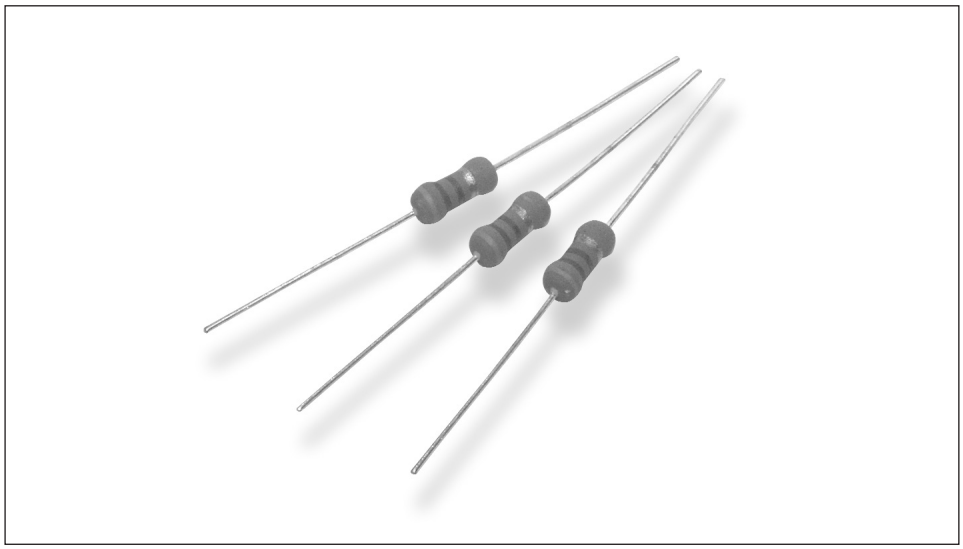
# Type ROX Series

## Key Features

- High Power with Small Size for Space Saving
- Excellent Long Term Stability
- Complete Flameproof Construction
- High Surge/Overload Capability
- Controlled Temperature Capability
- Solvent Resistant Coat and Code
- Special Lead Formations Possible



The resistive element comprises a metal oxide film deposited on a ceramic former. The element is protected by a flameproof coating which will withstand overload conditions without flame or mechanical damage. They are recommended for use in applications such as line protection etc…

## Characteristics - Electrical

| | ROXO5 | ROX1 | ROX2 | ROXO5S | ROX1SS | ROX1S | ROX2S | ROX3S | ROX5S |
|---|---|---|---|---|---|---|---|---|---|
| **Rated Power @ 70°C (W):** | 0.5 | 1 | 2 | 0.5 | 1 | 1 | 2 | 3 | 5 |
| **Resistance Range (ohms) Min:** | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| **Max:** | 330K | 470K | 560K | 100K | 200R | 270K | 470K | 560K | 560K |
| **Tolerance and Code Letter:** | 2% (G) / 5% (J) 1% (F) available on request | | | | | | | | |
| **Temp. Coefficient Max (ppm/°C):** | ± 350 | | | | | | | | |
| **Selection Series:** | E24 | | | | | | | | |
| **Limiting Element Voltage (V):** | 250 | 350 | 350 | 250 | 350 | 350 | 350 | 350 | 500 |
| **Maximum Overload Voltage (V):** | 400 | 600 | 600 | 400 | 400 | 600 | 600 | 600 | 800 |
| **Max Intermittent Overload Voltage (V):** | 500 | 750 | 750 | 500 | 500 | 750 | 750 | 750 | 1500 |
| **Operating Temp. Range (°C):** | -55 to +155 | | | | | | | | |
| **Climatic Category:** | 55/155/42 | | | | | | | | |
| **Dielectric Strength (V):** | 250 | 350 | 350 | 250 | 350 | 350 | 350 | 350 | 500 |
| **Insulation Resistance (Mohms):** | 1,000 | | | | | | | | |

## Mounting

The resistors are suitable for processing on automatic insertion equipment and cutting and bending machines.

## Marking

The resistors are marked with a four-band colour code in accordance with IEC 62.
Grey base colour for Standard Range, Sea Blue colour for "S" Range.

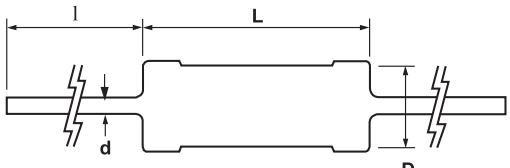


Dimensions are in millimeters and inches unless otherwise specified. Values in brackets are standard equivalents.

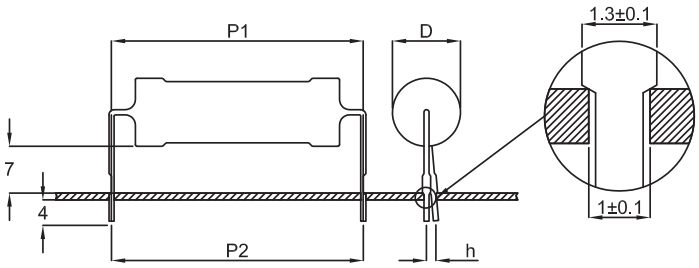
Dimensions are shown for reference purposes only. Specifications subject to change.

# Type ROX Series

## Dimensions




Dimension "l" refers to loose packaged product only




### Standard Range Leaded

| Style | D max | L Max | l+/-3 | d+/-0.05 |
|---|---|---|---|---|
| ROX05 | 3.5 | 10 | 28 | 0.54 |
| ROX1 | 5 | 12 | 25 | 0.7 |
| ROX2 | 5.5 | 16 | 28 | 0.7 |

### Standard Range Pre-formed

| Style | P1 ±0.5 | P2 ±2 | H1 | H2 | h max |
|---|---|---|---|---|---|
| ROXO5 | 12.5 | 12.5 | 7.5 ±1.5 | 3.5 ±1 | 2.0 |
| ROX1 | 15 | 15 | 7.5 ±1.5 | 3.5 ±1 | 2.0 |
| ROX2 | 20 | 20 | 7.5 ±2.0 | 3.5 ±1 | 3.0 |

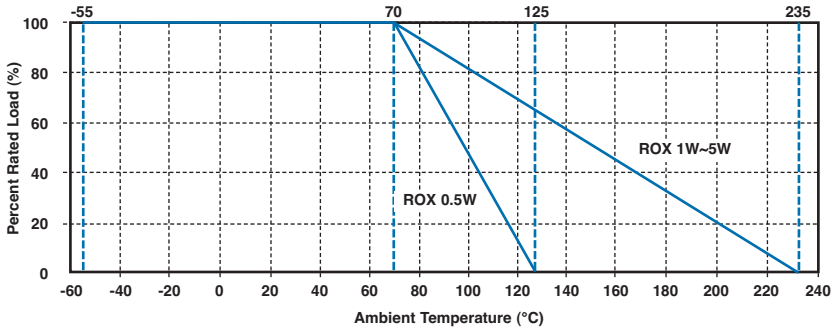
### "S" Range Leaded

| Style | D max | L Max | l+/-3 | d+/-0.05 |
|---|---|---|---|---|
| ROX05S | 2.5 | 7.5 | 28 | 0.54 |
| ROX1SS | 2.5 | 7.5 | 28 | 0.54 |
| ROX1S | 3.5 | 10 | 28 | 0.7 |
| ROX2S | 5 | 12 | 25 | 0.7 |
| ROX3S | 5.5 | 16 | 28 | 0.7 |
| ROX5S | 8 | 25 | 38 | 0.75 |

### "S" Range Pre-formed

| Style | P1 ±0.5 | P2 ±2 | H1 | H2 | h max |
|---|---|---|---|---|---|
| ROXO5S | 10 | 10 | 7.5 ±1.5 | 3.5 ±1 | 2.0 |
| ROX1SS | 10 | 10 | 7.5 ±1.5 | 3.5 ±1 | 2.0 |
| ROX1S | 12.5 | 12.5 | 7.5 ±0.5 | 3.5 ±1 | 2.0 |
| ROX2S | 15 | 15 | 7.5 ±1.5 | 3.5 ±1 | 2.9 |
| ROX3S | 20 | 20 | 7.5 ±2.0 | 3.5 ±1 | 3.0 |
| ROX5S | 30 | 30 | 7.5 ±2.0 | 3.5 ±1 | 3.0 |

## Power Derating Curve



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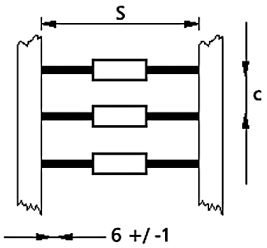
## Packaging




| New Style Reference | Quantity per Ammo Pack | Std tape Spacing *S ±1 | Component Spacing c ±0.5 |
|---|---|---|---|
| ROX05 | 2,000 | 52 | 5 |
| ROX1 | 1,000 | 52 | 5 |
| ROX2 | 1,000 | 63 | 10 |
| ROX05S | 2,000 | 52 | 5 |
| ROX1SS | 2,000 | 52 | 5 |
| ROX1S | 2,000 | 52 | 5 |
| ROX2S | 1,000 | 52 | 5 |
| ROX3S | 1,000 | 63 | 10 |
| ROX5S | 500 | 63 | 10 |

* Other tape spacings available on request

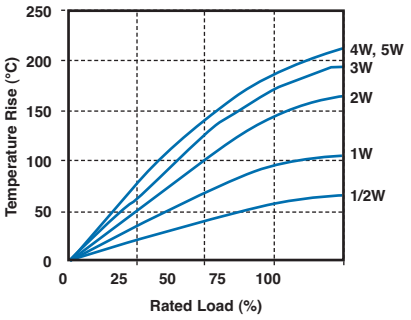
Other packaging styles are available on request

## Performance Characteristics

The evaluation of the performance characteristics is carried out with reference to IEC Specifications QC 400 000 and QC 400 100.

| TEST REF | Long Term Tests ± (5% + 0.1 ohm) |
|---|---|
| **4.23** | Climatic sequence |
| **4.24** | Damp heat, steady state |
| **4.25.1** | Endurance at 70°C |
| **4.25.3** | Endurance at 235°C |
| **TEST REF** | **Short Term Tests ± (1% + 0.05 ohm)** |
| **4.13** | Overload |
| **4.16** | Robustness of terminations |
| **4.18** | Resistance to soldering heat |
| **4.19** | Rapid change of temperature |
| **4.22** | Vibration |

## Heat Rise Chart




## How to Order

| ROX | 1 | J | 100R | BL |
|---|---|---|---|---|
| **Common Part** | **Style** | **Tolerance** | **Value** | **Preform** |
| ROX - Flame-Proof Power Metal Oxide Film Resistor | 1 - 1S<br>2 - 2S<br>3 - 3S | G - 2%<br>J - 5%<br>(F - 1% available on request) | 100 ohm (100 ohms) 100R<br>1K0 (1000 ohms) 1K0<br>100 K ohm (100,000 ohms) 100K | BL - Preformed Leads |

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