

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: HMA0207C1801FD5

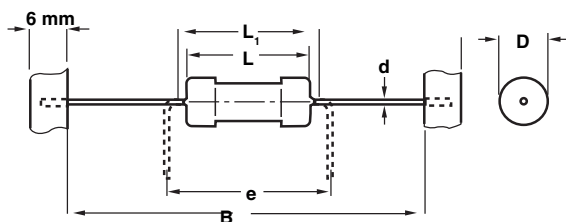
H		M		A		0		2		0		7		0		C		1		8		0		1		F		D		5					
MODEL		SIZE		SPECIAL CHARACTER				TC		VALUE				TOLERANCE				PACKING				SPECIAL													
HMA		0207		0 = neutral				C = ± 50 ppm/K		3 digit value 1 digit multiplier				F = ± 1 %				12 = A2 (G26) 22 = A2 (G53) 25 = A5 D5 = R5				up to 2 digits 00 =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

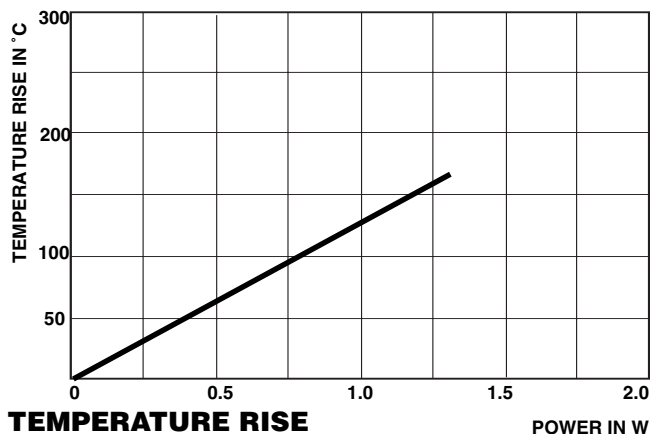
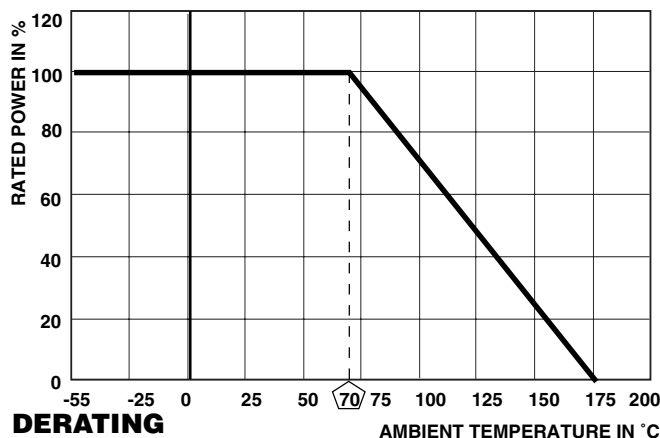
¹⁾ Please refer to table PACKING, page 2.

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



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