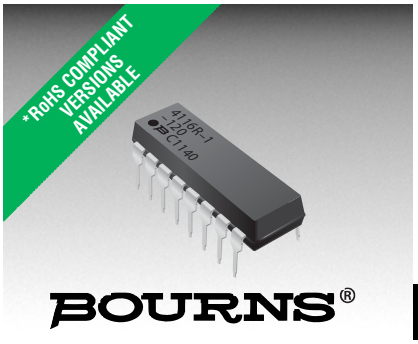



BOURNS®

## Features

- RoHS compliant* versions available (see How to Order "Termination" option)
- Compatible with automatic insertion equipment
- Superior package integrity
- **Now available with improved tolerance to ±0.5 %**

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

- DRAM Applications
- Dual Terminator Resistor Networks
- R/2R Ladder Networks
- SCSI Applications

# 4100R Series - Thick Film Molded DIPs

### Product Characteristics

Resistance Range ..... 10 ohms to 10 megohms
Maximum Operating Voltage .....100 V
Temperature Coefficient of Resistance
50 Ω to 2.2 MΩ.....±100 ppm/°C
below 50 Ω.....±250 ppm/°C
above 2.2 MΩ.....±250 ppm/°C
TCR Tracking.....50 ppm/°C maximum; equal values
Resistor Tolerance..... See circuits
Operating Temperature .....-55 °C to +125 °C
Insulation Resistance ..... 10,000 megohms minimum
Dielectric Withstanding Voltage .....200 VRMS
Lead Solderability.....Meet requirements of MIL-STD-202 Method 208

### Environmental Characteristics

TESTS PER MIL-STD-202..... ΔR MAX.
Short Time Overload.....±0.25 %
Load Life.....±1.00 %
Moisture Resistance.....±0.50 %
Resistance to Soldering Heat .....±0.25 %
Terminal Strength .....±0.25 %
Thermal Shock .....±0.25 %

### Physical Characteristics

Flammability ..... Conforms to UL94V-0
Lead Frame Material .....Copper, solder coated
Body Material..... Novolac epoxy

### How To Order

**41 14 R - 1 - 152 __ __**

Model
(41 = Molded DIP)
Number of Pins
Physical Configuration
(R = Thick Film Low Profile)
Electrical Configuration
- 1 = Isolated
- 2 = Bussed
- 3 = Dual Terminator

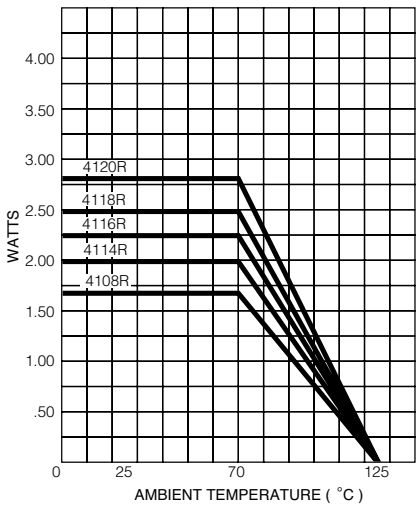
Resistance Code
- First 2 digits are significant
- Third digit represents the number of zeros to follow.

Resistance Tolerance
- Blank = ±2 % (see "Resistance Tolerance" on next page for resistance range)
- F = ±1 % (100 ohms - 1 megohm)
- D = ±0.5 % (100 ohms - 1 megohm)

Terminations
- LF = Tin-plated (RoHS compliant version)
- Blank = Tin/Lead-plated

Consult factory for other available options.

### Package Power Temp. Derating Curve

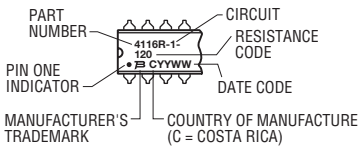



### Package Power Rating at 70 °C

4108R .....1.69 watts
4114R .....2.00 watts
4116R .....2.25 watts
4118R .....2.50 watts
4120R .....2.80 watts

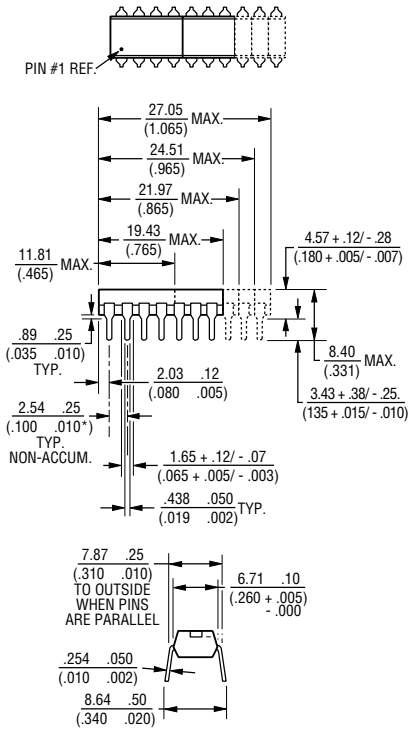
### Typical Part Marking

Represents total content. Layout may vary.




For Standard Values Used in Capacitors, Inductors, and Resistors, click here.

### Product Dimensions




Governing dimensions are in metric. Dimensions in parentheses are inches and are approximate.

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

*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.

Specifications are subject to change without notice.
Customers should verify actual device performance in their specific applications.

# 4100R Series - Thick Film Molded DIPs

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## Isolated Resistors (1 Circuit)

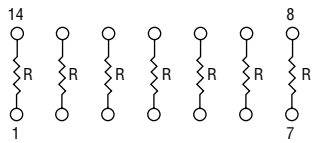
**Model 4108R-1-RC**
**(4 Isolated Resistors)**

**Model 4114R-1-RC**
**(7 Isolated Resistors)**

**Model 4116R-1-RC**
**(8 Isolated Resistors)**

**Model 4118R-1-RC**
**(9 Isolated Resistors)**

**Model 4120R-1-RC**
**(10 Isolated Resistors)**



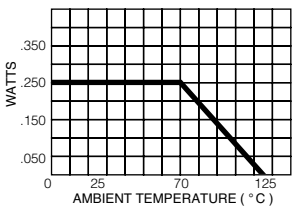

### Resistance Tolerance

10 ohms to 49 ohms.....±1 ohm
50 ohms to 5 megohms..... ±2 %*
Above 5 megohms.....±5 %

### Power Rating per Resistor

At 70 °C ..... 0.250 watt

### Power Temperature Derating Curve




## Bussed Resistors (2 Circuit)

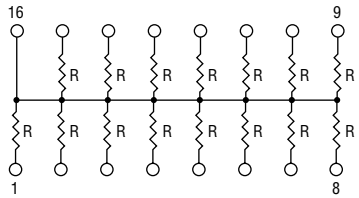
**Model 4108R-2-RC**
**(7 Resistors, Pin 8 Common)**

**Model 4114R-2-RC**
**(13 Resistors, Pin 14 Common)**

**Model 4116R-2-RC**
**(15 Resistors, Pin 16 Common)**

**Model 4118R-2-RC**
**(17 Resistors, Pin 18 Common)**

**Model 4120R-2-RC**
**(19 Resistors, Pin 20 Common)**



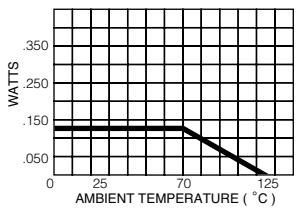

### Resistance Tolerance

10 ohms to 49 ohms.....±1 ohm
50 ohms to 5 megohms..... ±2 %*
Above 5 megohms.....±5 %

### Power Rating per Resistor

At 70 °C ..... 0.125 watt

### Power Temperature Derating Curve




## Dual Resistors (3 Circuit)

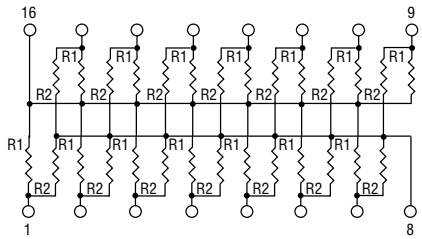
**Model 4108R-3-R1/R2**

**Model 4114R-3-R1/R2**

**Model 4116R-3-R1/R2 (shown)**

**Model 4118R-3-R1/R2**

**Model 4120R-3-R1/R2**



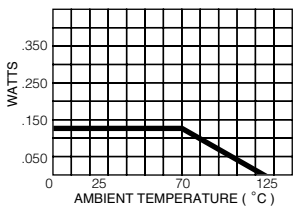

### Resistance Tolerance

Below 100 ohms..... ±2 ohms
100 ohms to 5 megohms..... ±2 %*
Above 5 megohms.....±5 %

### Power Rating per Resistor

At 70 °C ..... 0.125 watt

### Power Temperature Derating Curve




### Popular Resistance Values (1, 2 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 |

* Add “F” after resistance code for ±1 % tolerance available from 100 Ω through 1M Ω, or add “D” after resistance code for ±0.5 % tolerance available from 100 Ω through 1M Ω.
Part number suffix examples: -103 = 10K Ω, ±2 %; -103F = 10K Ω, ±1 %; -103D = 10K Ω, ±0.5 %

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

### Popular Resistance Values (3 Circuit)**

| 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 |

REV. 05/12

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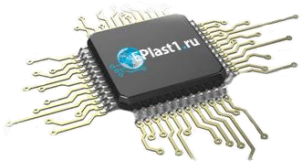
Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits,General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.




**Как с нами связаться**

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