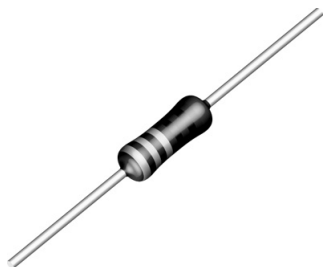


Metal Film Resistors, Power Type, Miniature



FEATURES

- Metal film resistor with high power rating
- Stable film structure on special ceramic
- Good thermal distribution
- Lead (Pb)-free solder contacts on Ni barrier layer
- Pure tin plating provides compatibility with lead (Pb)-free and lead containing soldering processes
- Compatible with "Restriction of the use of Hazardous Substances" (RoHS) directive 2002/95/EC (issue 2004)
- For applications in power electronics



STANDARD ELECTRICAL SPECIFICATIONS

MODEL	POWER RATING $P_{70^{\circ}\text{C}}$ W	LIMITING ELEMENT VOLTAGE MAX. V_{∞}	TEMPERATURE COEFFICIENT ppm/K	TOLERANCE %	RESISTANCE RANGE Ω	E SERIES
HMA0207	0.8	500	± 50	± 1	4R7 - 511K	24 - 96

- Coating - green
- Further values on request

- Marking: see appropriate catalog or web page
- Additional orange color dot at the beginning of the code

TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	HMA0207
Rated Dissipation at 70°C	W	0.8
Limiting Element Voltage ¹⁾	V_{∞}	≤ 500
Insulation Voltage (1 min)	V_{eff}	> 700
Thermal Resistance	K/W	130
Insulation Resistance	Ω	$\geq 10^{11}$
Category Temperature Range	°C	- 55 to + 175
Terminal Strength, axial	N	> 50
Failure Rate	$10^{-9}/\text{h}$	< 5
Weight	g	0.22

¹⁾Rated voltage $\sqrt{P \times R}$

PART NUMBER AND PRODUCT DESCRIPTION

PART NUMBER: HMA02070C1801FD5

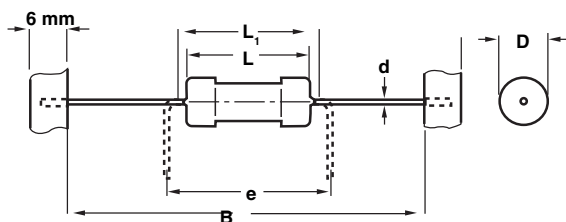
H		M		A		0		2		0		7		0		C		1		8		0		1		F		D		5					
MODEL		SIZE		SPECIAL CHARACTER				TC		VALUE				TOLERANCE				PACKING				SPECIAL													
HMA		0207		0 = neutral				C = ± 50 ppm/K		3 digit value 1 digit multiplier				F = ± 1 %				12 = A2 (G26) 22 = A2 (G53) 25 = A5 D5 = R5				up to 2 digits 00 = standard													
										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																									

PRODUCT DESCRIPTION: HMA0207 50 1K8 1% R5

HMA0207	50	1K8	1 %	R5
MODEL	TC	RESISTANCE VALUE	TOLERANCE	PACKING ¹⁾
HMA0207	± 50 ppm/K	49K9 = 49.9K Ω 50R1 = 50.1 Ω	± 1 %	A2 (G26) A2 (G53) A5 R5

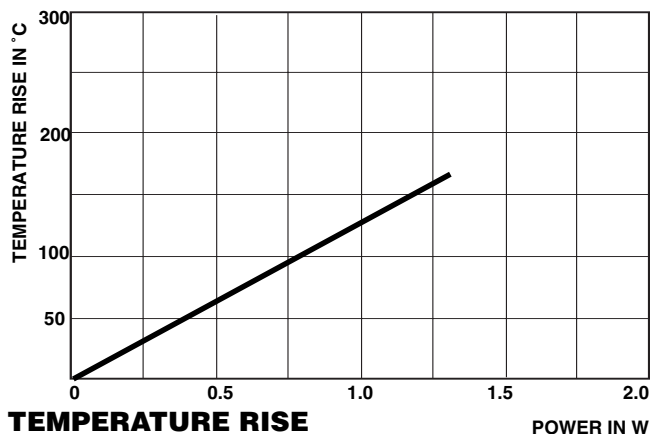
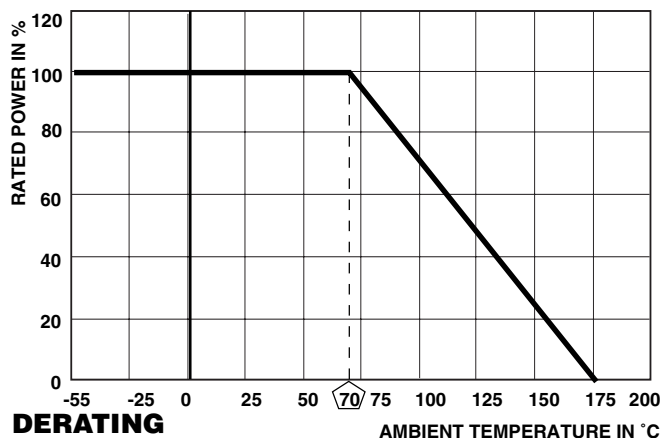
¹⁾ Please refer to table PACKING, page 2.

DIMENSIONS



DIMENSIONS [in millimeters]						
MODEL	D _{max}	L	L ₁ max	B	d	e
HMA0207	2.5 -0.3	6.3 -0.5	7.5	53 ± 1	0.6	7.5

- Taping in acc. with IEC60286-1
- D and L measured in acc. with IEC60294
- d according to IEC60301



PACKING						
MODEL	REEL			BOX		
	PIECES / REEL	CODE	MIN ORDER QTY / PACKING UNITS	PIECES / BOX	CODE	MIN ORDER QTY / PACKING UNITS
HMA0207	5000	R5	1	5000	A5	1
				2000	A2	2

PERFORMANCE		
TEST	CONDITIONS OF TEST	REQUIREMENTS ¹⁾
Endurance Test at 70°C IEC 60115-1 4.25.1	1000 hours at 70°C, 1.5 hours "ON", 0.5 hours "OFF"	≤ ± 1.5%
Endurance at UCT IEC 60115-1 4.25.3	1000 hours at 155°C without load	≤ ± 1.5%
Overload Test IEC 60115-1 4.13	Short time overload 5 seconds at 2.5 x rated voltage or ≤ ± twice the limiting element voltage	≤ ± 0.25%
Thermal Shock IEC 60115-1 4.19, IEC 60068-2-14	Rapid change between upper and lower category temperature	≤ ± 0.1%
Climatic Sequence IEC 60115-1 4.23	Dry heat, damp heat cycle, cold, low air pressure	≤ ± 0.5%
Damp Heat Steady State IEC 60115-1 4.24, IEC 60068-2-3	56 days at 40°C and 93% relative humidity	≤ ± 0.5%
Resistance to Soldering Heat IEC 60115-1 4.18, IEC 60068-2-20	10 seconds at 260°C solder bath temperature	≤ ± 0.25%
Robustness of Terminations IEC 60115-1 4.16	Tensile, bending and torsion	≤ ± 0.1%
Vibration IEC 60115-1 4.22	0.75mm or 10g, 10Hz - 500Hz 6 hours	≤ ± 0.1%

¹⁾ for a resistance range of 10R to 511K

APPLICABLE SPECIFICATION
• CECC40000 / EN 140000 / IEC 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.