

## 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

|   | ROX05                                       | ROX1 | ROX2 | ROX05S | ROX1SS | ROX1S | ROX2S | ROX3S | ROX5S |
|---|---|------|------|--------|--------|-------|-------|-------|-------|
| <b>Rated Power @ 70°C (W):</b>                | 0.5   | 1    | 2    | 0.5    | 1      | 1     | 2     | 3     | 5     |
| <b>Resistance Range (ohms) Min:</b>           | 0.1   | 0.1  | 0.1  | 0.1    | 0.1    | 0.1   | 0.1   | 0.1   | 0.1   |
| <b>Max:</b>                                   | 330K  | 470K | 560K | 100K   | 200R   | 270K  | 470K  | 560K  | 560K  |
| <b>Tolerance and Code Letter:</b>             | 2% (G) / 5% (J) 1% (F) available on request |      |      |        |        |       |       |       |       |
| <b>Temp. Coefficient Max (ppm/°C):</b>        | ± 350                                       |      |      |        |        |       |       |       |       |
| <b>Selection Series:</b>                      | E24   |      |      |        |        |       |       |       |       |
| <b>Limiting Element Voltage (V):</b>          | 250   | 350  | 350  | 250    | 350    | 350   | 350   | 350   | 500   |
| <b>Maximum Overload Voltage (V):</b>          | 400   | 600  | 600  | 400    | 400    | 600   | 600   | 600   | 800   |
| <b>Max Intermittent Overload Voltage (V):</b> | 500   | 750  | 750  | 500    | 500    | 750   | 750   | 750   | 1500  |
| <b>Operating Temp. Range (°C):</b>            | -55 to +155                                 |      |      |        |        |       |       |       |       |
| <b>Climatic Category:</b>                     | 55/155/42                                   |      |      |        |        |       |       |       |       |
| <b>Dielectric Strength (V):</b>               | 250   | 350  | 350  | 250    | 350    | 350   | 350   | 350   | 500   |
| <b>Insulation Resistance (Mohms):</b>         | 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.

## Type ROX Series

### Dimensions



#### Standard Range Leded

| 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 |
|-------|---------|-------|----------|--------|-------|
| ROX05 | 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 Leded

| 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 |
|--------|---------|-------|----------|--------|-------|
| ROX05S | 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



## Type ROX Series

### 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 |

TE Connectivity, TE connectivity (logo) and TE (logo) are trademarks.  
Other logos, product and Company names mentioned herein may be trademarks of their respective owners.

While TE has made every reasonable effort to ensure the accuracy of the information in this datasheet, TE does not guarantee that it is error-free, nor does TE make any other representation, warranty or guarantee that the information is accurate, correct, reliable or current. TE reserves the right to make any adjustments to the information contained herein at any time without notice. TE expressly disclaims all implied warranties regarding the information contained herein, including, but not limited to, any implied warranties of merchantability or fitness for a particular purpose. The dimensions in this datasheet are for reference purposes only and are subject to change without notice. Specifications are subject to change without notice. Consult TE for the latest dimensions and design specifications.

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[TE Connectivity:](#)

[ROX1SF2K2](#)