

## Wirebondable Dual Value Thin Film Chip Resistor Networks, Center Tap



Actual Size

The Vishay RSK33 resistive dividers are based on a nickel-chromium thin metal film formulation on an oxidized silicon substrate and incorporate two resistors of equal ohmic value for use either as a precision voltage divider or as a four terminal resistor. The RSK33 micro dividers were developed as a low cost, temperature and time stable resistive range for hybrid circuit applications demanding miniaturization with improved parametric performances in both industrial and military environments.

Their close ratio tolerance and TCR tracking performances are particularly relevant to amplifier gain-setting and diverse attenuator and terminator applications.

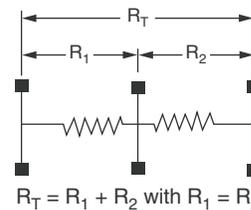
### FEATURES

- Low TCR < 25 ppm/°C
- Rapid Rise Time
- Low Noise < - 35 dB
- High temperature version (up to 230 °C) see RMKHT
- Wirebondable
- Stability 0.03 % (2000 h, rated power, at + 70 °C)
- Material categorization: For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT  
**GREEN**  
(5-2008)

### SCHEMATIC



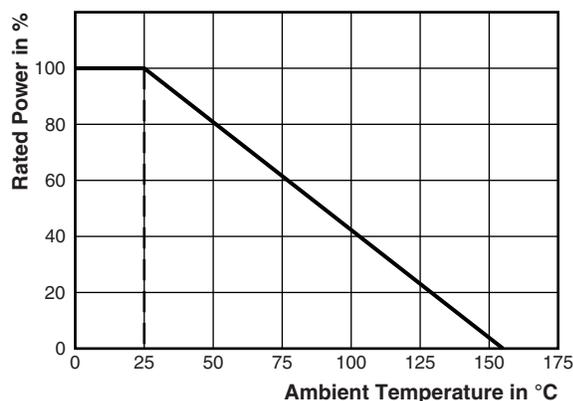
(Unequal value on request)

STANDARD ELECTRICAL SPECIFICATIONS							
MODEL	SIZE	RESISTANCE RANGE <sup>(1)</sup> Ω	POWER RATING $P_{70\text{ °C}}$ W	ABSOLUTE TOLERANCE ± %	RATIO TOLERANCE <sup>(2)</sup> %	ABSOLUTE TCR <sup>(3)</sup> ± ppm/°C	RATIO TCR ± ppm/°C
RSK 33N	0303	10 to 500K	0.250	0.5, 1, 2	0.05, 0.1, 0.5	15, 25	5

#### Notes

- <sup>(1)</sup>  $(R_T = R_1 + R_2)$
- <sup>(2)</sup>  $R > 10\ \Omega$ . Tighter on request: Please consult (ohmic range may vary)
- <sup>(3)</sup> ± 25 ppm/°C maximum, ± 15 ppm/°C maximum at - 55 °C to + 155 °C

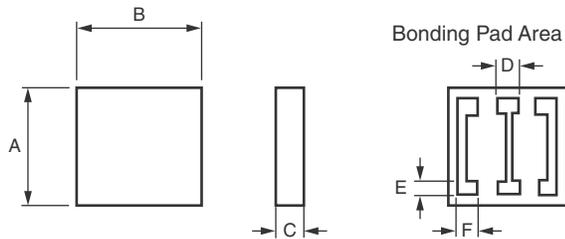
### DERATING



### CLIMATIC SPECIFICATIONS

Operating temperature range	- 55 °C to + 155 °C
Storage temperature range	- 55 °C to + 155 °C

PERFORMANCES		
TEST	SPECIFICATIONS	CONDITIONS
Extended ohmic range	> 500 kΩ to 1 MΩ	$R_1 = R_2 \left( R_T = \frac{R_T}{2} + \frac{R_T}{2} \right)$ $R_1 \neq R_2$ : Please consult
Stability	300 ppm typical	2000 h Pn at + 70 °C
Voltage coefficient	< 0.01 ppm/V	
Limiting voltage	100 V <sub>DC</sub> on R <sub>T</sub>	
Noise	< - 35 dB typical	MIL-STD-202 method 308
Thermal EMF	< 0.01 μV/°C	
Shelf life stability	50 ppm	1 year

**DIMENSIONS**


DIMENSION	INCHES	MILLIMETERS
A	0.033 ± 0.004	0.855 ± 0.10
B	0.033 ± 0.004	0.855 ± 0.10
C	0.01 to 0.015	0.25 to 0.40
D	0.006	0.15
E	0.004	0.10
F	0.006	0.15

MECHANICAL SPECIFICATIONS	
Resistive element	Passivated nichrome
Passivation	Silicon nitride
Substrate material	Silicon
Bonding pads	Aluminum, gold on request

GLOBAL PART NUMBER INFORMATION																
New Global Part Numbering: RSK33N5KD25KB0099 (preferred part number format)																
R	S	K	3	3	N	5	K	D	2	5	K	B	0	0	9	9
GLOBAL MODEL		R <sub>1</sub> VALUE		ABS. TOLERANCE			R <sub>2</sub> VALUE		RAT. TOLERANCE			OPTION				
		Decimal R, K, or M		<b>D</b> = ± 0.5 % <b>F</b> = ± 1.0 % <b>G</b> = ± 2.0 %			Decimal R, K, or M		<b>D</b> = 0.5 % <b>B</b> = 0.1 % <b>W</b> = 0.05 %			Leave blank if no option				



## **Disclaimer**

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

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 in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

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. Product names and markings noted herein may be trademarks of their respective owners.