

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
- Lead (Pb)-free and RoHS compliant



STANDARD ELECTRICAL SPECIFICATIONS

MODEL	POWER RATING ¹⁾ P_{70} W	LIMITING ELEMENT VOLTAGE ²⁾ DC or AC rms V	TEMPERATURE COEFFICIENT ppm/K	TOLERANCE %	RESISTANCE RANGE Ω	E-SERIES
SMM0207	1.0	350	± 50	± 0.5	1R0 - 2M21	24 - 96
SMM0207	1.0	350	± 50	± 1	1R0 - 10M	24 - 96
SMM0207	1.0	350	± 100	± 5	R16 - R91	24

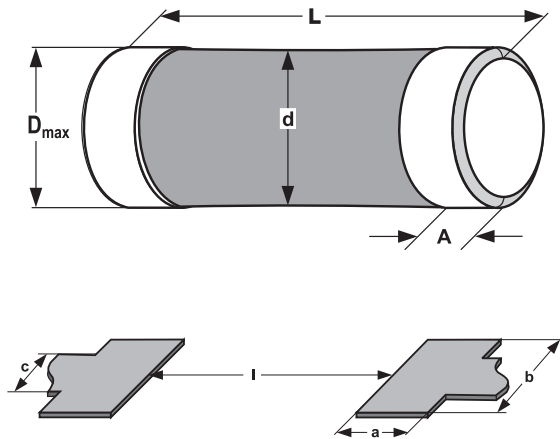
Zero-Ohm-Resistor : OMM0207 $R_{max} = 10 \text{ m}\Omega$ $I_{max} = 5 \text{ A}$

Note

1. Permissible dissipation depends on the maximum temperature at the solder point, the component placement density and the substrate material.
 2. Rated voltage: $\sqrt{P \times R}$.
- Further values and tolerances on request
 - Marking: According to IEC 60062; see also data sheet "surface mount resistor marking" (document number: 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 rms	V	350
Insulation Voltage (1 min), DC or AC peak	V	500
Thermal Resistance	K/W	see table
Insulation Resistance	Ω	$\geq 10^{11}$
Temperature Range	°C	- 55 to + 155
Failure Rate	$10^{-9}/\text{h}$	< 5
Weight/1000 pcs	g	77

DIMENSIONS


MODEL	DIMENSIONS [in millimeters]				
	D _{max}	d*	L	A _{max}	A _{min}
SMM0207	2.2	D - 0.2	5.8 - 0.3	1.2	0.6

* d measured in the middle of the resistor

SOLDER PAD DIMENSIONS [in millimeters]					
a x b (mm)	LINE-WIDTH c (mm)	P ₇₀ for 35 μ (W)	R _{th} for 35 μ (K/W)	P ₇₀ for 70 μ (W)	R _{th} 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

• Line length 30 mm min, l = 2.8 mm

PART NUMBER AND PRODUCT DESCRIPTION¹⁾

 PART NUMBER²⁾: SMM02070C5620FBS00

 PART NUMBER²⁾: 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	0	B	S	0	0

MODEL/SIZE	SPECIAL CHARACTER	TC	VALUE	TOLERANCE	PACKING ³⁾	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 ⁻³ 2 = *10 ² 8 = *10 ⁻² 3 = *10 ³ 9 = *10 ⁻¹ 4 = *10 ⁴ 0 = *10 ⁰ 5 = *10 ⁵ 1 = *10 ¹ 6 = *10 ⁶	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

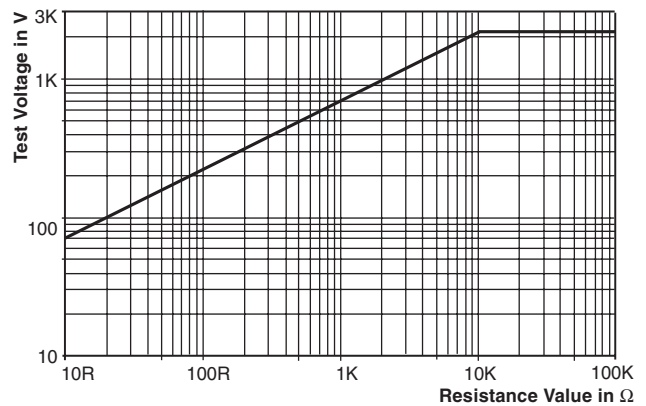
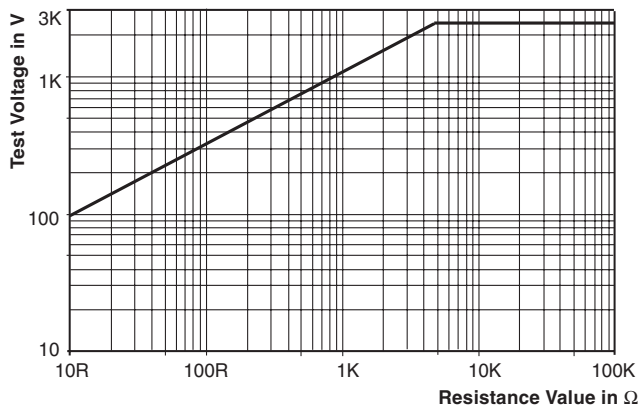
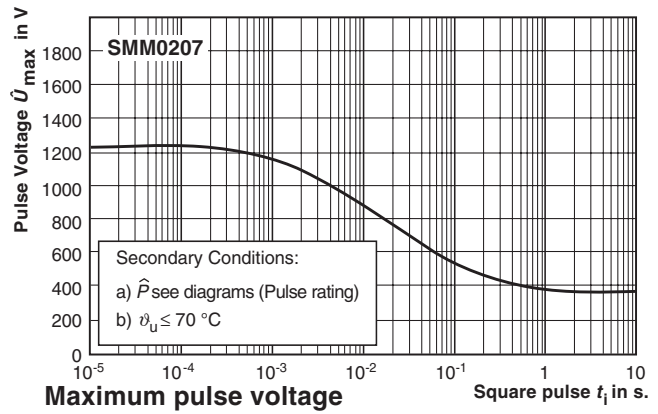
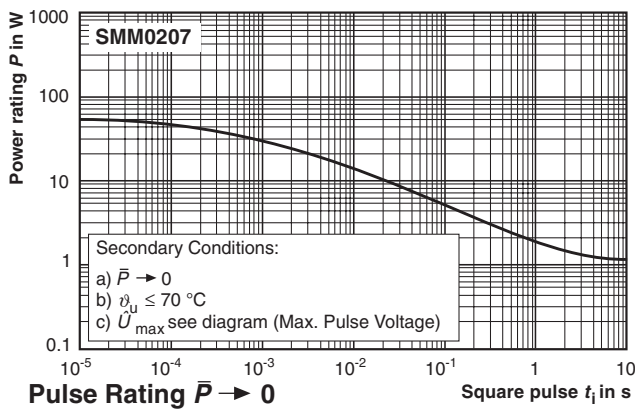
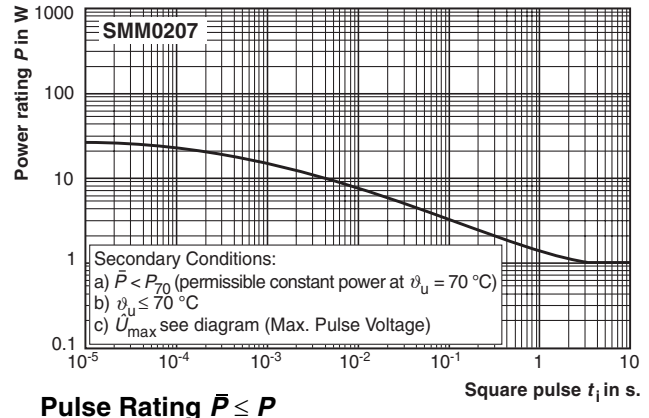
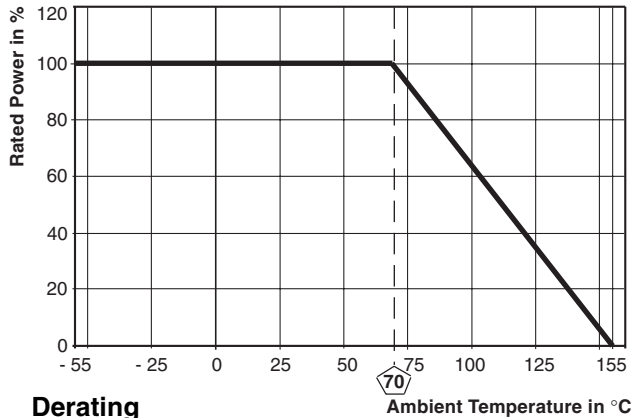
SMM0207	50	562R	1 %	BS
OMM0207	-	0R0	-	BS
MODEL	TC	RESISTANCE VALUE	TOLERANCE	PACKING ³⁾
SMM0207 OMM0207	± 50 ppm/K ± 100 ppm/K	100R = 100 Ω 2M21 = 2.21 MΩ 0R0 = Jumper	± 0.5 % ± 1 % ± 5 %	BP BS

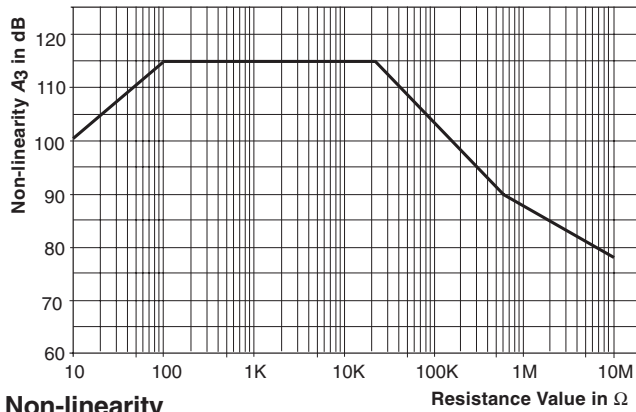
Note

- Products can be ordered using either the PRODUCT DESCRIPTION or the PART NUMBER.
- 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.
- Please refer to table PACKING, see below.

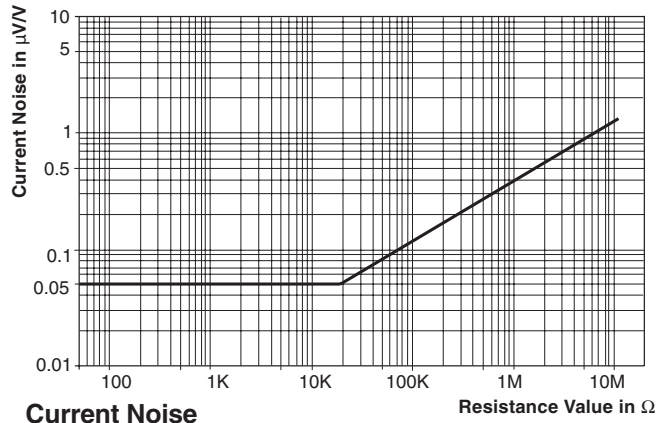
PACKING			
MODEL	BLISTER TAPE ON REEL ACC. IEC 60286-3		
	DIAMETER	PIECES / REEL	CODE
SMM0207	180 mm/7"	1500	BP
OMM0207	330 mm/13"	7500	BS

• Further information about packing see also data sheet "surface mount resistor packing" (document number: 20014)





Non-linearity



Current Noise

PERFORMANCE		
TEST	CONDITIONS OF TEST	TEST RESULTS¹⁾
Endurance Test at 70 °C IEC 60115-1, 4.25.1	1000 hours at 70 °C 1.5 hours "ON" 0.5 hours "OFF"	≤ 0.5 %
Endurance at UCT IEC 60115-1, 4.25.3	1000 hours at 125 °C without load	≤ 0.5 %
Overload Test IEC 60115-1, 4.13	Short time overload for 2 seconds 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 seconds 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"> • EN 140401-803 • EN 140400 • EN 60115-1



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