Features

- **RoHS compliant** versions available (see How to Order "Termination" option)
- Low profile provides compatibility with DIPs
- Compatible with automatic insertion equipment
- Superior package integrity
- Now available with improved tolerance to \( \pm 0.5\% \)

**4300R Series - Thick Film Molded SIPs**

**Product Characteristics**

- **Resistance Range**: 10 ohms to 10 megohms
- **Maximum Operating Voltage**: 100 V
- **Temperature Coefficient of Resistance**: 50 \( \pm 100 \text{ ppm/°C} \) below 50 \( \Omega \), 2.2 megohms \( \pm 250 \text{ ppm/°C} \) above 2.2 megohms
- **TCR Tracking**: 50 ppm/°C maximum
- **Resistor Tolerance**: See circuits
- **Operational Temperature**: See circuits
- **Power Rating**: Derate to zero power from +70 °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 – 8R MAX.
- **Short Time Overload**: \( \pm 0.25 \% \)
- **Load Life**: \( \pm 1.00 \% \)
- **Resistance to Soldering Heat**: \( \pm 0.25 \% \)
- **Terminal Strength**: \( \pm 0.25 \% \)
- **Thermal Shock**: \( \pm 0.25 \% \)

**Physical Characteristics**

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

**How To Order**

- **Model**: 43 06 R - 101 - 222
  - (43 = Molded SIP)
  - (R = Thick Film Low Profile)
  - (101 - 222) = Number of Pins

**Product Dimensions**

- **Package Power Rating at 70 °C**
  - 4306R: 0.75 watts
  - 4308R: 1.00 watts
  - 4309R: 1.13 watts
  - 4310R: 1.25 watts
  - 4311R: 1.38 watts

**Typical Part Marking**

Represents total content. Layout may vary. Marking may be truncated on shorter versions due to size constraints.

For Standard Values Used in Capacitors, Inductors, and Resistors, [click here](#).

4300R Series - Thick Film Molded SIPs

**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.

**Power Temperature Derating Curve**

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

<table>
<thead>
<tr>
<th>Ohms</th>
<th>Code</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>100</td>
<td>180</td>
</tr>
<tr>
<td>22</td>
<td>220</td>
<td>220</td>
</tr>
<tr>
<td>27</td>
<td>270</td>
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<td>33</td>
<td>330</td>
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<td>47</td>
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<td>56</td>
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<tr>
<td>68</td>
<td>680</td>
<td>681</td>
</tr>
<tr>
<td>82</td>
<td>820</td>
<td>821</td>
</tr>
<tr>
<td>100</td>
<td>1,000</td>
<td>102</td>
</tr>
<tr>
<td>120</td>
<td>1,200</td>
<td>122</td>
</tr>
<tr>
<td>150</td>
<td>1,500</td>
<td>152</td>
</tr>
</tbody>
</table>

**Resistance Tolerance**
- 10 ohms to 49 ohms: ±1 ohm
- 50 ohms to 5 megarhms: ±2 %
- Above 5 megarhms: ±5 %

**Power Rating per Resistor**
- At 70 °C: 0.30 watt

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**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 separate pin.

**Resistance Tolerance**
- 10 ohms to 49 ohms: ±1 ohm
- 50 ohms to 5 megarhms: ±2 %
- Above 5 megarhms: ±5 %

**Power Rating per Resistor**
- At 70 °C: 0.20 watt

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**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 megarhms: ±2 %
- Above 5 megarhms: ±5 %

**Power Rating per Resistor**
- At 70 °C: 0.20 watt

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**Popular Resistance Values (104 Circuit)**

<table>
<thead>
<tr>
<th>Resistance</th>
<th>Ohms</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1</td>
<td>160</td>
<td>240</td>
</tr>
<tr>
<td>R2</td>
<td>180</td>
<td>390</td>
</tr>
<tr>
<td>R1</td>
<td>220</td>
<td>270</td>
</tr>
<tr>
<td>R2</td>
<td>220</td>
<td>330</td>
</tr>
<tr>
<td>R1</td>
<td>330</td>
<td>390</td>
</tr>
<tr>
<td>R2</td>
<td>330</td>
<td>470</td>
</tr>
</tbody>
</table>

**Specifications**
- 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.**