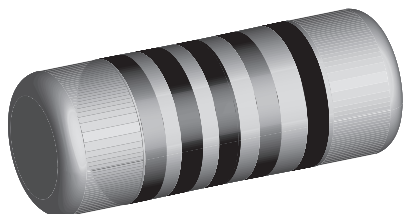


Metal Film, Cylindrical Resistors



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: $\sqrt{P \times R}$.

• $TC \leq 10 \text{ ppm/}^\circ\text{C}$: temperature range is -10°C to $+85^\circ\text{C}$

• Without TC-band, TC marking on label only

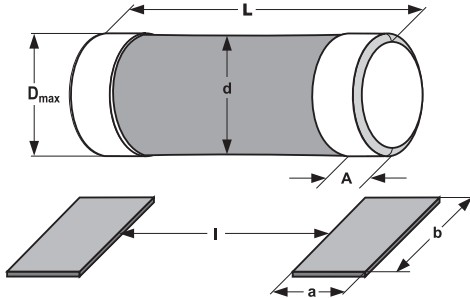
• Marking: According to IEC 60062; see also datasheet "surface mount resistor marking" (document number: 20020)

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	$^\circ\text{C}$	-10 to $+100$
Failure Rate	$10^{-9}/\text{h}$	< 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 DESCRIPTION ¹⁾																	
PART NUMBER ²⁾ : PMM02040E5620CB0																	
P	M	M	0	2	0	4	0	E	5	6	2	0	C	B	0	0	0
MODEL/SIZE		SPECIAL CHARACTER			TC			VALUE				TOLERANCE		PACKING ³⁾		SPECIAL	
PMM0204		0 = neutral			G = ± 5 ppm/K F = ± 10 ppm/K E = ± 15 ppm/K D = ± 25 ppm/K C = ± 50 ppm/K			3 digit value 1 digit multiplier 0000 = Jumper Multiplier 0 = *10 ⁰ 1 = *10 ¹ 2 = *10 ² 3 = *10 ³				B = ± 0.1 % C = ± 0.25 %		B1 B3 B0 M3		up to 2 digits 00 = standard	
PRODUCT DESCRIPTION: PMM0204 15 562R 0.25% B0																	
PMM0204		15		562R			0.25 %			B0							
MODEL		TC		RESISTANCE VALUE			TOLERANCE			PACKING ³⁾							
PMM0204		± 5 ppm/K ± 10 ppm/K ± 15 ppm/K ± 25 ppm/K ± 50 ppm/K		100R = 100 Ω 221K = 221K Ω			± 0.1 % ± 0.25 %			B1 B3 B0 M3							

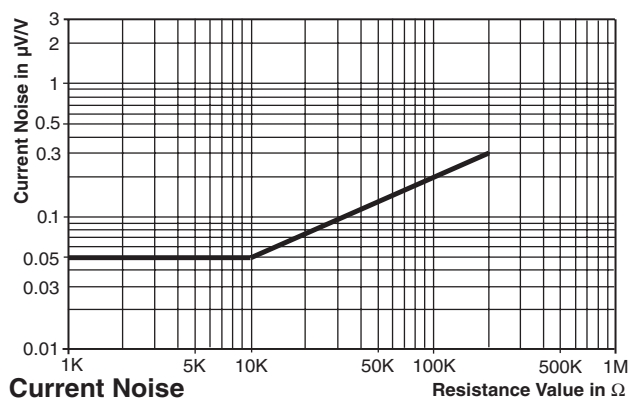
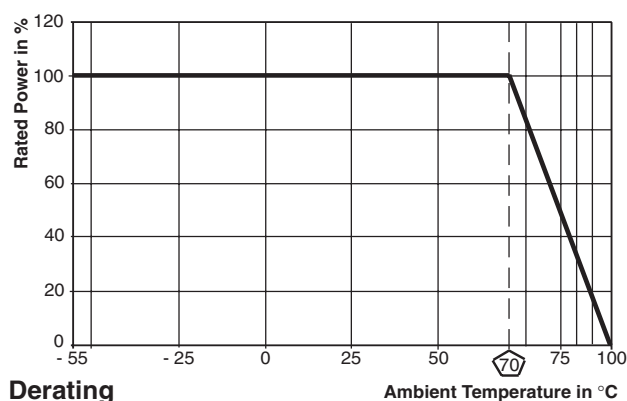
Note

- 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			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 $TC \leq 25 \text{ ppm/K}$ and Tolerance $\leq 0.25 \%$ 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"	$\leq 0.1 \%$
Endurance at UCT IEC 60115-1, 4.25.3	1000 hours at 125 °C without load	$\leq 0.1 \%$
Overload Test IEC 60115-1, 4.13	Short time overload for 2 seconds 2.5 x rated voltage or $\leq 2 \times$ limiting element voltage	$\leq 0.02 \%$
Thermal Shock IEC 60115-1, 4.19 and IEC 60068-2-14	Rapid change between upper and lower category temperature, 5 cycles	$\leq 0.02 \%$
Damp Heat Steady State IEC 60115-1, 4.24 and IEC 60068-2-78	56 days at 40 °C and 93 % relative humidity	$\leq 0.2 \%$
Resistance to Soldering Heat IEC 60115-1, 4.18 and IEC 60068-2-58	10 seconds at 260 °C solder bath temperature	$\leq 0.05 \%$



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



Disclaimer

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

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product.

Vishay disclaims any and all liability arising out of the use or application of any product described herein or of any information provided herein to the maximum extent permitted by law. The product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein, which apply to these products.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Vishay products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Vishay for any damages arising or resulting from such use or sale. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.