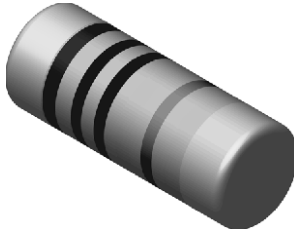


## Metal Film, Cylindrical Resistors



### FEATURES

- Metal film resistor with high power rating
- Stable metal film on high quality ceramic
- Good thermal distribution
- Pure tin termination on nickel barrier, plated on press fit steel caps
- Compatible with lead (Pb)-free and lead containing soldering processes
- Compliant to RoHS directive 2002/95/EC



**RoHS**  
COMPLIANT

### STANDARD ELECTRICAL SPECIFICATIONS

MODEL	POWER RATING <sup>(1)</sup> $P_{70}$ W	LIMITING ELEMENT VOLTAGE <sup>(2)</sup> DC or AC <sub>RMS</sub> V	TEMPERATURE COEFFICIENT ppm/K	TOLERANCE %	RESISTANCE RANGE $\Omega$	E-SERIES
SMM0207	1.0	350	$\pm 50$	$\pm 0.5$	1R0 to 2M21	24, 96
SMM0207	1.0	350	$\pm 50$	$\pm 1$	1R0 to 10M	24, 96
SMM0207	1.0	350	$\pm 100$	$\pm 5$	R16 to R91	24

Zero-Ohm-Resistor: OMM0207  $R_{max.} = 10 \text{ m}\Omega$   $I_{max.} = 5 \text{ A}$

### Notes

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

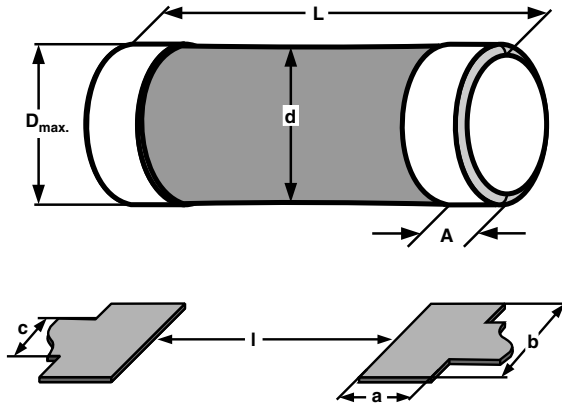
<sup>(2)</sup> Rated voltage:  $\sqrt{P \times R}$

- Further values and tolerances on request
- Marking: According to IEC 60062; see also document "Surface Mount Resistor Marking" ([www.vishay.com/doc?20020](http://www.vishay.com/doc?20020))
- Zero ohm resistor has one black band only

### TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	SMM0207
Rated Dissipation at 70 °C	W	1
Limiting Element Voltage, DC or AC <sub>RMS</sub>	V	350
Insulation Voltage (1 min), DC or AC <sub>PEAK</sub>	V	500
Thermal Resistance	K/W	see table
Insulation Resistance	$\Omega$	$\geq 10^{11}$
Temperature Range	°C	- 55 to + 155
Failure Rate	$10^{-9}/\text{h}$	< 5
Weight/1000 pieces	g	77

**DIMENSIONS**



MODEL	DIMENSIONS in millimeters			
	D <sub>max.</sub>	d <sup>(1)</sup>	L	A
SMM0207	2.2	D - 0.2	5.8 - 0.3	1.25 ± 0.2

**Note**

<sup>(1)</sup> d measured in the middle of the resistor

SOLDER PAD DIMENSIONS in millimeters					
a x b (mm)	LINE-WIDTH c (mm)	P <sub>70</sub> for 35 μ (W)	R <sub>th</sub> for 35 μ (K/W)	P <sub>70</sub> for 70 μ (W)	R <sub>th</sub> for 70 μ (K/W)
6 x 6	6	0.82	103	0.99	86
3 x 3	3	0.70	121	0.82	104
2 x 3	2	0.62	137	0.71	120
3 x 3	2	0.65	131	0.75	114
1 x 3	1	0.51	166	0.58	147
3 x 3	1	0.57	148	0.63	134
2.4 x 2	0.5	0.46	184	0.50	171
2.4 x 2	0.5	0.48	177	0.52	163

**Note**

• Line length 30 mm min., l = 2.8 mm

**PART NUMBER AND PRODUCT DESCRIPTION (2)**

PART NUMBER (3): SMM02070C5620FBS

PART NUMBER (3): OMM0207000000BS

S	M	M	0	2	0	7	0	C	5	6	2	0	F	B	S	0	0
O	M	M	0	2	0	7	0	0	0	0	0	0	0	B	S	0	0

MODEL/SIZE	SPECIAL CHARACTER	TCR	VALUE	TOLERANCE	PACKAGING (4)	SPECIAL
SMM0207 OMM0207	0 = Neutral	C = ± 50 ppm/K B = ± 100 ppm/K 0 = Jumper	3 digit value 1 digit multiplier 0000 = Jumper  MULTIPLIER 7 = *10 <sup>-3</sup> 2 = *10 <sup>2</sup> 8 = *10 <sup>-2</sup> 3 = *10 <sup>3</sup> 9 = *10 <sup>-1</sup> 4 = *10 <sup>4</sup> 0 = *10 <sup>0</sup> 5 = *10 <sup>5</sup> 1 = *10 <sup>1</sup> 6 = *10 <sup>6</sup>	D = ± 0.5 % F = ± 1 % J = ± 5 % 0 = Jumper	BP BS	Up to 2 digits 00 = Standard

PRODUCT DESCRIPTION: SMM0207 50 562R 1 % BS

PRODUCT DESCRIPTION: OMM0207 0R0 BS

SMM0207	50	562R	1 %	BS
OMM0207	-	0R0	-	BS
MODEL	TCR	RESISTANCE VALUE	TOLERANCE	PACKAGING (4)
SMM0207 OMM0207	± 50 ppm/K ± 100 ppm/K	100R = 100 Ω 2M21 = 2.21 MΩ 0R0 = Jumper	± 0.5 % ± 1 % ± 5 %	BP BS

**Notes**

(2) Products can be ordered using either the PRODUCT DESCRIPTION or the PART NUMBER.

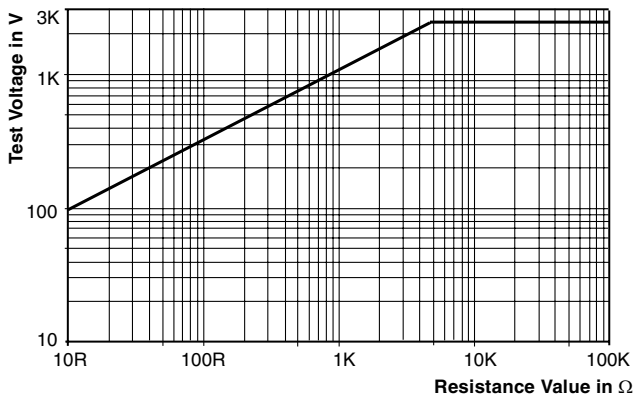
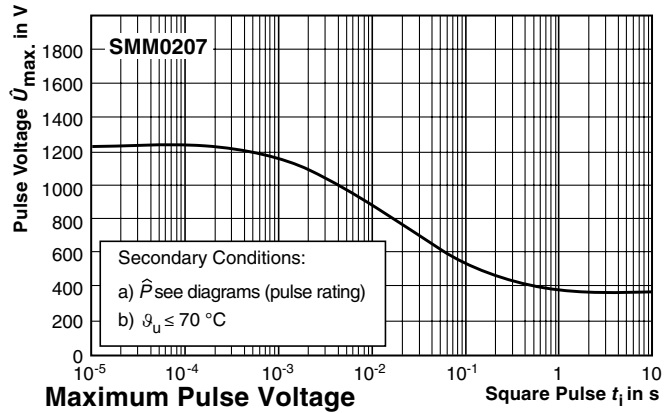
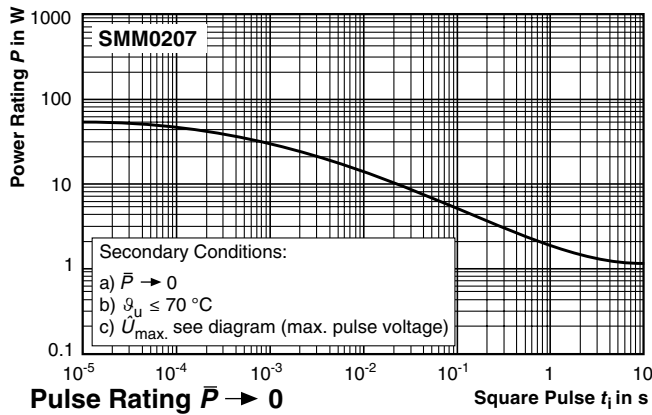
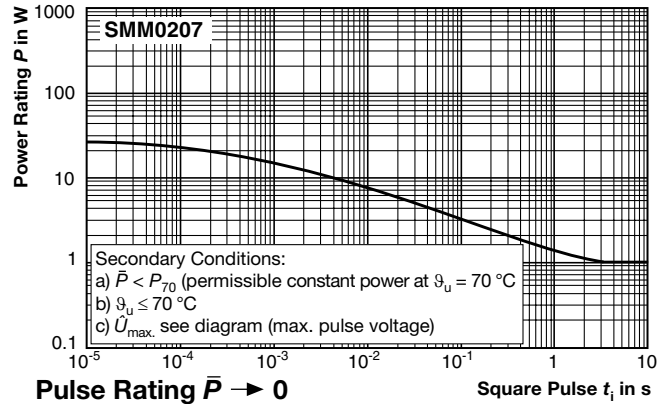
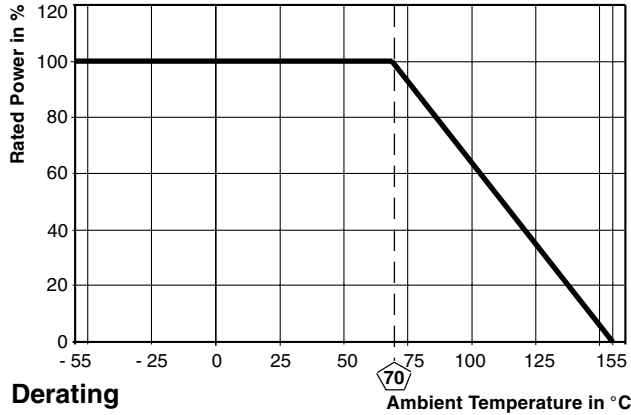
(3) The PART NUMBER is shown to facilitate the introduction of a unified part numbering system. Currently, this PART NUMBER is applicable in the Americas only.

(4) Please refer to table PACKAGING, see next page.

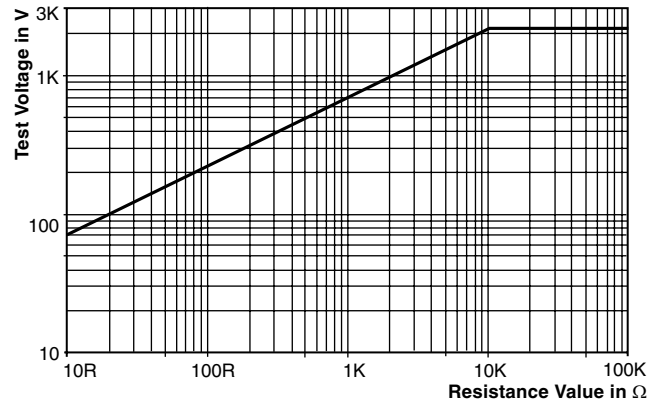
PACKAGING			
MODEL	BLISTER TAPE ON REEL ACC. IEC 60286-3		
	DIAMETER	PIECES/REEL	CODE
SMM0207	180 mm/7"	1500	BP
OMM0207	330 mm/13"	7500	BS

Note

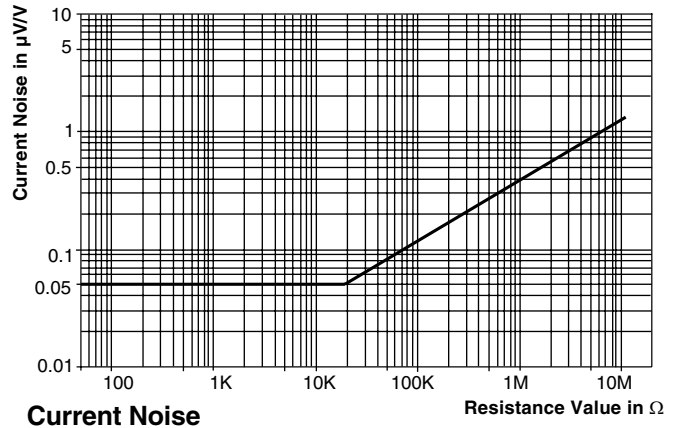
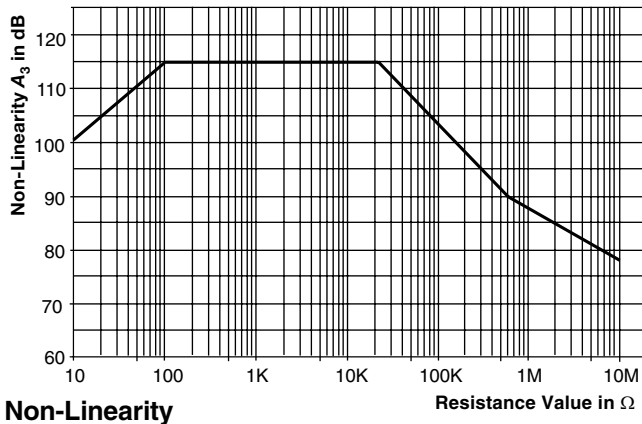
- Further information about packing see also document "Surface Mount Resistor Packaging" ([www.vishay.com/doc?20014](http://www.vishay.com/doc?20014))



1.2/50 acc. EN 60115-1, 4.27



10/700 acc. EN 60115-1, 4.27



PERFORMANCE		
TEST	CONDITIONS OF TEST	TEST RESULTS (1)
Endurance Test at 70 °C IEC 60115-1, 4.25.1	1000 h at 70 °C 1.5 h "ON" 0.5 h "OFF"	≤ 0.5 %
Endurance at UCT IEC 60115-1, 4.25.3	1000 h at 125 °C without load	≤ 0.5 %
Overload Test IEC 60115-1, 4.13	Short time overload for 2 s 2.5 x rated voltage or ≤ 2 x limiting element voltage	≤ 0.5 %
Thermal Shock IEC 60115-1, 4.19 and IEC 60068-2-14	Rapid change between upper and lower category temperature, 5 cycles	≤ 0.1 %
Damp Heat Steady State IEC 60115-1, 4.24 and IEC 60068-2-78	56 days at 40 °C and 93 % relative humidity	≤ 0.5 %
Resistance to Soldering Heat IEC 60115-1, 4.18 and IEC 60068-2-58	10 s at 260 °C solder bath temperature	≤ 0.25 %

**Note**

(1) For a resistance range from 10 Ω to 1 MΩ

APPLICABLE SPECIFICATIONS
<ul style="list-style-type: none"> <li>• EN 140401-803</li> <li>• EN 140400</li> <li>• EN 60115-1</li> </ul>



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