

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 $+70\text{ }^\circ\text{C}$ under Pn)
- Wirebondable



TYPICAL PERFORMANCE

	ABS
TCR	5 ppm/°C
TOL.	0.01 %

SCHEMATIC AND PATTERN



STANDARD ELECTRICAL SPECIFICATIONS		
TEST	SPECIFICATIONS	CONDITIONS
MATERIAL	ULTRAFILM®	
Resistance range	1 kΩ to 750 kΩ RMK 55 1 kΩ to 2 MΩ RMK 515	
Absolute TCR:	$\pm 5\text{ ppm}/^\circ\text{C}$ $\pm 10\text{ ppm}/^\circ\text{C}$	0 to $+70\text{ }^\circ\text{C}$ $-55\text{ }^\circ\text{C}$ to $+155\text{ }^\circ\text{C}$
Absolute tolerance:	0.01 % to 1 %	
Stability: $\Delta R/R$	$\pm 0.03\%$	2000 h Pn at $+70\text{ }^\circ\text{C}$
Voltage coefficient	$< 0.1\text{ ppm}/\text{V}$	
Working voltage	100 V	
Operating temperature range	$-55\text{ }^\circ\text{C}$ to $+155\text{ }^\circ\text{C}$ (1)	
Storage temperature range	$-55\text{ }^\circ\text{C}$ to $+155\text{ }^\circ\text{C}$	
Noise	$< -35\text{ dB}$ typical	
Thermal EMF	$< 0.01\text{ }\mu\text{V}/^\circ\text{C}$	
Shelf life stability	50 ppm	1 year at $+25\text{ }^\circ\text{C}$
Power rating	250 mW (RMK 55)/500 mW (RMK515) 125 mW (RMK 55)/250 mW (RMK 515)	25 °C 70 °C

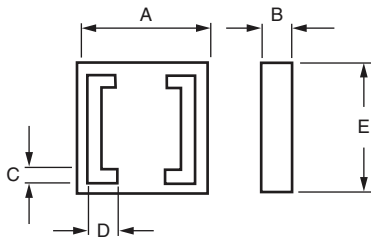
Note:

(1) For temperature up to $200\text{ }^\circ\text{C}$, please contact factory

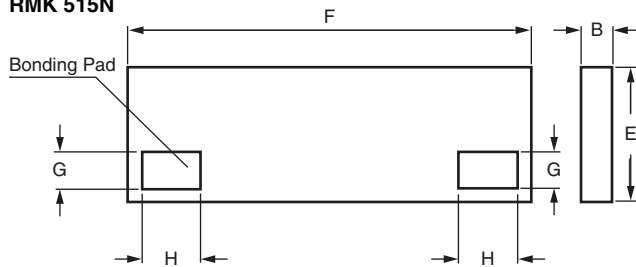
* Please see document “Vishay Green and Halogen-Free Definitions (5-2008)” <http://www.vishay.com/doc?99902>

DIMENSIONS

RMK 55N



RMK 515N



DIMENSION	INCHES	MILLIMETERS
A	0.050	1.27
B	0.015 maximum	0.4 maximum
C	0.005	0.12
D	0.010	0.27
E	0.050	1.27
F	0.150	3.81
G	0.015	0.40
H	0.023	0.60

MECHANICAL SPECIFICATIONS

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

GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: RMK55N10KB0002 (preferred part number format)

R **M** **K** **5** **5** **N** **1** **0** **K** **B** **0** **0** **0** **2**

GLOBAL MODEL	VALUE	TOLERANCE	OPTION
RMK55N RMK515N	Decimal R, K or M	B = ± 0.1 % D = ± 0.5 % F = ± 1.0 %	leave blank if no option

Historical Part Number example: RMK 55N 10K 0.1 % R0002 (will continue to be accepted)

RMK 55N	10K	0.1 %	R0002
HISTORICAL MODEL	VALUE	TOLERANCE	OPTION



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