



Single Value Wirebondable Thin Film Chip Resistors



Actual Size

FEATURES

- Small size 20 mil square
- Resistance range 10 Ω to 1 M Ω
- Resistor material: self-passivating tantalum nitride
- Silicon substrate for good power dissipation
- Wirebondable
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT
HALOGEN
FREE
GREEN
(5-2008)

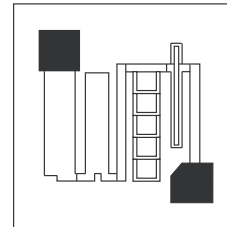
LINKS TO ADDITIONAL RESOURCES



3D Models

Thin film resistors are often an excellent solution for analog design problems where space is limited and high packing density is required. Due to their Tantalum Nitride resistive layer these resistors are stable 0.07 % (2000 h, rated power at +70 °C) and moisture resistant.

SCHEMATIC AND PATTERN



STANDARD ELECTRICAL SPECIFICATIONS

MODEL	SIZE	RESISTANCE RANGE Ω	RATED POWER $P_{70\text{ }^{\circ}\text{C}}$ W	LIMITING ELEMENT VOLTAGE V	TOLERANCE \pm %	TEMPERATURE COEFFICIENT \pm ppm/ $^{\circ}\text{C}$
TA22	0202	10 to 1M	0.05	100	0.5, 1.0, 2.0	50 ⁽¹⁾ , 100

Note

(1) On request

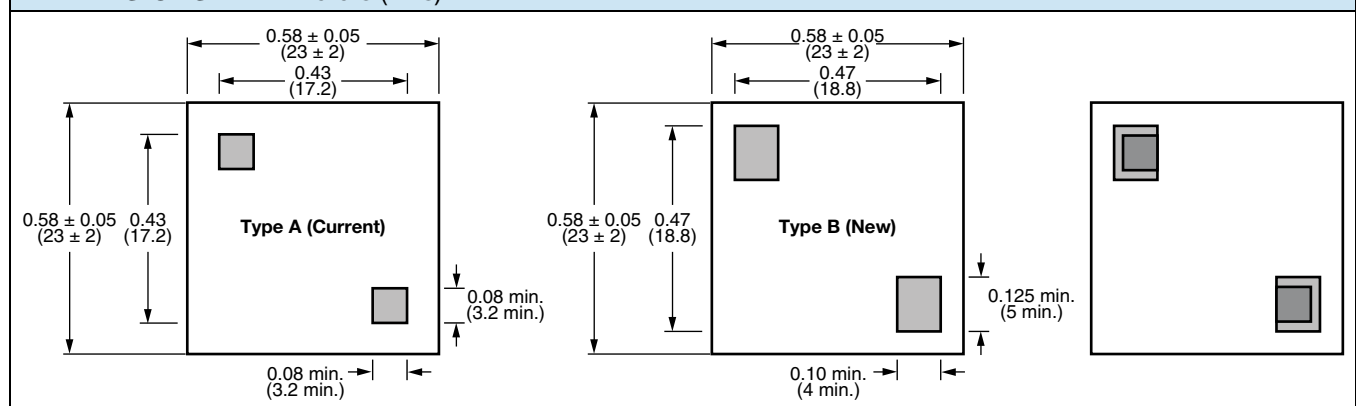
CLIMATIC SPECIFICATIONS

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

MECHANICAL SPECIFICATIONS

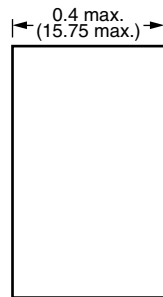
Resistive element	Tantalum nitride
Passivation	Tantalum pentoxide (autopassivation)
Substrate material	Standard silicon
Bonding pads	Aluminum

DIMENSIONS in millimeters (mils)

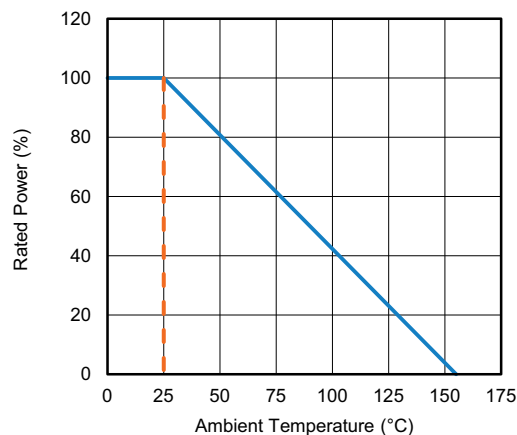


Note

- Customer can get one or the other part, but positions of pads are similar

**DIMENSIONS** in millimeters (mils)**TECHNICAL SPECIFICATIONS**

TEST	SPECIFICATIONS	CONDITIONS
MATERIAL	TANTALUM NITRIDE	
Power dissipation	100 mW at 25 °C, 50 mW at +70 °C, 25 mW at +125 °C	
Stability	± 0.07 % typical, ± 0.1 maximum	2000 h at +70 °C at Pn
Voltage coefficient	< 0.1 ppm/V	
Noise	< -35 dB typical	MIL-STD-202 method 308
Thermal EMF	< 0.01 µV/°C	
Shelf life stability	100 ppm	1 year at +25 °C

DERATING**GLOBAL PART NUMBER INFORMATION**New Global Part Numbering: **TA22-100KD0016** (preferred part number format)

T	A	2	2	-	1	0	0	K	D	0	0	1	6
---	---	---	---	---	---	---	---	---	---	---	---	---	---

GLOBAL MODEL

VALUE

Decimal
R, K, or M

TOLERANCE

D = ± 0.5 %
F = ± 1.0 %
G = ± 2.0 %

OPTION

Leave blank
if no optionHistorical Part Number Example: **TA22 10K 0.5 % R0016** (will continue to be accepted)

TA22

HISTORICAL MODEL

10K

VALUE

0.5 %

TOLERANCE

R0016

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.

Hyperlinks included in this datasheet may direct users to third-party websites. These links are provided as a convenience and for informational purposes only. Inclusion of these hyperlinks does not constitute an endorsement or an approval by Vishay of any of the products, services or opinions of the corporation, organization or individual associated with the third-party website. Vishay disclaims any and all liability and bears no responsibility for the accuracy, legality or content of the third-party website or for that of subsequent links.

Vishay products are not designed for use in life-saving or life-sustaining applications or any application in which the failure of the Vishay product could result in personal injury or death unless specifically qualified in writing by Vishay. 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.