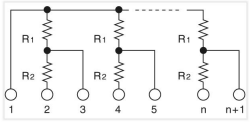
D



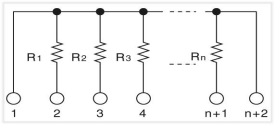
E



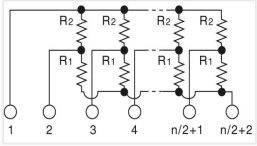
P



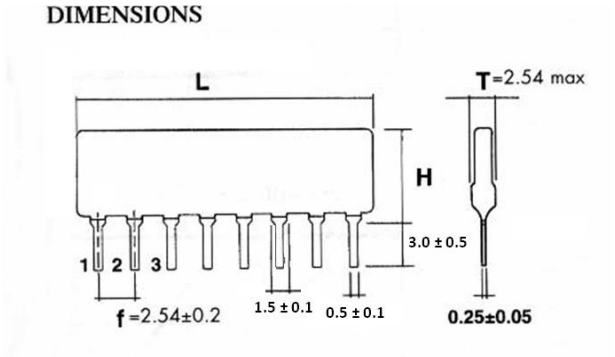
T



R



Dimensions (Standard Type)

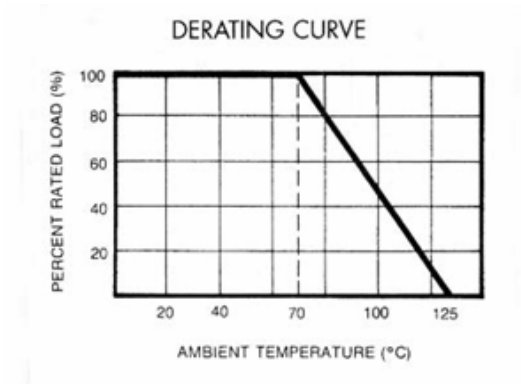


Dual Terminators (R1/R2) (OHM)

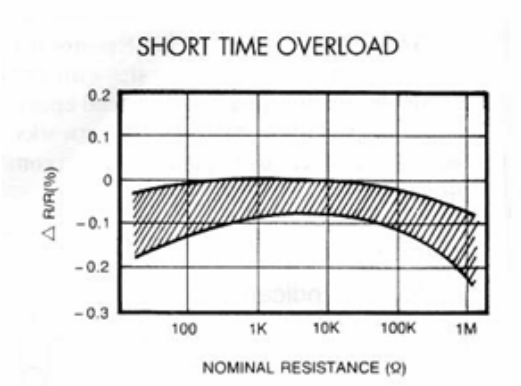
160/240	330/390
180/390	330/470
220/270	1.5K/3.3K
220/330	3.0K/6.2K

	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	30.5	33.1	35.6		

Derating Curve



Short Time Overload



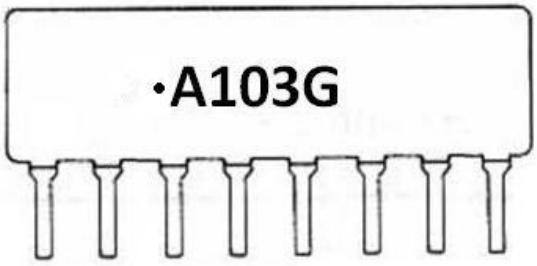
Characteristic Performance

Test Items	Specification
Insulation Resistance (200Vdc Applied)	10^4MΩ or Greater
Thermal Shock (-55˚C to + 125˚C, 5 Cycles)	△ R/R: ± (0.5% + 0.1 Ω)
Short Time Overload(2.5 X Rated Voltage, 5 Sec.)	△ R/R: ± (0.5% + 0.1 Ω)
Resistance to Soldering Heat (+260˚C ± 5˚C, 10 sec)	△ R/R: ± (0.5% + 0.1 Ω)
Head Shock (+25˚C to + 125˚C, 5 Cycles)	△ R/R: ± (0.5% + 0.1 Ω)
Moisture Resistance, Constant State (40˚C, 95% R.H., 1000Hrs.)	△ R/R: ± (1% + 0.1 Ω)
High Temperature Exposure (125˚C, 100Hrs.)	△ R/R: ± (1% + 0.1 Ω)
Moisture Load Life (1,000Hrs., 40˚C, 95% R.H., - Rated Voltage Cycling)	△ R/R: ± (3% + 0.1 Ω)
Load Life (1,000Hrs., Rated Voltage Cycling at 70˚C)	△ R/R: ± (3% + 0.1 Ω)
Load Pull Strength (1kg, 10Sec.)	△ R/R: ± (0.5% + 0.1 Ω)
Temperature Coefficent (-55˚C to 125˚C)	± 100ppm/˚C, ± 250ppm/˚C for <50 Ω or > 2.2
Solderability (230˚C for 5 Sec.)	95% min. coverage
Note: Test methods and conditions are in accordance with MIL-R-83401	

RoHS compliant

CINETECH SYMBOL OF QUALITY

Marking



A : Type of Circuit
103 : Resistance Value, 3-digit code
G : Tolerance ± 2%

Parts Number System

RA	9	A	103	G	B
Single In-Line Resistor Network	No. of Pins	Circuit Type	Resistance Code	Resistance Tolerance	Packing Code
RA= Low profile RB= High profile	4 To 14	A, E B, P C, T D, R	3-digit Code 2%, 5%	F= ± 1% G= ± 2% J= ± 5%	B=Bulk pack 2000pcs/box