

For information on specific applications,  
download Bourns' application notes:

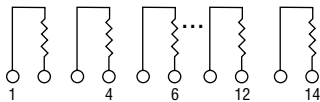
- [DRAM Applications](#)
- [Dual Terminator Resistor Networks](#)
- [R/2R Ladder Networks](#)
- [SCSI Applications](#)

## 4600X Series - Thick Film Conformal SIPs

**BOURNS®**

### Isolated Resistors (102 Circuit)

**Model 4600X-102-RC**  
4, 6, 8, 10, 12, 14 Pin



These models incorporate 2 to 7 isolated thick-film resistors of equal value, each connected between two pins.

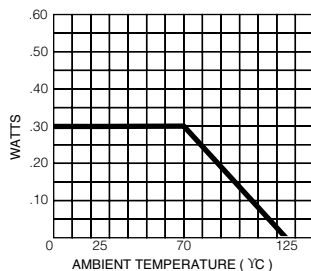
#### Resistance Tolerance

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

#### Power Rating per Resistor

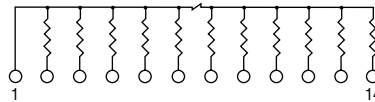
At 70 °C ..... 0.30 watt

#### Power Temperature Derating Curve



### Bussed Resistors (101 Circuit)

**Model 4600X-101-RC**  
4 through 14 Pin



These models incorporate 3 to 13 thick-film resistors of equal value, each connected between a common bus (pin 1) and a separate pin.

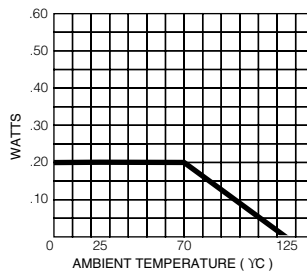
#### Resistance Tolerance

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

#### Power Rating per Resistor

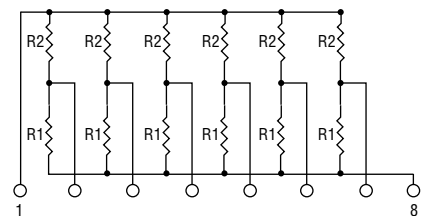
At 70 °C ..... 0.20 watt

#### Power Temperature Derating Curve



### Dual Terminator (104 Circuit)

**Model 4600X-104-R1/R2**  
4 through 14 Pin



The 4608X-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).

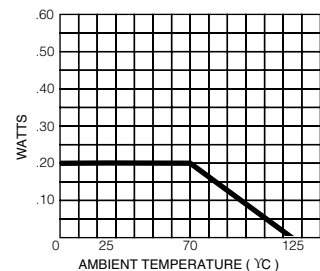
#### Resistance Tolerance

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

#### Power Rating per Resistor

At 70 °C ..... 0.20 watt

#### Power Temperature Derating Curve



### Popular Resistance Values (101, 102 Circuits)\*\*

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

\*  $\pm 1\%$  tolerance is available by adding suffix code "F" after the resistance code.

\*\*Non-standard values available, within resistance range.

### Popular Resistance Values (104 Circuit)\*\*

Resistance			
Ohms		Code	
R <sub>1</sub>	R <sub>2</sub>	R <sub>1</sub>	R <sub>2</sub>
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

REV. 10/1/20

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Users should verify actual device performance in their specific applications.

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