

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



RoHS
COMPLIANT
GREEN
(5-2008)*

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	$< 0.1\text{ ppm/V}$	
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

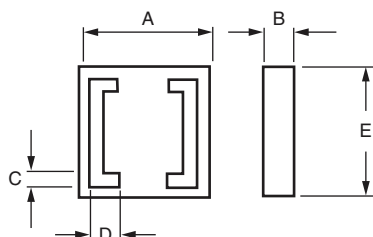
Note:

⁽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>

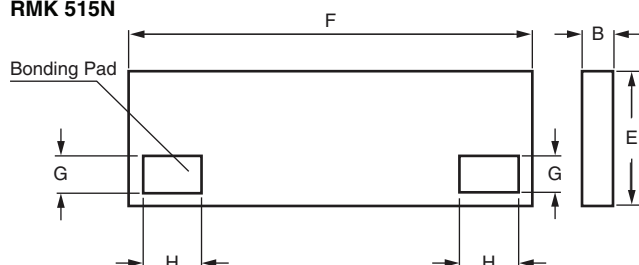
DIMENSIONS

RMK 55N



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

RMK 515N



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



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.