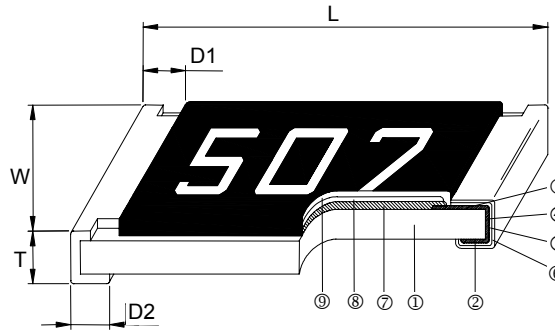


High Ohmic Chip Resistor – HMR Series

Construction



① Alumina Substrate	④ Edge Electrode (NiCr)	⑦ Resistor Layer (RuO ₂ /Ag)
② Bottom Electrode (Ag)	⑤ Barrier Layer (Ni)	⑧ Primary Overcoat (Glass)
③ Top Electrode (Ag-Pd)	⑥ External Electrode (Sn)	⑨ Secondary Overcoat (Epoxy)

Features

- Extended resistance range (110MΩ~ 1GΩ)
- Surface mount package
- Highly reliable multilayer electrode construction

Applications

- Voltage dividers and hybrids
- X-Ray equipment
- Low signal detection or amplification circuits
- High input impedance quartz amplifiers
- Testing devices

Dimensions

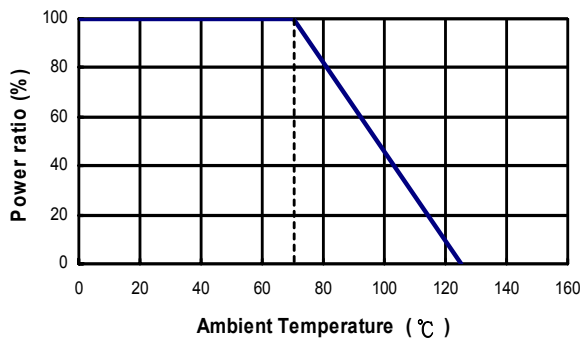
Unit: mm

Type	Size (Inch)	L	W	T	D1	D2	Weight (g) (1000pcs)
HMR05	0805	2.00±0.10	1.25±0.10	0.50±0.10	0.35±0.20	0.40±0.20	4.368
HMR06	1206	3.10±0.10	1.55±0.10	0.55±0.10	0.50±0.25	0.50±0.20	8.947

Part Numbering

HMR	05	J	L	7	-- 200M
Product Type	Dimensions	Resistance Tolerance	Function Code	Packaging Code	Resistance
	05: 0805 06: 1206	J: ±5%	L: Standard	7: 7" Reel 5Kpcs A: 10" Reel 10Kpcs D: 13" Reel 20Kpcs F: Bulk	-- 200M: 200MΩ --- 1G: 1GΩ "-" to fill up 6 spaces

Derating Curve



Standard Electrical Specifications

Type \ Item	Power Rating at 70°C	Operating Temp. Range	Max. Operating Voltage	Max. Overload Voltage	Resistance Range	TCR (PPM/°C)
					±5%	
HMR05 (0805)	1/8W	-55 ~ +125°C	150V	300V	110MΩ - 500MΩ	±500
					510MΩ - 1GΩ	±1000
HMR06 (1206)	1/4W	-55 ~ +125°C	200V	400V	110MΩ - 500MΩ	±500
					510MΩ - 1GΩ	±1000

Operating Voltage= $\sqrt{P \cdot R}$ or Max. operating voltage listed above, whichever is lower.

Overload Voltage= $2.5 \cdot \sqrt{P \cdot R}$ or Max. overload voltage listed above, whichever is lower.

■ Viking is capable of manufacturing the optional spec based on customer's requirement.

Environmental Characteristics

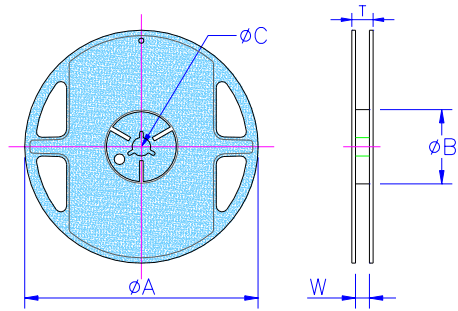
Item	Requirement	Test Method
Temperature Coefficient of Resistance (T.C.R.)	As Spec.	-55°C~+125°C, 25°C is the reference temperature
Short Time Overload	±(2.0%+0.05Ω)	RCWV*2.5 or Max. overload voltage for 5 seconds
Insulation Resistance	≥10G	Max. overload voltage for 1 minute
Endurance	±(3.0%+0.10Ω)	70±2°C, Max. working voltage for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"
Damp Heat with Load	±(3.0%+0.10Ω)	40±2°C, 90~95% R.H. Max. working voltage for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"
Dry Heat	±(1.5%+0.10Ω)	at +125°C for 1000 hrs
Bending Strength	±(1.0%+0.05Ω)	Bending once for 5 seconds 0805, 1206 sizes: 3mm
Solderability	95% min. coverage	245±5°C for 3 seconds
Resistance to Soldering Heat	±(1.0%+0.05Ω)	260±5°C for 10 seconds
Voltage Proof	No breakdown or flashover	1.42 times RCWV (RMS) for 1 minute
Leaching	Individual leaching area ≤ 5% Total leaching area ≤ 10%	260±5°C for 30 seconds
Rapid Change of Temperature	±(1.0%+0.05Ω)	-55°C to +125°C, 5 cycles

■ Reference Standards: IEC 60115-1, 60068-2-58; JIS-C 5201-1

■ Storage Temperature: 25±3°C; Humidity < 80%RH

■ Packaging

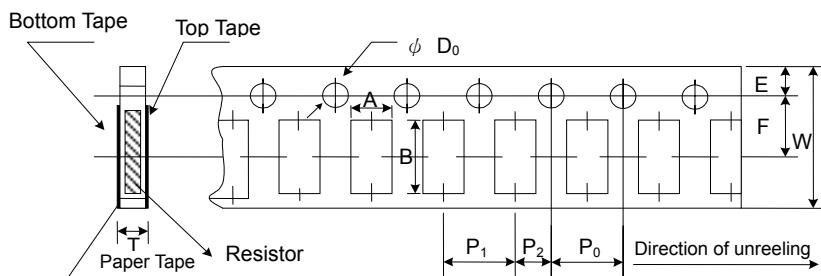
Reel Specifications & Packaging Quantity



Unit: mm

Type	Packaging Quantity	Tape Width	Reel Diameter	ΦA	ΦB	ΦC	W	T
HMR05 HMR06	Paper	8mm	7 inch	178.5±1.5	60 ^{+1/-0}	13.0±0.2	9.0±0.5	12.5±0.5
			10 inch	254±1.0	100±0.5	13.0±0.2	9.5±0.5	13.5±0.5
			13 inch	330±1.0	100±0.5	13.0±0.2	9.5±0.5	13.5±0.5

Paper Tape Specifications

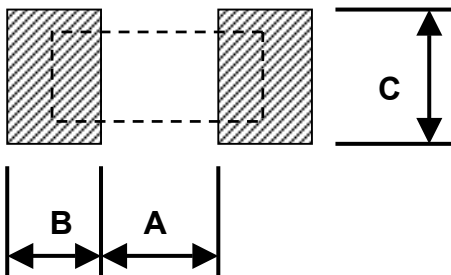


Unit: mm

Type	A	B	W	E	F	P ₀	P ₁	P ₂	ΦD ₀	T
HMR05	1.60±0.10	2.40±0.20	8.0±0.20	1.75±0.10	3.50±0.05	4.00±0.10	4.00±0.05	2.00±0.05	1.50+0.1,-0	0.85±0.10
HMR06	1.90±0.10	3.50±0.20	8.0±0.20	1.75±0.10	3.50±0.05	4.00±0.10	4.00±0.05	2.00±0.05	1.50+0.1,-0	0.85±0.10

■ Recommend Land Pattern

Unit: mm



Type	A	B	C
HMR05	1.20	0.70	1.30
HMR06	2.00	0.90	1.60