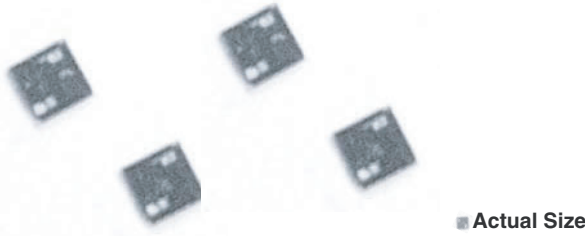


# Single Value Wirebondable Thin Film Chip Resistors



## FEATURES

- Small size 20 mil square
- Resistance range 10 Ω to 1 MΩ
- 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](http://www.vishay.com/doc?99912)



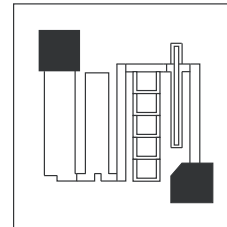
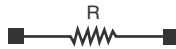
**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**  
**GREEN**  
(5-2008)

## LINKS TO ADDITIONAL RESOURCES



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 $P_{70\text{ °C}}$ W	LIMITING ELEMENT VOLTAGE V	TOLERANCE ± %	TEMPERATURE COEFFICIENT ± ppm/°C
TA22	0202	10 to 1M	0.05	100	0.5, 1.0, 2.0	50 <sup>(1)</sup> , 100

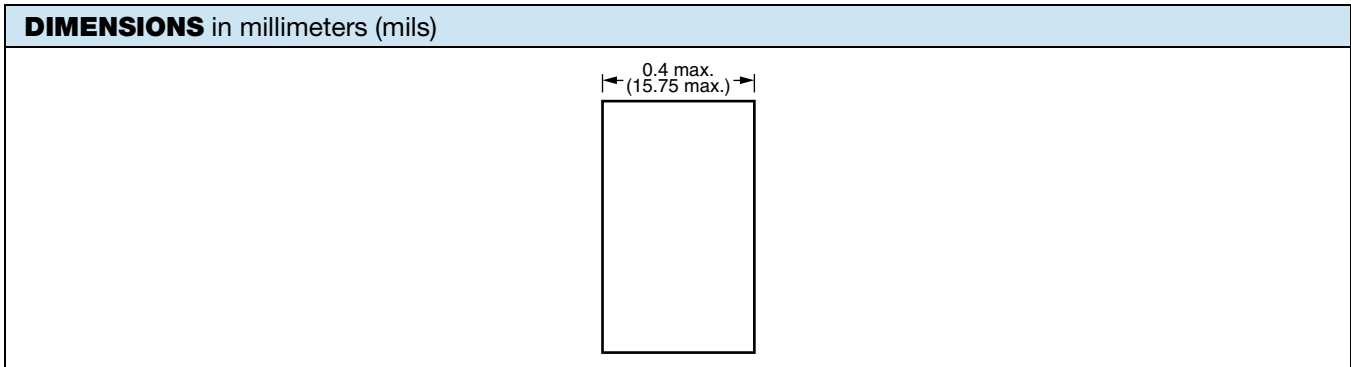
**Note**  
(1) On request

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

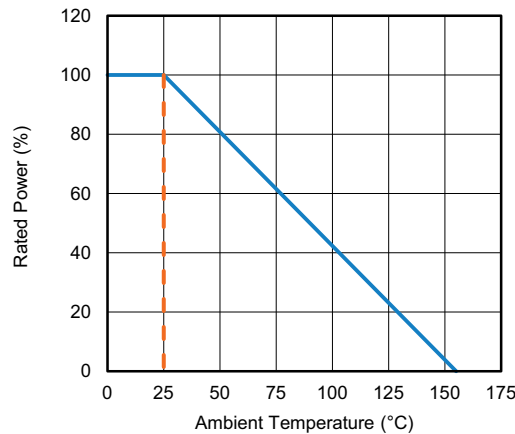
DIMENSIONS in millimeters (mils)		
<p><b>Type A (Current)</b></p> <p>0.58 ± 0.05 (23 ± 2) 0.43 (17.2) 0.58 ± 0.05 (23 ± 2) 0.43 (17.2) 0.08 min. (3.2 min.) 0.08 min. (3.2 min.)</p>	<p><b>Type B (New)</b></p> <p>0.58 ± 0.05 (23 ± 2) 0.47 (18.8) 0.58 ± 0.05 (23 ± 2) 0.47 (18.8) 0.10 min. (4 min.) 0.125 min. (5 min.)</p>	

**Note**  
• Customer can get one or the other part, but positions of pads are similar



TECHNICAL SPECIFICATIONS		
TEST	SPECIFICATIONS	CONDITIONS
<b>MATERIAL</b>	<b>TANTALUM NITRIDE</b>	
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 option		

Historical Part Number Example: TA22 10K 0.5 % R0016 (will continue to be accepted)

TA22	10K	0.5 %	R0016
HISTORICAL MODEL	VALUE	TOLERANCE	OPTION



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