

Datasheet

RS Pro RS Series Axial Through Hole Fixed Resistor $120k\Omega \pm 5\%~0.25W~-700 \rightarrow 0ppm/^{\circ}C$

RS Stock No: 739-7629



Product Details

RS Pro axial carbon resistor with $\pm 5\%$ tolerance, provides 120 k Ω resistance and is power rated at 0.25 W. The temperature coefficient of resistance is in the range -700 to 0 ppm/°C. Carbon film axial leaded resistor offers excellent long-term stability. It features standard solder-plated copper leads. Applications include automotive, telecommunication and medical equipment. A comprehensive range of high stability carbon film resistors are qualified and tested to the requirements of IEC 115 and IEC 115-2. The ruggedized welded cap and lead method of manufacture provides a considerable strength and resistance to damage. The coating materials and the colour bands are epoxy resin and are highly resistant to solvents, abrasion and chipping. Improvements in materials and processing have allowed the rated power to be improved. Excellent stability against changes in load conditions or moisture levels, with a low noise level and high reliability make these carbon film resistors suitable for a wide range of applications. Rated at 70°C in free air mounted horizontally.

Features and Benefits

- Available in resistances from 1 Ω to 9.1 m Ω
- Resistor body: 2.3 mm diameter, 6.3 mm length
- · Long-term stability
- Solder plated copper leads



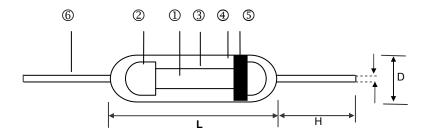


Specifications:

| Case Style | Ceramic |
|---------------------------------|---------------------|
| Diameter | 2.3 mm |
| Dimensions | 2.3 (dia.) x 6.3 mm |
| Lead Diameter | 0.55 mm |
| Length | 6.3 mm |
| Maximum Operating Temperature | +155°C |
| Maximum Temperature Coefficient | 0 ppm/°C |
| Minimum Operating Temperature | -55°C |
| Minimum Temperature Coefficient | -700 ppm/°C |
| Package/Case | Ammo Pack |
| Power Rating | 0.25 W |
| Resistance | 120 kΩ |
| Technology | Carbon Film |
| Temperature Coefficient | -700 to 0 ppm/°C |
| Termination Style | Axial |
| Tolerance | ±5% |
| Maximum Operating Voltage | 250 V |
| Lead Length | 28 mm |
| Maximum Overload Voltage | 500 V |
| | |



Carbon Film Leaded Resistor - RS Series



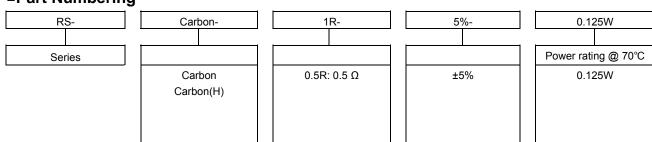
| 1 | Ceramic Rod | 4 | Non-flame Paint With Sol Vent-proof |
|---|------------------|-----|-------------------------------------|
| 2 | Tinned Iron Caps | (5) | Colour Code |
| 3 | Carbon Film | 6 | Lead Wire |

■Dimensions

Unit: mm

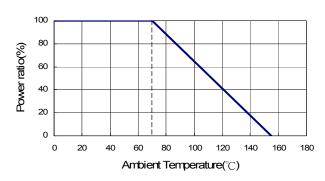
| Туре | L | D | н | d | Weight (g) (1000pcs) |
|-----------------|--------------|---------|----------|--------------|-------------------------|
| Carbon 0.125W | 3.3+0.4/-0.2 | 1.8±0.3 | 29.3±2.0 | 0.452.3±0.03 | 92 |
| Carbon 0.25W | 6.3±0.5 | 2.3±0.3 | 28±2.0 | 0.55±0.03 | 155 |
| Carbon 0.5W (H) | 6.3±0.5 | 2.3±0.3 | 28±2.0 | 0.55±0.03 | 155 |
| Carbon 1W (H) | 9.0±0.5 | 3.2±0.5 | 26±2.0 | 0.65±0.03 | 352 |
| Carbon 2W (H) | 11.5±1.0 | 4.5±0.5 | 35±2.0 | 0.78±0.03 | 775 |

■Part Numbering

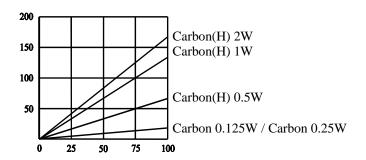




■Derating Curve



■Hop-Spot Temperature



■Environmental Characteristics

| ltem | Requirement | Test Method |
|---------------------------------|---|--|
| Short Time Overload | ±(0.75%+0.05Ω) | JIS-C-5201-1 5.5 RCWV*2.5 or Max. overload voltage for 5 seconds |
| Insulation Resistance | >1000ΜΩ | JIS-C-5201-1 5.6 Apply 100V _{DC} for 1 minute |
| Endurance | ±(3%+0.05Ω) | JIS-C-5201-1 7.10 70±2°C, Max. working voltage for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF" |
| Damp Heat with Load | 100ΚΩ±3% 100ΚΩ±5% | JIS-C-5201-1 7.9 40±2°C, 90~95% R.H. Max. working voltage for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF" |
| Solderability | 90% min. Coverage | JIS-C-5201-1 6.5 245±5°C for 3 seconds |
| Dielectric Withstanding Voltage | Ву Туре | JIS-C-5201-1 5.7 Apply Max. Overload Voltage for 1 minute |
| Temperature Coefficient | < 100KΩ +350ppm~-500ppm 100KΩ~1MΩ -0ppm~-700ppm > 1 MΩ -0ppm~-1500ppm | Resistance value at room temperature and room Temperature+100°C |
| Pulse Overload | ±(1%+0.05Ω) | JIS-C-5201-1 5.8 4 times RCWV for 10000 cycles with 1 second "ON" and 25 seconds "OFF" |
| Resistance To Solvent | No deterioration of coatings and markings | JIS-C-5201-1 6.9 Trichroethane for 1 min. with ultrasonic |
| Terminal Strength | Tensile: 2.5 kg | Direct Load for 10 seconds In the direction off the terminal leads |

- Rated Continuous Working Voltage(RCWV) = √P*R
- Storage Temperature: 25±3°C; Humidity < 80%RH

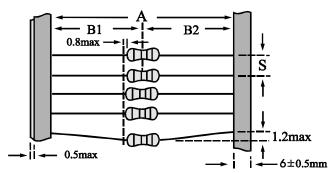


■Electrical Specifications

| | Power Rating at 70°C | Operating Temp. Range | Max. Working | Max. Overload | Dielectric Withstanding | Resistance Range |
|-----------|----------------------|--------------------------|-----------------|------------------|----------------------------|------------------|
| Type | at 70 C | Tellip. Kalige | Voltage | Voltage | Voltage | ±5% |
| Carbon | 0.125W | | 150V | 300V | 300V | 0.1Ω - 22ΜΩ |
| Carbon | 0.25W | | 250V | 500V | 500V | 1Ω - 10ΜΩ |
| Carbon(H) | 0.5W | -55 ~ +155°C | 300V | 500V | 500V | 0.1Ω - 22ΜΩ |
| Carbon(H) | 1W | | 400V | 800V | 800V | 1Ω - 10ΜΩ |
| Carbon(H) | 2W | | 500V | 1000V | 1000V | 0.1Ω - 10ΜΩ |

■Taping/Packing Specifications

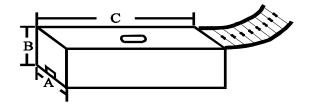
Packing Methods (Ammo)



Unit: mm

| Packaging | Packing Methods | | | | | | | | |
|-----------------|-----------------|-------|----|--|--|--|--|--|--|
| Туре | Α | B1-B2 | s | | | | | | |
| Carbon 0.125W | 52+1/-0 | 1.2 | 5 | | | | | | |
| Carbon 0.25W | 52+1/-0 | 1.2 | 5 | | | | | | |
| Carbon 0.5W (H) | 52+1/-0 | 1.2 | 5 | | | | | | |
| Carbon 1W (H) | 52+1/-0 | 1.5 | 5 | | | | | | |
| Carbon 2W (H) | 52+1/-0 | 1.5 | 10 | | | | | | |

Ammo Packing



Unit: mm

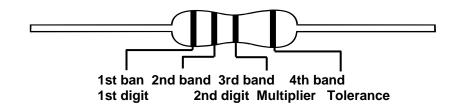
| Packaging | Pa | cking Methods | | Ammo Packing | | | | | | |
|-----------------|---------|---------------|----|--------------|-----|-----|-------|--|--|--|
| Туре | Α | B1-B2 | s | Α | В | С | Qty | | | |
| Carbon 0.125W | 26+1/-0 | 1.0 | 5 | 80 | 105 | 264 | 5,000 | | | |
| Carbon 0.25W | 26+1/-0 | 1.0 | 5 | 80 | 105 | 264 | 5,000 | | | |
| Carbon 0.5W (H) | 26+1/-0 | 1.0 | 5 | 80 | 105 | 264 | 5,000 | | | |
| Carbon 1W (H) | 73+1/-0 | 1.5 | 5 | 103 | 82 | 265 | 1,000 | | | |
| Carbon 2W (H) | 73+1/-0 | 1.5 | 10 | 103 | 96 | 265 | 1,000 | | | |

RS, Professionally Approved Products, gives you professional quality parts across all products categories. Our range has been testified by engineers as giving comparable quality to that of the leading brands without paying a premium price.



■Marking & Resistance Tolerance

ENGLISH



| ±5% | E-24 | 1.0 | 1.1 | 1.2 | 1.3 | 1.5 | 1.6 | 1.8 | 2.0 | 2.2 | 2.4 | 2.7 | 3.0 | 3.3 | 3.6 | 3.9 | 4.3 | 4.7 | 5.1 | 5.6 | 6.2 | 6.8 | 7.5 | 8.2 | 9.1 |
|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

| Cold | Digit | Multiplier | Toler | ance | | |
|------|-------|------------------|-------|------|--|--|
| | - | - | - | - | | |
| | - | 10 ⁻² | - | - | | |
| | - | 10 ⁻¹ | ±5.0% | J | | |
| | 0 | 10° | - | - | | |
| | 1 | 10 ¹ | - | - | | |
| | 2 | 10 ² | - | - | | |
| | 3 | 10 ³ | - | - | | |
| | 4 | 10 ⁴ | - | - | | |
| | 5 | 10 ⁵ | - | - | | |
| | 6 | 10 ⁶ | - | - | | |
| | 7 | 10 ⁷ | - | - | | |
| | 8 | 10 ⁸ | - | - | | |
| | 9 | 10 ⁹ | - | - | | |