POWER RESISTORS
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</table>
Every designer that works with electronic components knows well integration system, reliability and custom products problems.

**ATE Electronics** solves these problems since 1970 producing power resistors with high quality and technology.

We pay attention to all Customers enquiries giving our best solution and warranty at low cost and with fast delivery.

Sandro Felisio  
CEO
ATE Electronics products set:

- **CS axial wirewound resistors** (2W to 15W), thanks to row materials of very high quality and reliability, can replace with better performances resistors in ceramic glaze.

- **Aluminium housed RB series** (10W to 250W) can supply in small dimensions high power with lower operating temperature.

- **CS and RB series** can be supplied on request in special versions (fuse resistors, high pulse overload, non inductive...) and with custom leads (high insulation voltage terminals, faston, screw....)

- **3SM** (3W) for surface mount applications which allow the replacement of traditional axial resistors with the same electrical characteristics of 3CS type

- **Anti moisture devices DAT** (100W & 150W)

- **Symmetry resistors SR** (10W & 13W) for voltage divider and discharge of electrolitical capacitors.

- **Fuse resistors RF** (2W to 15W)
Looking for best quality, our intent is always obtain the Customer's satisfaction with excellent products and services.

For this ATE Electronics since 1994 was one of the first Italian Companies to be certified with quality system compliant to UNI EN ISO standards.

In feb 11th 2010 we obtained the update to UNI EN ISO9001:2008, certificate nr. 9170.ATEE

All our products are made in Italy and compliant with RoHS, MIL & CECC.

Our staff is able to satisfy all Your enquiries
How to order:

Example for CS Series: 5CS 1K0 5%

Example for PR Series: PR100 1K0 10%

Example for RB Series: RB25 /1 1K0 5%

Example for DAT Series: DAT100 220Vac

For non inductive types you have to add the letter “N” after resistor type. Ex.: CSN - RBN

To order CS resistors taped on reel add the suffix “/73” after the resistor type. Ex.: 5CS/73 1K0 J

Quantity for reel: 1500x2CS, 1000x3CS, 5CS and 6CS

Tolerances:

<table>
<thead>
<tr>
<th>Type</th>
<th>K</th>
<th>J</th>
<th>G</th>
<th>F</th>
<th>D</th>
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<tr>
<td>Tolerance</td>
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<td>5%</td>
<td>2%</td>
<td>1%</td>
<td>0.5% (for values above 1R0)</td>
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Cross-Reference ATE Electronics

<table>
<thead>
<tr>
<th>Competitors</th>
<th>Stato</th>
<th>CS</th>
<th>RB</th>
<th>RB /</th>
<th>PR100</th>
<th>PR250</th>
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</table>

Note: The Cross-Reference listed may not be exactly equivalent, but they are good replacements/alternatives. We recommend to download both datasheets, ATE and direct Competitor, and make a careful comparison. If you need more information, please contact us at info@ate-electronics.com
FEATURES

Easy replacement of vitreous enamel resistors with no cost increase and no performance loss. The whole assembly is coated with multi-layer silicone coating to give maximum wire protection form -55°C to +350°C. Performance improvement is obtained by close tolerance, very low temperature coefficient and excellent stability in operation under severe environmental conditions. High level reliability due to ceramic core chemically inert and centerless ground for uniformity, selected wire element and completely welded construction terminal to terminal.

Specifications

WIREWOUND RESISTORS SILICONE COATED 2 W TO 15 W

E24 Series. For out of range or not standard ohmic values, consult ATE Technical Dept.

- Tolerance
  - Standard 5%. Available on request up to 1% (for values >R047).
  - Temperature coefficient
    - Typical values: ±100 to ±30 ppm from R10 to Rmax
    - Consult factory for special applications
  - Dielectric strength
    - 500 Vdc 2CS to 6CS
    - 700 Vdc 7CS to 12CS
  - Insulation resistance
    - 1000 MΩmin minimum.
    - 100 MΩmin after moisture test
  - Surraccorico
    - 5s at 15 times rated power
    - 5s at 5 times rated power 2CS and 3CS
  - Non inductive
    - Models of equivalent physical and electrical specifications are also available with non inductive Ayrton-Perry winding

MECHANICAL SPECIFICATIONS

- Terminal strength
  - 10 lb. pull test.
- Solderability
  - Continuous, satisfactory coverage when tested in accordance to MIL-PRF-26 H.

MATERIALS

- Core
  - Ceramic steatite or alumina centerless ground
- Resistive element
  - Copper-nickel alloy or nickel-chrome alloy with specific temperature coefficient
  - End caps
  - Stainless steel
- Coating
  - Special high temperature silicone
  - Standard terminals
    - LF tinned copper or LF tinned copperweld
    - Point of measure: L + 20mm

DERATING

These resistors meet or exceed the requirements of MIL-PRF-26 H specifications.

These resistors can be used in a temperature range from -55°C to +350°C. To use these components in applications with working temp. higher than +25°C you have to make a power reduction with linear derating from nominal power to zero at 350°C.

For values >R047, consult the factory for special applications.
### ATE Type Specifications

#### Symmetry Resistors and/or Capacitors Discharge

<table>
<thead>
<tr>
<th>ATE Type</th>
<th>Basic Resistors</th>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>E (mm)</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7SR</td>
<td>7CS</td>
<td>22.2</td>
<td>40</td>
<td>15</td>
<td>21</td>
<td>9.5</td>
<td>9</td>
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<tr>
<td>7SR/B</td>
<td>7CS</td>
<td>22.2</td>
<td>40</td>
<td>10</td>
<td>16</td>
<td>9.5</td>
<td>9</td>
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<td>10SR</td>
<td>10CS</td>
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<td>15</td>
<td>21</td>
<td>9.5</td>
<td>11</td>
</tr>
<tr>
<td>10SR/B</td>
<td>10CS</td>
<td>31.8</td>
<td>50</td>
<td>10</td>
<td>16</td>
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<td>11</td>
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#### MIL-R-26H Type Specifications

<table>
<thead>
<tr>
<th>ATE Type</th>
<th>MIL-R-26H Type</th>
<th>Rated power (W)</th>
<th>Resistance range (Ohm)</th>
<th>Voltage limit (V)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7SR</td>
<td>RW55</td>
<td>10</td>
<td>0.1 - 47K</td>
<td>685</td>
</tr>
<tr>
<td>10SR</td>
<td>RW68</td>
<td>13</td>
<td>0.1 - 68K</td>
<td>940</td>
</tr>
</tbody>
</table>

#### Temperature Rise at Rated Power

<table>
<thead>
<tr>
<th>ATE Type</th>
<th>Temperature rise at rated power 7SR and 7SR/B</th>
<th>Temperature rise at rated power 10SR and 10SR/B</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td>$\Delta T = 26 ^\circ C/W$</td>
<td>$\Delta T = 21.5 ^\circ C/W$</td>
</tr>
<tr>
<td>T2</td>
<td>$\Delta T = 16 ^\circ C/W$</td>
<td>$\Delta T = 12.3 ^\circ C/W$</td>
</tr>
<tr>
<td>T3</td>
<td>$\Delta T = 15 ^\circ C/W$</td>
<td>$\Delta T = 11.5 ^\circ C/W$</td>
</tr>
<tr>
<td>T4 (capacitor mounted)</td>
<td>$\Delta T = 1.2 ^\circ C/W$</td>
<td>$\Delta T = 1 ^\circ C/W$</td>
</tr>
</tbody>
</table>
RB Series

**FEATURES**

- Extruded aluminium housing provides superior heat conduction. Housing deep finned for maximum heat dissipation at natural or forced air convection.
- Gold anodized finish for maximum resistance to environmental conditions. Special thermosetting compound with high thermal conductivity. Winding designed to give maximum core coverage and uniformity for even heat dissipation.
- Core centerless ground for maximum winding uniformity. Marking at top surface for easy identification after mounting. Complete welded construction terminal to terminal.

**FIXED POWER WIREWOUND RESISTORS ALUMINIUM HOUSED**

**ELECTRICAL SPECIFICATIONS**

- Ohmic values Series E24. For out of range or not standard ohmic values, consult ATE Technical Dept.
- Tolerance Standard 5%. Available on request up to 1%.
- Temperature coefficient ±30 ppm R > 20 Ohm
  ±50 ppm 1 Ohm < R < 20 Ohm
  ±100 ppm 0.1 Ohm < R < 1 Ohm
- Dielectric strength
  1500 Vac for RB10
  2500 Vac for RB25 and RB50
  3500 Vac for RB75, RB101 and RB150
  4500 Vac for RB100 and RB250
- Insulation resistance
  10000 MOhm minimum
  1000 MOhm after moisture test
- Overload
  5s at 5 times rated power
- Non inductive

Models of equivalent physical and electrical specifications are also available with non inductive Ayrton-Perry winding.

**MECHANICAL SPECIFICATIONS**

- Terminal strength
  10 lb. pull test; 3 Nm x RB100 and 4 Nm x RB250 max torque
- Solderability
  Satisfactory when tested in accordance with method 208 of MIL-STD-202.
  The use of high temperature solder is recommended when resistors work near the maximum specified ratings.

**MATERIALS**

- Core
  Ceramic steatite or alumina centerless ground
- Resistive Element
  Copper-nickel alloy or nickel-chrome alloy with specific temperature coefficient
- End caps
  Stainless steel
- Encapsulant
  High temperature thermosetting compound
- Housing
  Aluminium with hard anodic finish
- Standard terminals
  Copperweld RB10 to RB150
  Stainless steel for RB100 and RB250

**DERATING**

ATE RB resistors have an operative temperature range from -55°C to +250°C. Derating is required for reduced chassis area and for high ambient temperature.

<table>
<thead>
<tr>
<th>ATE Type</th>
<th>MIL-PRF-16546 G Type</th>
<th>Rated power (W)</th>
<th>Max power no heatsink (W)</th>
<th>Resistance range (Ohm)</th>
<th>Voltage limit (V)</th>
<th>Temp. rise with heatsink (W)</th>
<th>Weight (g)</th>
<th>Heatsink dimensions (cm² x mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RB10</td>
<td>RE65</td>
<td>12</td>
<td>6</td>
<td>0.01-10K</td>
<td>265</td>
<td>5.1</td>
<td>6</td>
<td>415x1</td>
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<td>RB25</td>
<td>RE70</td>
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<td>0.01-18K</td>
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<td>0.1-120K</td>
<td>2300</td>
<td>0.66</td>
<td>900</td>
<td>930x3</td>
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# RB SERIES

**Fixed power wirewound resistors**
**aluminium housed 10 W to 250 W**

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<th>ATE Type</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
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<th>G</th>
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</table>

**Dimensions (mm)**

The tables above provide the dimensions for each type of resistor in millimeters, along with tolerances for each dimension. The tolerances are given in millimeters and indicate the range within which the actual dimensions are expected to fall.

###Notes
- Only RB250 has a tolerance of ±0.2 mm for all dimensions.
- Only RB150 has a tolerance of ±0.2 mm for all dimensions.
- All other resistors have a tolerance of ±1 mm for the first digit and ±0.2 mm for the second digit.

These resistors are designed to provide a reliable and accurate resistance value within their specified power ratings and operating conditions.
These resistors meet or exceed the requirements of MIL-PRF-18546 G

### ELECTRICAL SPECIFICATIONS

- Ohmic values
  E24 Series. For out of range or not standard ohmic values, consult ATE Technical Dept.
- Tolerance
  Standard 5%. Available on request up to 1%
- Temperature coefficient
  From ±100 to ±30 ppm from R10 to Rmax
- Dielectric strength
  3000Vac / 4200Vac peak
- Large creep distance
  RB25/6 > 6.5mm
  RB50/6 > 10mm
- Insulation resistance
  10000 MΩ minumum
  1000 MΩ minumum after moisture test
- Overload
  5s at 5 times rated power
- Non inductive
  Models of equivalent physical and electrical specifications are also available with non inductive Ayrton-Perry winding

More technical data as RB25 / RB50 standard

<table>
<thead>
<tr>
<th>ATE Type</th>
<th>MIL-PRF 18546 G Type</th>
<th>Rated power (W)</th>
<th>Resistance range (Ohm)</th>
<th>Voltage Limit (V)</th>
<th>Weight (g)</th>
<th>Heatsink Dimensions (cm² x mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RB25/6</td>
<td>RE70</td>
<td>25</td>
<td>0.1 - 18K</td>
<td>550</td>
<td>13</td>
<td>535 x 1</td>
</tr>
<tr>
<td>RB50/6</td>
<td>RE75</td>
<td>50</td>
<td>0.1 - 68K</td>
<td>1250</td>
<td>32</td>
<td>930 x 1.5</td>
</tr>
</tbody>
</table>

### Dimensions (mm)

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
<th>N</th>
<th>Ø</th>
</tr>
</thead>
<tbody>
<tr>
<td>RB25/6</td>
<td>19.8</td>
<td>14</td>
<td>27.7</td>
<td>14</td>
<td>6.5</td>
<td>2</td>
<td>18.3</td>
<td>24</td>
<td>49</td>
<td>3.2</td>
<td>12.5</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>RB50/6</td>
<td>21.5</td>
<td>16</td>
<td>29.2</td>
<td>16</td>
<td>7</td>
<td>2</td>
<td>39.7</td>
<td>46</td>
<td>75</td>
<td>3.2</td>
<td>14.5</td>
<td>10</td>
<td>6.5</td>
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<td>Tol.</td>
<td>±0.2</td>
<td>±0.2</td>
<td>±0.2</td>
<td>±0.2</td>
<td>±0.5</td>
<td>±0.2</td>
<td>±0.5</td>
<td>±0.2</td>
<td>±0.2</td>
<td>±0.2</td>
<td>±0.5</td>
<td>±0.5</td>
<td>±0.2</td>
</tr>
</tbody>
</table>
RB/7 Series

Fixed power wirewound resistors
aluminium housed with faston leads

**Electrical Specifications**

- **Ohmic values**
  E24 Series. For out of range or not standard ohmic values, consult
  ATE Technical Dept.

- **Tolerance**
  Standard 5%. Available on request up to 1%

- **Temperature coefficient**
  From ±100 to ±30 ppm from R10 to Rmax

- **Dielectric strength**
  2500Vac / 3500Vac peak

- **Insulation resistance**
  10000 MOhm minimum

- **Overload**
  5s at 5 times rated power

- **Non inductive**
  Models of equivalent physical and electrical specifications are also available
  with non inductive Ayton-Perry winding

- **Leads**
  6.35 mm Faston nickel plated steel, spot welding

More technical data as RB25 / RB50 standard

<table>
<thead>
<tr>
<th>ATE Type</th>
<th>MIL-PRF 18546 G Type</th>
<th>Rated power (W)</th>
<th>Resistance range (Ohm)</th>
<th>Voltage limit (V)</th>
<th>Weight (g)</th>
<th>Heatsink dimensions (cm² x mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RB25/7</td>
<td>RE70</td>
<td>25</td>
<td>0.1 - 18K</td>
<td>550</td>
<td>13</td>
<td>535 x 1</td>
</tr>
<tr>
<td>RB50/7</td>
<td>RE75</td>
<td>50</td>
<td>0.1 - 68K</td>
<td>1250</td>
<td>32</td>
<td>930 x 1.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ATE Type</th>
<th>Dimensions (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RB25/7</td>
<td>A 19.8 B 14 C 27.7 D 14 E 6.5 F 2 G 18.3 H 27 J 69 K 3.2 L 21 M 6.35 P 7.7</td>
</tr>
<tr>
<td>RB50/7</td>
<td>A 21.5 B 16 C 29.2 D 16 E 7 F 2 G 39.7 H 50 J 91 K 3.2 L 20.5 M 6.35 P 8.2</td>
</tr>
<tr>
<td>Tol.</td>
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</tr>
</tbody>
</table>
**ATE Type** | **MIL-PRF 18546 G Type** | **Rated power (W)** | **Resistance range (Ohm)** | **Voltage limit (V)** | **Weight (g)** | **Heatsink dimensions (cm² x mm)**
---|---|---|---|---|---|---
RB50/8 | RE75 | 50 | 0.1 - 68K | 1250 | 52 | 930 x 1.5

**ATE Type**

**Dimensions (mm)**

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
<th>N</th>
<th>P</th>
<th>Q</th>
<th>R</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>RB50/8</td>
<td>21.5</td>
<td>16</td>
<td>29.2</td>
<td>16</td>
<td>2</td>
<td>39.7</td>
<td>50</td>
<td>79.5</td>
<td>3.2</td>
<td>14.5</td>
<td>M4</td>
<td>8</td>
<td>65</td>
<td>17.5</td>
<td>18.5</td>
</tr>
</tbody>
</table>
| Tol. | ±0.2 | ±0.2 | ±0.2 | ±0.2 | ±0.2 | ±0.5 | ±2 | ±0.2 | ±0.5 | - | - | ±1 | ±0.5 | ±0.5 | ±0.5 | ±0.5

**Electrical Specifications**

- **Ohmic values**
  - E24 Series. For out of range or not standard ohmic values, consult ATE Technical Dept.
- **Tolerance**
  - Standard 5%. Available on request up to 1%
  - Temperature coefficient
    - From ±100 to ±300 ppm from R10 to Rmax
- **Dielectric strength**
  - 2500Vac / 3500Vac peak
- **Insulation resistance**
  - 10000 Ω minimum
  - 1000 Ω after moisture test
- **Overload**
  - 5s at 5 times rated power
- **Non inductive**
  - Models of equivalent physical and electrical specifications are also available with non inductive Ayrton-Perry winding
- **Leads**
  - M4 threaded hole
  - Terminal screw tightening torque 1.5Nm (static)

More technical data as RB50 standard

Connection screws supplied with the resistor
**RB106 SERIES**

**FIXED POWER WIREWOUND RESISTORS ALUMINIUM HOUSED WITH LARGE CREEP DISTANCE**

These resistors meet or exceed the requirements of MIL-PRF-18546 G specifications.

**ELECTRICAL SPECIFICATIONS**

- **Ohmic values**
  E24 Series. For out of range or not standard ohmic values, consult ATE Technical Dept.
- **Tolerance**
  Standard 5%. Available on request up to 1%
- **Temperature coefficient**
  From ±100 to ±30 ppm from R10 to Rmax
- **Dielectric strength**
  5000Vac / 7000Vac peak
- **Large creep distance**
  RB106 > 22mm
  RB256 > 25 mm
- **Insulation resistance**
  10000 MOhm minimum
  1000 MOhm after moisture test
- **Overload**
  5s at 5 times rated power
- **Non inductive**

Models of equivalent physical and electrical specifications are also available with non inductive Ayton-Perry winding.

More technical data as RB100 and RB250 standard.

<table>
<thead>
<tr>
<th>ATE Type</th>
<th>MIL-PRF 18546 G Type</th>
<th>Rated power (W)</th>
<th>Resistance Range (Ohm)</th>
<th>Voltage limit (V)</th>
<th>Weight (g)</th>
<th>Heatsink dimensions (cm² x mm)</th>
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</thead>
<tbody>
<tr>
<td>RB106</td>
<td>RE77</td>
<td>150</td>
<td>0.1 - 100K</td>
<td>1900</td>
<td>500</td>
<td>930 x 3</td>
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<td>RB256</td>
<td>RE80</td>
<td>250</td>
<td>0.1 - 120K</td>
<td>2300</td>
<td>900</td>
<td>930 x 3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ATE Type</th>
<th>Dimensions (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RB106</td>
<td></td>
</tr>
<tr>
<td></td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>57.1</td>
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<tr>
<td>RB256</td>
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<td></td>
<td>63.5</td>
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<tr>
<td>Tol.</td>
<td>±0.2</td>
</tr>
</tbody>
</table>

ATE Type Dimensions (mm):
- 2 Nuts
- 1 Washer
- 1 Lock washer
One of the main causes for electrical troubles on electrical and electronic sets is due to the moisture which is formed on components during variation of the ambient temperature. A simple and economic way to avoid these problems, consists on application of anti-condensation devices (Heaters) which maintain the temperature inside the enclosure some degrees higher than the ambient temperature in order to prevent moisture condensation. The Heaters DAT100 and DAT150 have been developed for this specific use. Their main features are:

- Surface temperature limited to 70°C allows assembling without problems.
- A thermosttwitch permits maximum power at very low temperatures, then reduces the power dissipated till turn off the devices at +55°C.
- The DAT models are provided with simple clip mounting for 35mm DIN rail.
- Use of power wirewound resistors, under MIL-PRF-18546 G specs., increase reliability and suitable supply voltage.

**ELECTRICAL SPECIFICATIONS**

- Max power ratings: DAT100 = 100W
  DAT150 = 150W
- Supply voltage: Standard 220 Vac ± 20%
  On request any supply voltage from 24 Vac to 220 Vac
- Dielectric strength: 2000 Vac for any type
- Insulation resistance: 1000 MOhm minimum at 500 Vdc

\[
P = A \times \Delta T \times K
\]

- \( A \) = Console internal surface (m²)
- \( \Delta T \) = Temperature difference (°C)
- \( K \) = 3.5 W/m² °C for plastic console
- \( K \) = 5.5 W/m² °C for iron plate (closed room)
THICK FILM POWER RESISTORS PR100

FEATURES

- Very good ratio Power / Volume.
- Easy mounting and wiring with significant cost advantages.
- Non inductive performance for high frequency applications.
- One model for power up to 150W.
- Suited to UL94-V0 application.
- SOT227 configuration.

ELECTRICAL SPECIFICATIONS

- Power rating: 100W (PR102 2 x 50W)
- Max power not trimmed: 150W (heatsink at 70°C)
- Resistance range: From 1R0 to 1MOhm, E12 series
- Tolerance: Standard 10%, up to 1% on request
- Temperature coefficient: ±100 ppm/°C
- Max Work Voltage: 1500 Vac
- Work Temperature Range: From -55°C to +155°C
- Dielectric Strength: 2500 Vac
- Insulation resistance: > 107 MOhm at 500V
- Partial discharge: < 80 pC @ 2000 Vac (on request)
- Self inductance: 40 nH
- Capacitance to heatsink: < 30 pF
- Thermal resistance: 0.5 °C/W
- Heatsink flatness: 0.05 mm Max
- Heatsink surface finish: 6.3μm Max
- Thermal grease: required
- Max torque for contact: 1.2 Nm (static)
- Max torque for mounting: 1.5 Nm (static)
- Weight: 18 g (PR100 / PR101)
  24 g (PR102 / PR103)

Connection and mounting screws supplied with the resistor

Heatsink Temperature (°C)

Power (W)
Specifications

ELECTRICAL SPECIFICATIONS

- Power rating: 250W (heatsink at 100°C)
- Resistance range: From 1R0 to 1MOhm, E12 series
- Tolerance: Standard 10%, up to 1% on request
- Temperature coefficient: ±100 ppm/°C
- Max Work. Voltage: 5000 Vac
- Work Temp. Range: Da -55°C a +155°C
- Dielectric Strength: 7000 Vac (12000 Vac x PR250T)
- Insulation resistance: > 10⁶ MOhm at 500V
- Creep distance: 42 mm (65 mm x PR250T)
- Air gap distance: 16 mm (29mm x PR250T)
- Partial discharge: < 10 pC @ 5000 Vac
- Self Inductance: 80 nH
- Parallel capacitance: 40 pF
- Capacitance to heatsink: < 120 pF
- Overload: 4 Pn x 10 s
- Thermal resistance: 0.15 °C/W
- Heatsink flatness: 0.05 mm Max
- Heatsink surface finish: 6.3 µm Max
- Thermal grease: Required
- Max torque for contacts: 2N.m (static)
- Max torque for mounting: 2N.m (static)
- Weight: 100 g (130 g x PR250T)

Options:
- For values R039 <R< 1R0 is available Metal Foil type PR250M
- Cable terminals: PR250C / PR250TC

FEATURES

- Very good ratio Power / Volume
- Easy mounting and wiring with significant cost advantages.
- Non-inductive performance for high frequency applications.
- One models for power applications up to 500W.
- Suited to ULV94-V0 application.

PR SERIES

THICK FILM POWER RESISTORS PR250

Power vs. Heatsink Temperature

Connection and mounting screws supplied with the resistor
**ELECTRICAL SPECIFICATIONS**

- Power rating: 250W (heat sink at 100°C)
- Resistance range: From 1R0 to 1MΩ, E12 series
- Tolerance: Standard 10%, up to 1% on request
- Temperature coefficient: ±100 ppm/°C
- Max Work. Voltage: 5000 Vac
- Work Temp. Range: From -55°C to +155°C
- Dielectric Strength: 7000 Vac (12000 Vac x PR254T)
- Insulation resistance: > 10³ MΩ at 500V
- Creep distance: 42 mm (65 mm x PR254T)
- Air gap distance: 16 mm (29mm x PR254T)
- Partial discharge: < 10 pC @ 5000 Vac
- Self inductance: 80 nH
- Parallel capacitance: 40 pF
- Capacitance to heat sink: < 120 pF
- Overload: 4 Pn x 10 s
- Thermal resistance: 0.15 °C/W
- Heat sink flatness: 0.05 mm Max
- Heat sink surface finish: 6.3 μm Max
- Thermal grease: Required
- Max torque for contacts: 2Nm (static)
- Max torque for mounting: 2N (static)
- Weight: 125 g (155 g x PR254T)
- Opzioni: Cable terminals PR254C / PR254TC

**FEATURES**

- Very good ratio Power / Volume
- Easy mounting and wiring with significant cost advantages.
- Non inductive performance for high frequency applications.
- One model for power applications up to 500W.
- Suited to UL94-V0 application.
SURFACE MOUNT POWER WIREWOUND RESISTORS

FEATURES

Easy replacement of axial power wirewound resistors without performance loss.
Performance improvement is obtained by close tolerance, very low temperature coefficient and stability in operation under severe environmental conditions.
High level reliability due to ceramic core chemically inert and centerless ground, selected wire element and completely welded construction terminal to terminal.
The whole assembly is silicon coated and thermoplastic UL94-V0 moulded to give maximum wire protection from -55°C to +220°C.

TECHNICAL SPECIFICATIONS

- Power rating: 3 W at 70°C, mounted on FR4 board 1.6 mm
- Resistance range: from R10 to 10K, E12 series, other on request
- Tolerance: Standard 5%, up to 1% on request
- TCR: Typical values ±100 to ±30 ppm from R10 to 10K
- Maximum continuous working voltage: 200 Vac
- Thermal resistance: 50 °C/W
- Derating: Linear from 70°C to 220°C
- Dielectric Strength: 1000 Vac
- Insulation resistance: 1000 MOhm minimum
- Overload: 5s at 5 times power rating
- Non inductive: Ayrton-Perry winding, max. 4K7
- Weight: 2.5 g
- Climatic category: 55/220/56
- Packaging: Reel 330 mm, blister 32 mm, pitch 12 mm, 700 pcs

Dimensions (mm)

Recommended pad size
The information contained herein does not form part of a contract and are subject to change without notice. It is responsibility of the Customer to ensure that the component selected from our set is suitable for the intended application. If in doubt please contact ATE Electronics s.r.l.