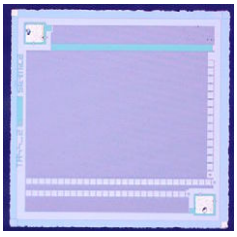
High Value (Up to 100 MΩ) Wirebondable 1 mm² Thin Film Chip Resistors



FEATURES

- Small size 40 mil x 40 mil (1 mm x 1 mm)
- Very high ohmic value up to 100 MΩ
- 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

Pb-free

RoHS COMPLIANT

HALOGEN FREE

GREEN (5-2008)

LINKS TO ADDITIONAL RESOURCES

3D Models

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

STANDARD ELECTRICAL SPECIFICATIONS

MODEL	SIZE	RESISTANCE RANGE Ω	RATED POWER $P_{70\,°C}$ W	LIMITING ELEMENT VOLTAGE V	TOLERANCE ± %	TEMPERATURE COEFFICIENT ± ppm/°C
CS44	0404	400K to 100M	0.380	100	0.5, 1.0, 2.0, 5.0	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	Chromium silicon
Passivation	Silicon nitride
Substrate material	Silicon (consult Vishay for Al_2O_3)
Bonding pads	Aluminum

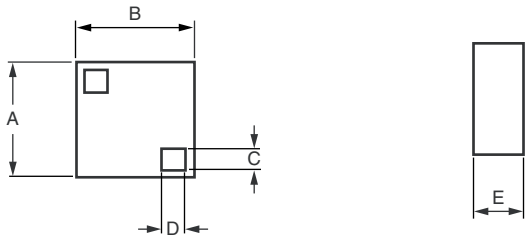
TECHNICAL SPECIFICATIONS

TEST	SPECIFICATIONS	CONDITIONS
MATERIAL	**PASSIVATED CHROMIUM SILICON**	
Stability	± 0.1 % typical, ± 0.2 maximum	2000 h at +70 °C at Pn
Limiting voltage	100 V_{DC}	Higher on Al_2O_3
Noise	< -20 dB typical	MIL-STD-202 method 308
Thermal EMF	< 0.01 µV/°C	
Shelf life stability	200 ppm	1 year at +25 °C

Note

- Rated voltage = $\sqrt{(\text{Power rating x Resistance value})}$ 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

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.

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.