

## Metal Film, Cylindrical Resistors



### FEATURES

- Stable metal film on high quality ceramic
- Low TC and tight tolerances
- Excellent stability
- Force fitted steel caps, tin plated on nickel barrier
- Reliable solderable terminations to facilitate surface mounting

### STANDARD ELECTRICAL SPECIFICATIONS

| MODEL   | POWER RATING<br>$P_{70^{\circ}\text{C}}^{1)}$<br>W | LIMITING ELEMENT<br>VOLTAGE MAX <sup>2)</sup><br>$V \cong$ | TEMPERATURE<br>COEFFICIENT<br>ppm/K | TOLERANCE<br>% | RESISTANCE<br>RANGE<br>$\Omega$ | E-SERIES |
|---------|--|--|-------------------------------------|----------------|---------------------------------|----------|
| SMM0102 | 0.20   | 100  | 15                                  | 0.1            | 100R – 100K                     | 24 – 96  |
| SMM0102 | 0.20   | 100  | 25                                  | 0.1            | 100R – 100K                     | 24 – 96  |
| SMM0102 | 0.20   | 100  | 50                                  | 1.0            | 10R – 2M21                      | 24 – 96  |

Zero-Ohm-Resistor : OMM0102  $R_{\text{max}} = 10\text{m}\Omega$   $I_{\text{max}} = 2\text{A}$

<sup>1)</sup> Power rating depends on the maximum temperature at the solder point, the component placement density and the substrate material

<sup>2)</sup> Rated voltage:  $\sqrt{P \times R}$

- Further values and tolerances on request
- Coating: green for TC = 50ppm/K  
pink TC= 25ppm/K  
violet TC= 15ppm/K  
zero ohm resistor with a black band only
- Marking: see appropriate catalog or web page

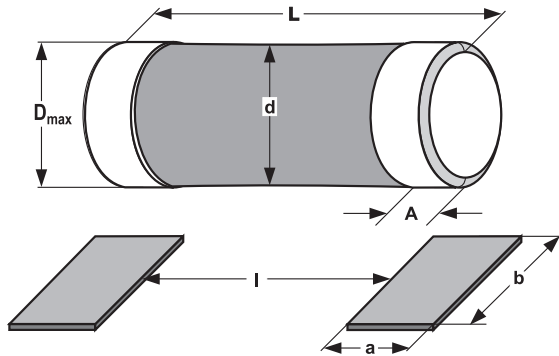
### TECHNICAL SPECIFICATIONS

| PARAMETER                  | UNIT                    | SMM0102            |
|----------------------------|-------------------------|--------------------|
| Rated Dissipation at 70°C  | W                       | 0.2                |
| Limiting Element Voltage   | $V \cong$               | 100                |
| Insulation Voltage (1 min) | $V_{\text{dc/ac peak}}$ | > 150              |
| Thermal Resistance         | K/W                     | ≤ 250              |
| Insulation Resistance      | $\Omega$                | ≥ 10 <sup>10</sup> |
| Category Temperature Range | °C                      | - 55 / + 125       |
| Failure Rate               | 10 <sup>-9</sup> /h     | < 2                |
| Weight / 1000pcs           | g                       | 7.8                |

### ORDERING INFORMATION

| SMM0102 | 25            | 562R                         | .1%              | B3                                   |
|---------|---------------|------------------------------|------------------|--------------------------------------|
| MODEL   | TC<br>ppm / K | RESISTANCE VALUE<br>$\Omega$ | TOLERANCE<br>± % | PACKAGING<br>B3-Blistertape 3000 pcs |

**DIMENSIONS**



| MODEL   | DIMENSIONS [in millimeters] |         |            |       |       |
|---------|-----------------------------|---------|------------|-------|-------|
|         | Dmax                        | d *     | L          | A max | A min |
| SMM0102 | 1.1                         | D -0.05 | 2.2 - 0.15 | 0.45  | 0.35  |

\* d measured in the middle of the resistor

| MODEL   | SOLDER PAD DIMENSIONS [in millimeters] |     |     |                |     |     |
|---------|--|-----|-----|----------------|-----|-----|
|         | REFLOW SOLDERING                       |     |     | WAVE SOLDERING |     |     |
|         | a                                      | b   | l   | a              | b   | l   |
| SMM0102 | 0.5                                    | 1.3 | 1.3 | 0.6            | 1.3 | 1.3 |

| PERFORMANCE   |  |                            |
|---|--|----------------------------|
| TEST  | CONDITIONS OF TEST   | REQUIREMENTS <sup>1)</sup> |
| Endurance Test at 70°C<br>IEC 60115-1 4.25.1                    | 1000 hours at 70°C, 1.5 hours "ON", 0.5 hours "OFF"<br>8000 hours at 70°C, 1.5 hours "ON", 0.5 hours "OFF" | ≤ ± 0.25%<br>≤ ± 0.5%      |
| Endurance at UCT<br>IEC 60115-1 4.25.3                          | 1000 hours at 125°C without load   | ≤ ± 0.5%                   |
| Overload Test<br>IEC 60115-1 4.13                               | Short time overload for 2 seconds at 6.25 x rated power  | ≤ ± 0.1%                   |
| Thermal Shock<br>IEC 60115-1 4.19 IEC 60068-2-14                | Rapid change between upper and lower category temperature  | ≤ ± 0.1%                   |
| Damp Heat Steady State<br>IEC 60115-1 4.24 IEC 60068-2-3        | 56 days at 40°C and 93% relative humidity  | ≤ ± 0.5%                   |
| Resistance to Soldering Heat<br>IEC 60115-1 4.18 IEC 60068-2-20 | 10 seconds at 260°C solder bath temperature  | ≤ ± 0.1%                   |

<sup>1)</sup> For a resistance range from 10Ω to 1MΩ

| PACKAGING |            |          |               |      |                       |      |
|-----------|------------|----------|---------------|------|-----------------------|------|
| MODEL     | REEL       |          |               |      | BULK                  |      |
|           | TAPE WIDTH | DIAMETER | PIECES / REEL | CODE | BULK FEEDING MAGAZINE |      |
|           |            |          |               |      | PIECES / MAGAZINE     | CODE |
| SMM0102   | 8mm        | 180mm    | 1000          | B1*  | 8000                  | M8   |
| OMM0102   | Blisertape | 180mm    | 3000          | B3   |                       |      |
|           |            | 330mm    | 10000         | B0   |                       |      |

• For further information about packaging see appropriate catalog or web page

\*For ≤ TC25 and Tol. ≤ 0.5% only