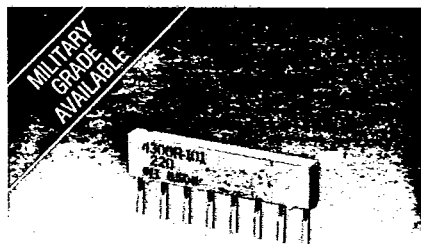


T-62-05



BOURNS

Model 4300R Series

® Resistor Networks

Electrical Characteristics

Standard Resistance Values

..... 10 ohms to 10 megohms
Maximum Operating Voltage... 100V
Temperature Coefficient of Resistance (TCR)..... $\pm 100\text{ppm}/^\circ\text{C}$

$\pm 250\text{ppm}/^\circ\text{C}$ for values less than 50 ohms and greater than 2.2 megohms

Voltage Coefficient..... $\pm 100\text{ppm}/\text{V}$
typical by decade values

TCR Tracking..... 50ppm/ $^\circ\text{C}$
maximum; equal values

Resistor Tolerance..... See circuits
Operating Temperature

..... -55°C to $+125^\circ\text{C}$
Power Rating..... Derate to zero power from $+70^\circ\text{C}$ to $+125^\circ\text{C}$

Environmental Characteristics

Tests per MIL-R-83401. ΔR maximum
Short Time Overload..... $\pm 0.25\%$

Load Life..... $\pm 1.00\%$

Mechanical Shock..... $\pm 0.25\%$

Moisture Resistance..... $\pm 0.50\%$

Resistance to Soldering Heat

..... $\pm 0.25\%$

Terminal Strength..... $\pm 0.25\%$

Thermal Shock..... $\pm 0.25\%$

Vibration..... $\pm 0.25\%$

Insulation Resistance

..... 10,000 megohms minimum

Dielectric Withstanding Voltage

..... 200 VRMS

Lead Solderability & Solvent Resistance

. Meet requirements of MIL-R-83401

Physical Characteristics

Flammability... Conforms to UL94V-0

Lead Frame Material

Copper (OLIN 194) 90/10 electroplate

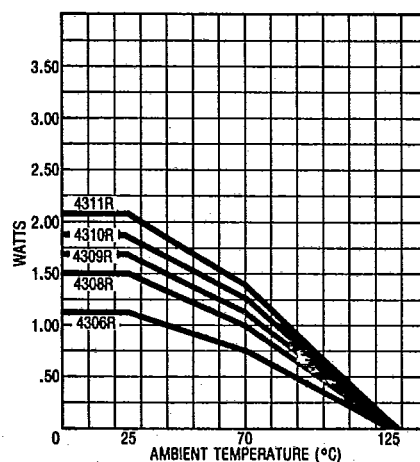
Body Material

..... Novolac epoxy

MOLDED SIPs, LOW PROFILE 6, 8, 9, 10, AND 11 PIN

- Low profile provides compatibility with DIPs
- Compatible with automatic insertion equipment
- High temperature design ensures compatibility with all popular board soldering techniques
- Copper leads for excellent heat dissipation

PACKAGE POWER TEMPERATURE DERATING CURVE

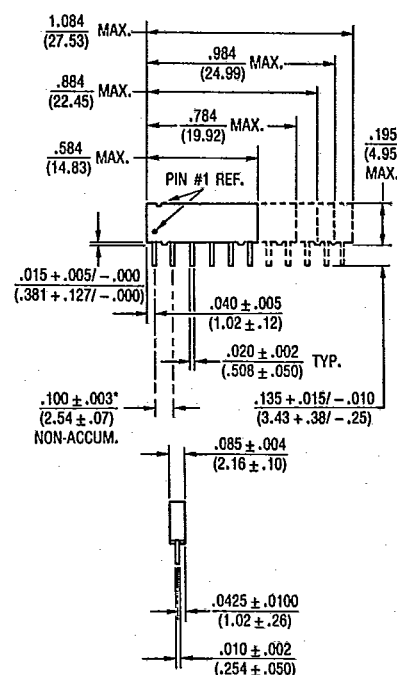


PACKAGE POWER RATING AT 70°C

4306R.....	0.75 watt
4308R.....	1.00 watt
4309R.....	1.13 watts
4310R.....	1.25 watts
4311R.....	1.38 watts

PACKAGE POWER RATING AT 25°C

4306R.....	1.13 watts
4308R.....	1.50 watts
4309R.....	1.69 watts
4310R.....	1.88 watts
4311R.....	2.06 watts

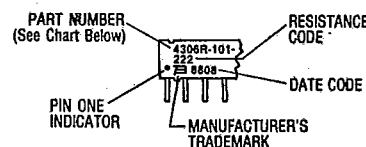


Governing dimensions are in inches. Dimensions in parentheses are metric (mm) and are approximate.

*Terminal centerline to centerline measurements made at point of emergence of the lead from the body.

TYPICAL PART MARKING

Represents total content. Layout may vary.



HOW TO ORDER MOLDED SIP NETWORKS

43 06 R - 101 - 222

Model
(43 = Molded SIP)

Number of Pins

Physical Configuration
(R = Low Profile)

Resistance Code

- First 2 digits are significant.
- Third digit represents the number of zeros to follow.

Electrical Configuration

- 101 = Bussed
- 102 = Isolated
- 104 = Dual Terminator

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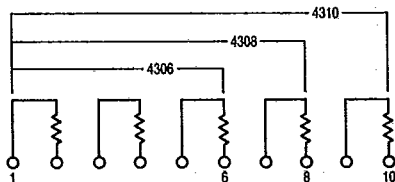
- Superior package integrity to withstand moisture and contamination
- Trifurcated Krimp-Joint™ lead attachment for product reliability and strength
- Laser marking on contrasting background for permanent identification

Model 4300R Series

® Resistor Networks

ISOLATED RESISTORS (102 CIRCUIT)

Model 4306R-102-RC (6 Pin)
Model 4308R-102-RC (8 Pin)
Model 4310R-102-RC (10 Pin)



These models incorporate 3, 4 or 5 isolated thick-film resistors of equal value, each connected between two pins.

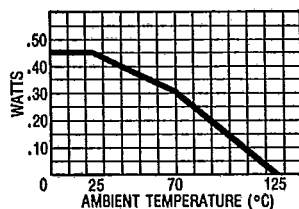
Resistance Tolerance

10 ohms to 49 ohms..... ± 1 ohm
50 ohms to 5 megohms..... $\pm 2\%$
Above 5 megohms..... $\pm 5\%$

Power Rating per Resistor

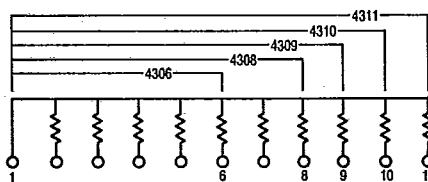
At 70°C.....0.30 watt
At 25°C.....0.45 watt

POWER TEMPERATURE DERATING CURVE



BUSSED RESISTORS (101 CIRCUIT)

Model 4306R-101-RC (6 Pin)
Model 4308R-101-RC (8 Pin)
Model 4309R-101-RC (9 Pin)
Model 4310R-101-RC (10 Pin)
Model 4311R-101-RC (11 Pin)



These models incorporate 5, 7, 8, 9 or 10 thick-film resistors of equal value, each connected between a common bus (pin 1) and a separate pin.

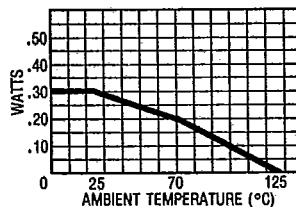
Resistance Tolerance

10 ohms to 49 ohms..... ± 1 ohm
50 ohms to 5 megohms..... $\pm 2\%$
Above 5 megohms..... $\pm 5\%$

Power Rating per Resistor

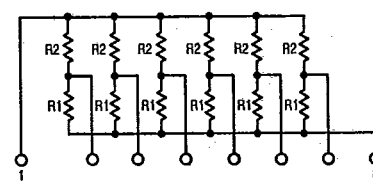
At 70°C.....0.20 watt
At 25°C.....0.30 watt

POWER TEMPERATURE DERATING CURVE



DUAL TERMINATOR (104 CIRCUIT)

Model 4306R-104-R1/R2
Model 4308R-104-R1/R2 (shown)
Model 4309R-104-R1/R2
Model 4310R-104-R1/R2
Model 4311R-104-R1/R2



4308R-104 (shown above) is an 8-pin configuration and terminates 6 lines. Pins 1 and 8 are common for ground and power, respectively. Twelve thick-film resistors are paired in series between the common lines (pins 1 and 8).

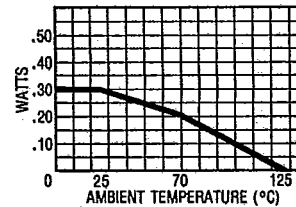
Resistance Tolerance

Below 100 ohms..... ± 2 ohms
100 ohms to 5 megohms..... $\pm 2\%$
Above 5 megohms..... $\pm 5\%$

Power Rating per Resistor

At 70°C.....0.20 watt
At 25°C.....0.30 watt

POWER TEMPERATURE DERATING CURVE



STANDARD RESISTANCE VALUES (101, 102 CIRCUITS)

Resistance (Ohms)	Resistance Code	Resistance (Ohms)	Resistance Code	Resistance (Ohms)	Resistance Code	Resistance (Ohms)	Resistance Code
10	100	330	331	4,700	472	68,000	683
22	220	390	391	5,600	562	82,000	823
27	270	470	471	6,800	682	100,000	104
33	330	560	561	8,200	822	120,000	124
39	390	680	681	10,000	103	150,000	154
47	470	820	821	12,000	123	180,000	184
56	560	1,000	102	15,000	153	220,000	224
68	680	1,200	122	18,000	183	270,000	274
82	820	1,500	152	20,000	203	330,000	334
100	101	1,800	182	22,000	223	390,000	394
120	121	2,000	202	27,000	273	470,000	474
150	151	2,200	222	33,000	333	560,000	564
180	181	2,700	272	39,000	393	680,000	684
220	221	3,300	332	47,000	473	820,000	824
270	271	3,900	392	56,000	563	1,000,000	105

STANDARD RESISTANCE VALUES (104 CIRCUITS)

Resistance			
(Ohms)		Code	
R ₁	R ₂	R ₁	R ₂
160	240	161	241
180	390	181	391
220	270	221	271
220	330	221	331
330	390	331	391
330	470	331	471
3,000	6,200	302	622

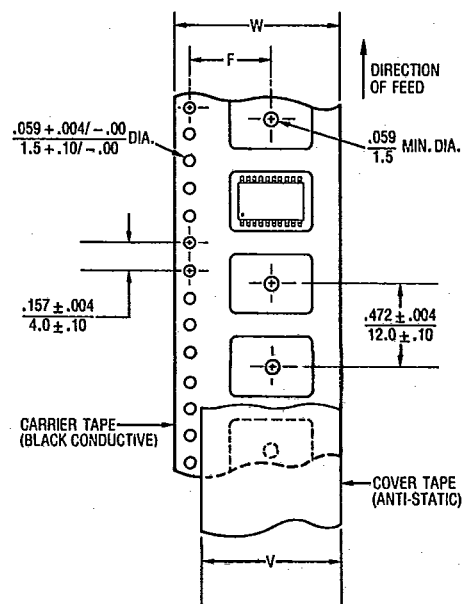
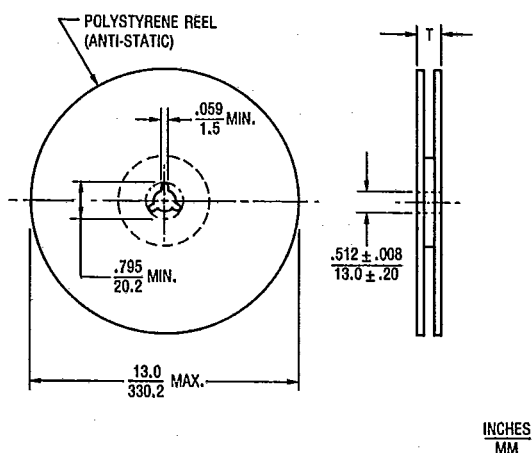
BOURNS

T-90-20

RESISTOR NETWORKS SURFACE MOUNT TAPE AND REEL SPECIFICATIONS

Model	Standard Quantity Per Reel	Carrier Tape Width (W)	Cover Tape Width (V)	Reel Width (T)	Pocket Center (F)
4210P 4220P	1,000	$\frac{.630 \pm .012}{16.0 \pm .30}$	$\frac{.524}{13.3}$ NOM.	$\frac{.882}{22.4}$ MAX.	$\frac{.295 \pm .004}{7.5 \pm .10}$
4416P 4416J	1,500				
4814P	2,000				
4420P 4420J	1,500	$\frac{.945 \pm .012}{24.0 \pm .30}$	$\frac{.827}{21.0}$ NOM.	$\frac{1.43}{36.4}$ MAX.	$\frac{.453 \pm .004}{11.5 \pm .10}$
4816P	2,000				

Leader Length = 530 ± 30 mm } Empty Component Pockets
 Trailer Length = 500mm Min. } Sealed With Cover Tape



NOTE: Dimensions not specified are per EIA RS-481.
 Governing dimensions are in millimeters.