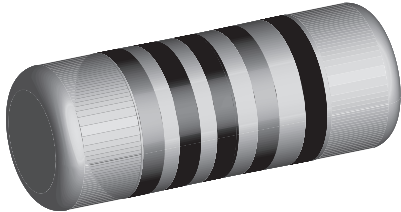


Metal Film, Cylindrical Resistors



FEATURES

- Stable metal film on high quality ceramic
- Very low TC and tight tolerances
- Excellent stability at different environmental conditions
- 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
PMM0204	0.125	100	± 5	$\pm 0.1; \pm 0.25$	100R - 100K	96 - 192
PMM0204	0.125	100	± 10	$\pm 0.1; \pm 0.25$	100R - 221K	96 - 192
PMM0204	0.125	100	± 15	$\pm 0.1; \pm 0.25$	100R - 221K	96 - 192
PMM0204	0.125	100	± 25	$\pm 0.1; \pm 0.25$	100R - 221K	96 - 192
PMM0204	0.125	100	± 50	$\pm 0.1; \pm 0.25$	100R - 221K	96 - 192

1) Permissible dissipation depends on the maximum temperature at the solder point, the component placement density and the substrate material.

2) Rated voltage: $\sqrt{P \times R}$.

• $TC \leq 10$ ppm/°C: temperature range is - 10 °C to + 85 °C

• Without TC-band, TC marking on label only

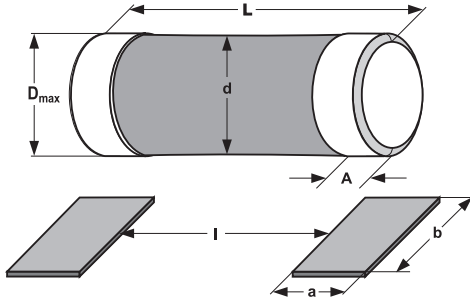
• Marking: According to IEC 60062; see also datasheet "surface mount resistor marking" (document number: 20020)

TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	PMM0204
Rated Dissipation at 70 °C	W	0.125
Limiting Element Voltage, DC or AC rms	V	100
Insulation Voltage (1 min), DC or AC peak	V	200
Thermal Resistance ³⁾	K/W	≤ 220
Insulation Resistance	Ω	$\geq 10^{10}$
Category Temperature Range	°C	- 10 to + 100
Failure Rate	$10^{-9}/h$	< 1
Weight/1000 pcs	g	18

³⁾ Based on measurements on test board acc. to EN 140400.

DIMENSIONS



MODEL	DIMENSIONS [in millimeters]				
	D _{max}	d*	L	A _{max}	A _{min}
PMM0204	1.4	D - 0.15	3.6 - 0.15	0.85	0.5

* d measured in the middle of the resistor

MODEL	SOLDER PAD DIMENSIONS [in millimeters]					
	REFLOW SOLDERING			WAVE SOLDERING		
	a	b	l	a	b	l
PMM0204	1.0	1.6	2.2	1.2	1.6	2.2

PART NUMBER AND PRODUCT DESCRIPTION¹⁾																				
PART NUMBER²⁾: PMM02040E5620CB000																				
P	M	M	0	2	0	4														
E	5	6	2	0	C	B														
0	0	0																		
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">MODEL/SIZE</th> <td style="text-align: center;">PMM0204</td> </tr> </table>	MODEL/SIZE	PMM0204	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">SPECIAL CHARACTER</th> <td style="text-align: center;">0 = neutral</td> </tr> </table>	SPECIAL CHARACTER	0 = neutral	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">TC</th> <td> G = ± 5 ppm/K F = ± 10 ppm/K E = ± 15 ppm/K D = ± 25 ppm/K C = ± 50 ppm/K </td> </tr> </table>	TC	G = ± 5 ppm/K F = ± 10 ppm/K E = ± 15 ppm/K D = ± 25 ppm/K C = ± 50 ppm/K	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">VALUE</th> <td> 3 digit value 1 digit multiplier 0000 = Jumper Multiplier 0 = *10⁰ 1 = *10¹ 2 = *10² 3 = *10³ </td> </tr> </table>	VALUE	3 digit value 1 digit multiplier 0000 = Jumper Multiplier 0 = *10 ⁰ 1 = *10 ¹ 2 = *10 ² 3 = *10 ³	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">TOLERANCE</th> <td> B = ± 0.1 % C = ± 0.25 % </td> </tr> </table>	TOLERANCE	B = ± 0.1 % C = ± 0.25 %	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">PACKING³⁾</th> <td> B1 B3 B0 M3 </td> </tr> </table>	PACKING ³⁾	B1 B3 B0 M3	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">SPECIAL</th> <td> up to 2 digits 00 = standard </td> </tr> </table>	SPECIAL	up to 2 digits 00 = standard
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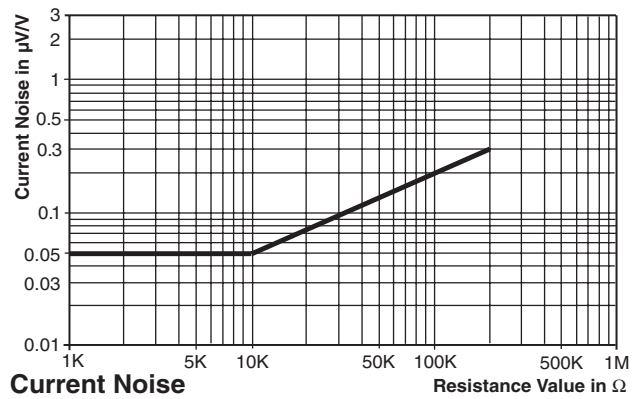
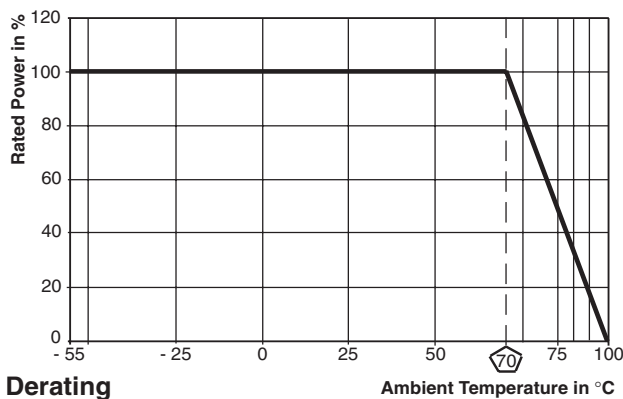
Note

1. Products can be ordered using either the PRODUCT DESCRIPTION or the PART NUMBER.
2. 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.
3. Please refer to table PACKING, see below.

PACKING					
MODEL	BLISTER TAPE ON REEL ACC. IEC 60286-3			BULK CASE ACC. IEC 60286-6	
	DIAMETER	PIECES/REEL	CODE	PIECES/ BULK CASE	CODE
PMM0204	180 mm/7"	1000	B1*	3000	M3
	180 mm/7"	3000	B3		
	330 mm/13"	10000	B0		

* For TC ≤ 25 ppm/K and Tolerance ≤ 0.25 % only.

Further information about PACKING, see also datasheet "surface mount resistor packing" (document number: 20014)



PERFORMANCE		
TEST	CONDITIONS OF TEST	TEST RESULTS
Endurance Test at 70 °C IEC 60115-1, 4.25.1	1000 hours at 70 °C, 1.5 hours "ON", 0.5 hours "OFF"	≤ 0.1 %
Endurance at UCT IEC 60115-1, 4.25.3	1000 hours at 125 °C without load	≤ 0.1 %
Overload Test IEC 60115-1, 4.13	Short time overload for 2 seconds 2.5 x rated voltage or ≤ 2 x limiting element voltage	≤ 0.02 %
Thermal Shock IEC 60115-1, 4.19 and IEC 60068-2-14	Rapid change between upper and lower category temperature, 5 cycles	≤ 0.02 %
Damp Heat Steady State IEC 60115-1, 4.24 and IEC 60068-2-78	56 days at 40 °C and 93 % relative humidity	≤ 0.2 %
Resistance to Soldering Heat IEC 60115-1, 4.18 and IEC 60068-2-58	10 seconds at 260 °C solder bath temperature	≤ 0.05 %



APPLICABLE SPECIFICATIONS

- EN 140401-803
- EN 140400
- EN 60115-1



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All product specifications and data are subject to change without notice.

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