4800P Series - Thick Film Surface Mounted Medium Body

**Product Characteristics**

**Resistance Range**

- 10 ohms to 2.2 megohms

**Maximum Operating Voltage**

- 50 V

**Temperature Coefficient of Resistance**

- ±50 ppm/°C max. for values > 50 Ω; ±100 ppm/°C for values ≤ 50 Ω

**Operating Temperature**

- -55 °C to +125 °C

**TCR Tracking**

- ±250 ppm/°C

**Resistance Range**

- 10 ohms to 2.2 megohms

**Resistance Code**

- For Standard Values Used in Connecting and Packaging Electronic Circuits in accordance with IPC-SM-782.

**Flammability**

- Conforms to UL94V-0

**Physical Characteristics**

**Body Material**

- Thermoplastic

**Features**

- RoHS compliant (see how to order “Termination” option)
- Standard EIA package compatible with automatic placement equipment
- Tape and reel packaging standard
- Custom circuits are available

- Compliant leads to reduce solder joint fatigue
- Standard electrical schematics: isolated, bussed, dual terminator
- Now available with improved tolerance to ±0.5%

**Recommended Land Pattern**

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

**How To Order**

48 16 P - 1 - 103

- Model: (48 = SOM Pkg.)
- Number of Pins: 4
- Electrical Configuration:
  - 1 or 4 = 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:
  - All electrical configurations EXCEPT T03:
    - LF = RoHS compliant
    - ONLY electrical configuration T03:
    - L = RoHS compliant
    - Blank = Tin/Lead-plated

*For tube packaging, use T01, T02, T03 or T04. Consult factory for other available options.

**Environmental Characteristics**

**TESTS PER MIL-STD-202**

- AR MAX.
- Short Time Overload: ±0.25 %
- Load Life: ±1.00 %
- Moisture Resistance: ±0.50 %
- Resistance to Soldering Heat: ±0.25 %
- Thermal Shock: ±0.25 %

**Product Dimensions**

**Package Power Temp. Derating Curve**

**Package Power Rating at 70 °C**

- 4814P: 1.12 watts
- 4816P: 1.28 watts
- 4818P: 1.44 watts
- 4820P: 1.60 watts

**Typical Part Marking**

- Represents total content. Layout may vary.

- Part Number
- Circuit
- Resistance Code
- Date Code
- Country of Manufacture
- Manufacturer’s Trademark
- RoHS Compliancy Indicator

**Recommended Land Pattern**

- Note: Land pattern dimensions are based on design rules established by the Institute for Interconnect and Packaging Electronic Circuits in IPC-SM-782.

**WARNING**

Cancer and Reproductive Harm

www.P65Warnings.ca.gov
Isolated Resistors (1 and 4 Circuits)
Model 4814P-1
Model 4816P-1 (Shown)
Model 4818P-1
Model 4820P-1

Bussed Resistors (2 Circuit)
Model 4814P-2
Model 4816P-2 (Shown)
Model 4818P-2
Model 4820P-2

Dual Terminator (3 Circuit)
Model 4814P-3
Model 4816P-3 (Shown)
Model 4818P-3
Model 4820P-3

** Resistance Tolerance**
10 ohms to 49 ohms .................... ±1 ohm
50 ohms to 2.2 megohms ............. ±2 %*

** Power Rating per Resistor**
1 Circuit at 70 °C .................. 0.160 watt
4 Circuit at 70 °C .................. 0.160 watt

** Resistance Tolerance**
10 ohms to 49 ohms .................... ±1 ohm
50 ohms to 2.2 megohms ............. ±2 %*

** Power Rating per Resistor**
2 Circuit at 70 °C .................. 0.080 watt
3 Circuit at 70 °C .................. 0.080 watt

** Popular Resistance Values (1, 4 and 2 Circuits)**

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

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### Surface Mount Ordering Guide

<table>
<thead>
<tr>
<th>Electrical Configuration</th>
<th>*Circuit Codes</th>
<th>Examples</th>
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<tr>
<td>Bussed</td>
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<td>Dual Terminated</td>
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<td>T03</td>
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<td>Adj. Isolated</td>
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<td>Isolated Circuit in Tape &amp; Reel Package</td>
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<td>4816P-T01-101</td>
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<tr>
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<td>Isolated Circuit in Slide Tube Package</td>
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</tbody>
</table>

*C4816P-X-RC: To specify package type, replace “X” with appropriate “Circuit Code”.

#### Notes:
- Dimensions not specified are per EIA RS-481-2.
- Dimensions: *mm (in)*

### Dimensions
- **W**: Carrier Tape Width (24.0 ± .30 [.945 ± .012])
- **W**: Cover Tape Width (21.0 [.827])
- **T**: Reel Width (30.4 [1.197])
- **F**: Pocket Center (11.5 ± .10 [.453 ± .004])

#### Models
- 4814P: 2,000
- 4816P: 2,000
- 4818P: 2,000
- 4820P: 2,000

Leader Length = 500 min.  
Trailer Length = 500 mm min.  
Empty Component Pockets  
Sealed with Cover Tape

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