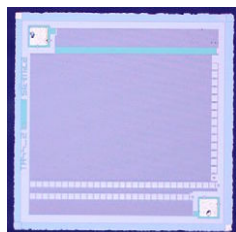


# High Value (Up to 100 M $\Omega$ ) Wirebondable 1 mm<sup>2</sup> Thin Film Chip Resistors

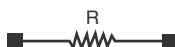


## LINKS TO ADDITIONAL RESOURCES



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



## FEATURES

- Small size 40 mil x 40 mil (1 mm x 1 mm)
- Very high ohmic value up to 100 M $\Omega$
- Good stability 0.1 % (2000 h, rated power at +70 °C)
- Aluminum terminations
- 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)

## STANDARD ELECTRICAL SPECIFICATIONS

MODEL	SIZE	RESISTANCE RANGE $\Omega$	RATED POWER $P_{70\text{ }^{\circ}\text{C}}$ W	LIMITING ELEMENT VOLTAGE V	TOLERANCE $\pm$ %	TEMPERATURE COEFFICIENT $\pm$ ppm/°C
CS44	0404	400K to 100M	0.380	100	0.5, 1.0, 2.0, 5.0	50 <sup>(1)</sup> , 100

### Note

<sup>(1)</sup> 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

## TECHNICAL SPECIFICATIONS

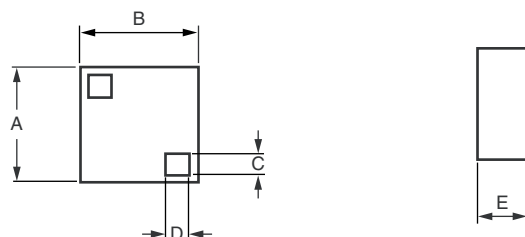
TEST	SPECIFICATIONS	CONDITIONS
<b>MATERIAL</b>	<b>PASSIVATED CHROMIUM SILICON</b>	
Stability	$\pm$ 0.1 % typical, $\pm$ 0.2 maximum	2000 h at +70 °C at Pn
Limiting voltage	100 V <sub>DC</sub>	Higher on Al <sub>2</sub> O <sub>3</sub>
Noise	< -20 dB typical	MIL-STD-202 method 308
Thermal EMF	< 0.01 $\mu$ V/°C	
Shelf life stability	200 ppm	1 year at +25 °C

### Note

- Rated voltage =  $\sqrt{(\text{Power rating} \times \text{Resistance value})}$  or limiting voltage, whichever is lower



## DIMENSIONS



DIMENSION	INCHES	MILLIMETERS
A	0.043 ± 0.002	1.09 ± 0.05
B	0.043 ± 0.002	1.09 ± 0.05
C	0.004	0.10
D	0.004	0.10
E	0.015	0.40 max.

## GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: CS44-100MJ0099

C	S	4	4	-	1	0	0	M	J		0	0	9	9
GLOBAL MODEL				VALUE				TOLERANCE				TERMINATIONS		OPTION
				Decimal K or M				D = ± 0.5 % F = ± 1.0 % G = ± 2.0 % J = ± 5.0 %				Blank = aluminum		Leave blank if no option



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