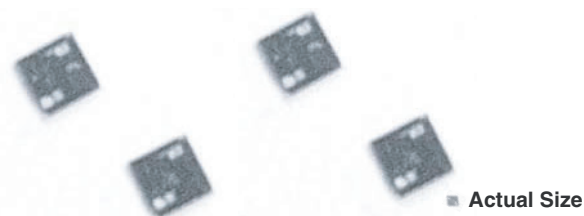


# Single Value Wirebondable Thin Film Chip Resistors



## FEATURES

- Small size 20 mil x 20 mil
- Very high ohmic value up to 10 M $\Omega$
- Aluminum terminations
- Good stability 0.1 % (2000 h, rated power at +70 °C)
- Wirebondable
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



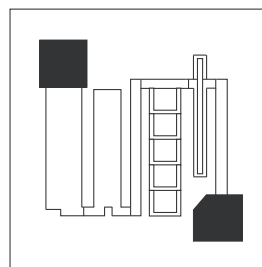
**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**  
**GREEN**  
(5-2008)

## LINKS TO ADDITIONAL RESOURCES



Chromium silicon thin film is very well suited to produce high density and high ohmic value resistor chips. These high ohmic value chip resistors are available with improved performances and size when compared to thick film counterparts.

## SCHEMATIC AND PATTERN



## STANDARD ELECTRICAL SPECIFICATIONS

MODEL	SIZE	RESISTANCE RANGE $\Omega$	RATED POWER $P_{70^{\circ}\text{C}}$ W	LIMITING ELEMENT VOLTAGE V	TOLERANCE $\pm$ %	TEMPERATURE COEFFICIENT $\pm$ ppm/°C
CS22	0202	10K to 10M	0.05	100 <sup>(1)</sup>	0.5, 1, 2	50 <sup>(2)</sup> , 100

### Notes

- (1) Higher on Al<sub>2</sub>O<sub>3</sub>  
(2) On request

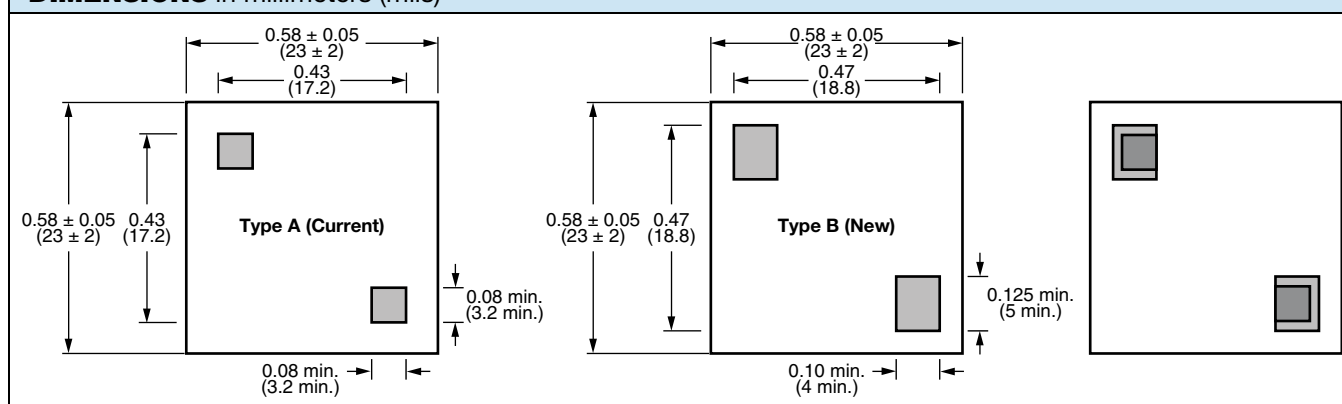
## CLIMATIC SPECIFICATIONS

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

## MECHANICAL SPECIFICATIONS

Resistive element	Chromium silicon
Passivation	Silicon nitride
Substrate material	Silicon (consult Vishay for Al <sub>2</sub> O <sub>3</sub> )
Bonding pads	Aluminum

## DIMENSIONS in millimeters (mils)



### Note

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



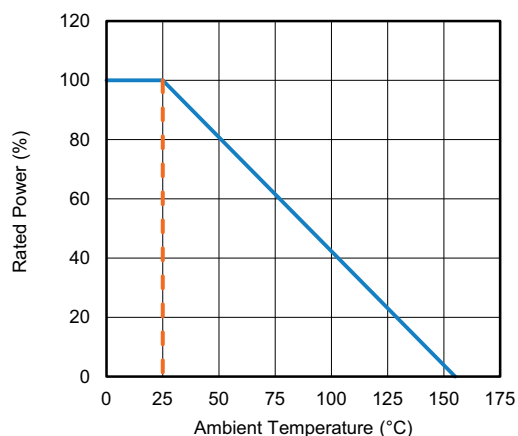
## DIMENSIONS in millimeters (mils)



## TECHNICAL SPECIFICATIONS

TEST	SPECIFICATIONS	CONDITIONS
Stability	$\pm 0.1$ % typical, $\pm 0.2$ maximum	2000 h at +70 °C at Pn
Noise	< -20 dB typical	MIL-STD-202 method 308
Thermal EMF	< 0.01 $\mu\text{V}/^\circ\text{C}$	
Shelf life stability	200 ppm	1 year at +25 °C

## DERATING



## GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: CS22-100KD0016 (preferred part number format)

C	S	2	2	-	1	0	0	K	D		0	0	1	6
GLOBAL MODEL				VALUE		TOLERANCE			TERMINATIONS		OPTION			
				Decimal R, K, or M		D = $\pm 0.5$ % F = $\pm 1.0$ % G = $\pm 2.0$ %			Blank = aluminum		Leave blank if no option			

Historical Part Number Example: CS22 150K 0.5 % R0016 (will continue to be accepted)

CS22	150K	0.5 %	R0016
HISTORICAL MODEL	VALUE	TOLERANCE	OPTION



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