

Cermet Resistor Networks

EXPLANATION OF PART NUMBERS

408A103		408E221331	
Series Designation	Resistance Value	Series Designation	R1 R2 Resistance Value
106A 406A 108A 408A 110A 410A 106B 406B 108B 408B 110B 410B	First two digits are significant figures and the third indicates the number of zeros following the first two digits — Examples: 101 = 100 Ohms 102 = 1000 Ohms 122 = 1200 Ohms	106E 108E 110E 406E 408E 410E	First two digits are significant figures and the third indicates the number of zeros following the first two digits — Examples: 101 = 100 Ohms 102 = 1000 Ohms 122 = 1200 Ohms

Typical performance test capabilities

Test Group	Order Of Test	Examination or Test	Test Method Per MIL-R-83401 (Paragraph)	Post Test Requirements
I	1	Visual and Mechanical Examination	4.6.2	In accordance with applicable requirements.
	2	Thermal Shock	4.6.3	Resistance change ± 0.25 percent maximum.
	3	DC Resistance	4.6.5	In accordance with applicable requirements.
II	1	Solderability	4.6.6	Resistance change ± 0.25 percent maximum.
	2	Resistance to Solvents	4.6.7	Resistance change ± 0.25 percent maximum. Marking shall remain legible.
III	1	Resistance Temperature Characteristic	4.6.8	Within specified limits (normally ± 100 ppm/ $^{\circ}$ C or ± 250 ppm/ $^{\circ}$ C).
	2	Low Temperature Operation	4.6.9	Resistance change ± 0.25 percent maximum.
	3	Short Time Overload	4.6.10	Resistance change ± 0.25 percent maximum.
	4	Terminal Strength	4.6.11	Resistance change ± 0.25 percent maximum.
IV	1	Dielectric Withstanding Voltage	4.6.12	Resistance change ± 0.25 percent maximum. No mechanical damage, arcing or breakdown.
	2	Insulation Resistance	4.6.13	10^{11} Ohms minimum.
	3	Resistance to Soldering Heat	4.6.14	Resistance change ± 0.25 percent maximum.
	4	Moisture Resistance	4.6.15	Resistance change ± 0.5 percent maximum.
V	1	Shock (Specified Pulse)	4.6.16	Resistance change ± 0.25 percent maximum.
	2	Vibration, High Frequency	4.6.17	Resistance change ± 0.25 percent maximum.
VI	1	Life	4.6.18	Resistance change ± 0.5 percent maximum.
VII	1	High Temperature Exposure	4.6.19	Resistance change ± 0.5 percent maximum.
	2	Low Temperature Storage	4.6.20	Resistance change ± 0.25 percent maximum.

INSPECTION CONDITIONS: Unless otherwise specified, all measurements are understood to be made at the following initial inspection conditions:

Normal atmospheric pressure.
Relative humidity of 40 ± 10 percent.
Ambient temperature of $24^{\circ} \pm 2^{\circ}$ C.

NOTE: During an inspection or qualification, all the networks shall be subjected to the inspections of Test Group I. The total samples are then divided into Groups II to VII inclusive, and subjected to the tests and inspections of the particular group.



Series **100**
400

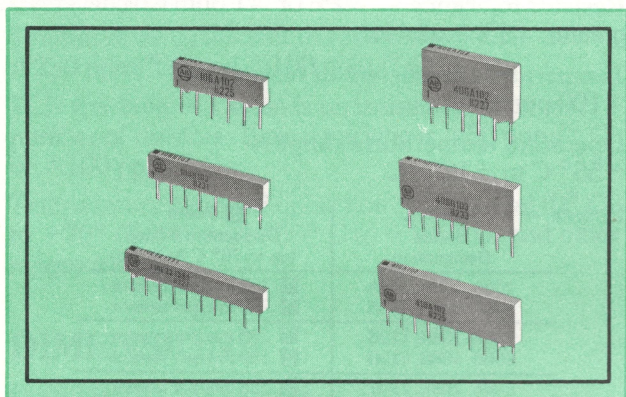
Cermet Resistor Networks

I-SIP

Single In-Line Package

FEATURES

- Solid Ceramic Body, with V-Groove
- Triple-Strength Leads
- 0.100 Inch (2,54mm) Lead Spacing
- Two Package Heights:
0.190 Inch (4,83mm), 0.350 Inch (8,89mm)
- 6, 8 and 10 Pins
- Automatically Insertable
- Permanent Laser Marking
- Part Markings — Side and Top



SPECIFICATIONS

General capabilities

I-SIP — Single In-Line Package:

- A **unique** packaging concept for single in-line resistor networks.
- Provides standard cermet resistor networks and custom network designs.
- Standard circuits available in 6, 8 and 10 pin packages and in two package profiles.

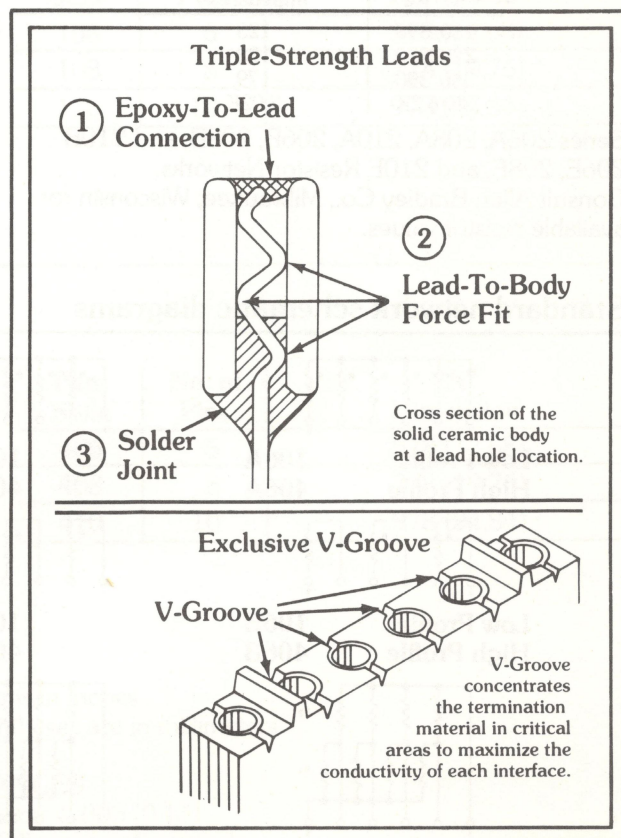
Applications

- Pull-up and pull-down arrays
- Transmission line terminators
- Current limiting resistors
- ECL terminating networks
- A wide array of custom designs

For Applications Information refer to the following Allen-Bradley Application Notes:

- Digital System Resistor Arrays: EC5410-4.1
- ECL Terminator Networks: EC5410-4.2
- Resistive Attenuator Pads: EC5410-4.3

Tough new package





Cermet Resistor Networks

Standard resistance values

Series 106A, 108A, 110A, 106B, 108B, 110B, 406A, 408A, 410A, 406B, 408B and 410B Resistor Networks

R (Ohms)				
22	180	1.2K	6.8K	47K
33	220	1.5K	8.2K	56K
39	270	1.8K	10K	68K
47	330	2K	12K	100K
56	390	2.2K	15K	120K
68	470	2.7K	18K	150K
82	560	3.3K	22K	180K
100	680	3.9K	27K	220K
120	820	4.7K	33K	470K
150	1K	5.6K	39K	1M

For intermediate values between 22 ohms and 1 megohm not listed above, consult Allen-Bradley Co., Milwaukee, Wisconsin.

Series 106E, 108E, 110E, 406E, 408E and 410E Resistor Networks

R1/R2	Zo (Characteristic Impedance)
180/390	123
220/330	132
330/390	179
3K/6.2K	2.02K

Series 206A, 208A, 210A, 206B, 208B, and 210B
206E, 208E, and 210E Resistor Networks.
Consult Allen-Bradley Co., Milwaukee, Wisconsin for available resistor values.

Standard network specifications

Resistor tolerance — $\pm 2\%$ or ± 1 ohm whichever is greater, $\pm 1\%$ available.

Temperature coefficient of resistance — ± 100 ppm/ $^{\circ}$ C.

Operating temperature range — -55° C to $+125^{\circ}$ C.

Power — Network Series Designation	1 Power Dissipation Rating (up to 70° C Ambient)
106A, 108A, 110A 406A, 408A, 410A	2 125 mw/per resistor 2 250 mw/per resistor
106B, 108B, 110B 406B, 408B, 410B	2 250 mw/per resistor 2 500 mw/per resistor
106E, 108E, 110E 406E, 408E, 410E	2 125 mw/per resistor 2 250 mw/per resistor

1 At $+70^{\circ}$ C power derates linearly from full rated power to 0 wattage at $+150^{\circ}$ C.

2 Rated continuous working voltage (RCWV), based on nominal resistance (R) in ohms, is $\sqrt{\text{Individual Resistor Power Rating (see Table)} \times R}$ or 100 volts, whichever is less.

Standard network schematic diagrams

