

Wirebondable High Precision Single Value Chip Resistors



■ Actual Size

The demand for high precision, high stability resistive chips for incorporating in hybrid micro-circuits has increased and is catered for by the comprehensive range of VISHAY micro and minichips.

The super stable RMK nickel chromium resistive film has transformed the performances and characteristics of micro resistive chips bringing a “new state-of-the-art” to the technology. A variety of substrates are available in silicon, alumina, to ensure the best possible characteristics compatible with your application needs.

Precision wafer laser trimming is employed to trim each resistor to precise tolerance.

FEATURES

- Precise tolerance from $\pm 0.01\%$ to $\pm 1\%$
- Wide resistance ranges from $1\text{ k}\Omega$ to $2\text{ M}\Omega$
- Low temperature coefficient $\pm 10\text{ ppm}/^\circ\text{C}$ max.
- Excellent stability $< 500\text{ ppm}$ (2000 h, at $+70^\circ\text{C}$ under Pn)
- Wirebondable
- For high temperature see datasheet RMKHT: www.vishay.com/doc?60075
- Compliant to RoHS Directive 2002/95/0EC

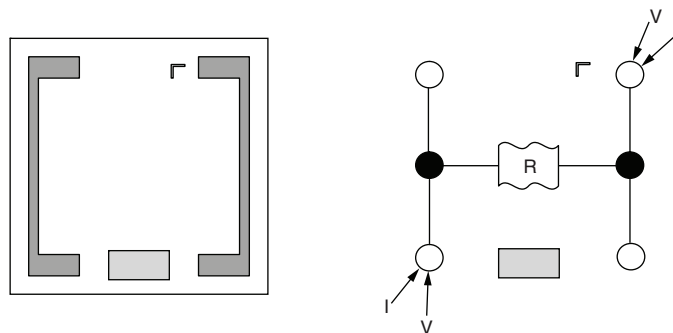


TYPICAL PERFORMANCE

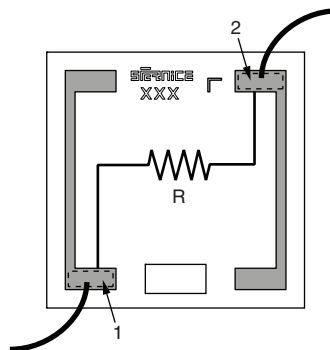
	ABS
TCR	5 ppm/ $^\circ\text{C}$
TOL.	0.01 %

SCHEMATIC AND PATTERN

The resistance of the four bonding pad configurations can vary, depending on the method of measurement used. Vishay Sfernice measure resistors by the four wires Kelvin technique. The method illustrated here below is important for resistors of less than $1\text{ k}\Omega$.



Areas 1 and 2: Preferred bonding pads for value $< 1\text{ k}\Omega$.



** Please see document “Vishay Material Category Policy”: www.vishay.com/doc?999902



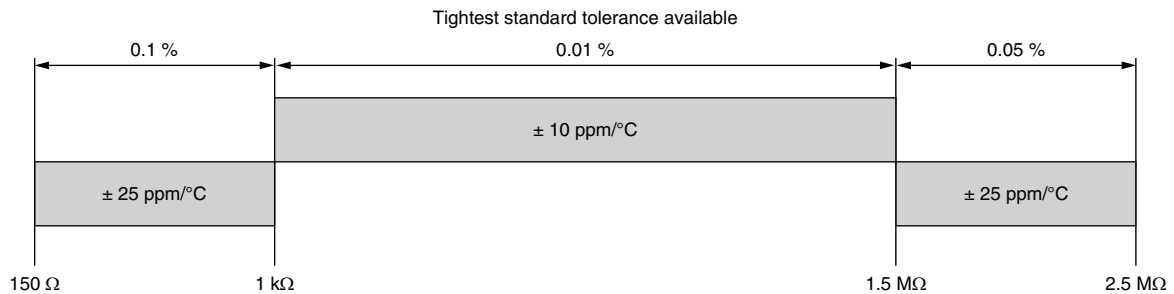
STANDARD ELECTRICAL SPECIFICATIONS		
TEST	SPECIFICATIONS	CONDITIONS
MATERIAL	ULTRAFILM	
Resistance range	1 kΩ to 2.5 MΩ RMK 55 1 kΩ to 2 MΩ RMK 515	
Absolute TCR	± 5 ppm/°C ± 10 ppm/°C/25 ppm/°C	0 to + 70 °C - 55 °C to + 155 °C
Absolute tolerance	0.01 % to 1 %	
Stability: ΔR/R	± 0.03 %	2000 h Pn at + 70 °C
Voltage coefficient	< 0.1 ppm/V	
Limiting voltage	100 V	
Operating temperature range	- 55 °C to + 155 °C (1)	
Storage temperature range	- 55 °C to + 155 °C	
Noise	< - 35 dB typical	
Thermal EMF	< 0.01 μV/°C	
Shelf life stability	50 ppm	1 year at + 25 °C
Power rating	250 mW (RMK 55)/500 mW (RMK 515) 125 mW (RMK 55)/250 mW (RMK 515)	25 °C 70 °C

Note

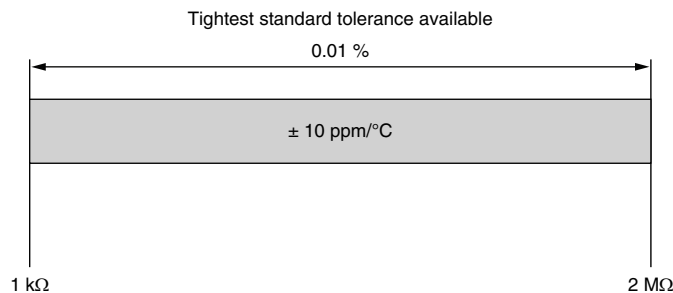
(1) For temperature up to 230 °C, please refer RMKHT datasheet (www.vishay.com/doc?60075)

TEMPERATURE COEFFICIENT OF RESISTANCE, VALUES AND TOLERANCES

RMK 55N



RMK 515N



RMK 55N, RMK 515N

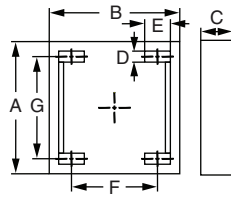


Vishay Sfernice

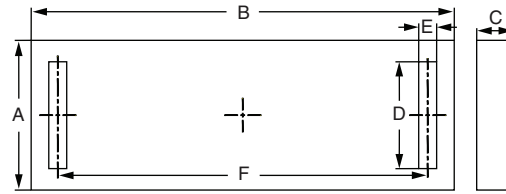
Wirebondable High Precision Single Value
Chip Resistors

DIMENSIONS in millimeters

RMK 55N



RMK 515N



SERIES	A ± 0.05	B ± 0.05	C	D	E	F	G
RMK 55N	1.32	1.32	0.4 max.	0.11	0.26	0.87	1.02
RMK 515N	1.32	3.75	0.4 max.	0.96	0.16	3.3	-

MECHANICAL SPECIFICATIONS

Resistive element	Nichrome
Passivation	Silicon nitride
Substrate material	Silicon
Bonding pads	Aluminum

GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: RMK55N10KB0099 (preferred part number format)

R **M** **K** **5** **5** **N** **1** **0** **K** **B** **0** **0** **9** **9**

GLOBAL MODEL	VALUE	TOLERANCE	OPTION
RMK 55N RMK 515N	Decimal R, K or M	L = ± 0.01 % P = ± 0.02 % W = ± 0.05 % B = ± 0.1 % D = ± 0.5 % F = ± 1.0 %	Leave blank if no option

Historical Part Number example: RMK 55N 10K 0.1 % R0099 (will continue to be accepted)

RMK 55N	10K	0.1 %	R0099
HISTORICAL MODEL	VALUE	TOLERANCE	OPTION



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