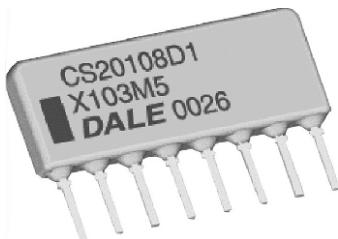


## Thick Film Capacitor Networks, Single-In-Line, Conformal Coated SIP



### FEATURES

- Isolated and bussed schematics available
- X7R and C0G capacitors available
- Multiple isolated capacitors
- Multiple capacitors, common ground
- Custom design capability
- "D" 0.300" (7.62 mm) package height (maximum)
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS\***  
Available  
HALOGEN  
**FREE**

### Note

\* This datasheet provides information about parts that are RoHS-compliant and / or parts that are non RoHS-compliant. For example, parts with lead (Pb) terminations are not RoHS-compliant. Please see the information / tables in this datasheet for details

### STANDARD ELECTRICAL SPECIFICATIONS

VISHAY DALE MODEL	PROFILE	SCHEMATIC	CAPACITANCE RANGE		CAPACITANCE TOLERANCE (-55 °C to +125 °C) ± %	CAPACITANCE VOLTAGE at 85 °C V <sub>DC</sub>
			C0G (1)	X7R		
CS201	D	1	33 pF to 3900 pF	470 pF to 0.1 µF	10, 20	50
CS201	D	3	33 pF to 3900 pF	470 pF to 0.1 µF	10, 20	50
CS201	D	4	33 pF to 3900 pF	470 pF to 0.1 µF	10, 20	50

### Note

(1) C0G capacitors may be substituted for X7R capacitors

### TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	CS201	
		C0G	X7R
Temperature coefficient (-55 °C to +125 °C)	ppm/°C or %	± 30 ppm/°C	± 15 %
Dissipation factor (maximum)	± %	0.15	2.5

### MATERIAL SPECIFICATIONS

Marking resistance to solvents	Permanency testing per MIL-STD-202, method 215
Solderability	Per MIL-STD-202, method 208E
Body	High alumina, epoxy coated (flammability UL 94 V-0)
Terminals	Phosphorus-bronze, solder plated
Marking	Pin #1 identifier, Dale or D, part number (abbreviated as space allows), date code

### GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: 20108D1C103K5P (preferred part numbering format)

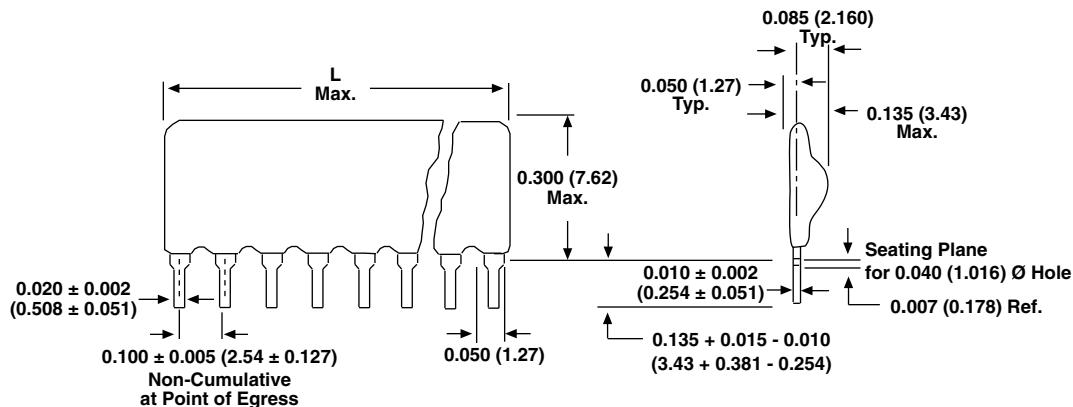
2	0	1	0	8	D	1	C	1	0	3	K	5	P		
GLOBAL MODEL	PIN COUNT	PACKAGE HEIGHT	SCHEMATIC	CHARACTERISTIC	CAPACITANCE VALUE	TOLERANCE	VOLTAGE	PACKAGING	SPECIAL						
201 = CS201	04 to 18 pin available 04 = 4 pin 08 = 8 pin 18 = 18 pin	D = "D" profile	1 3 4 0 = special	C = C0G X = X7R S = special	(in picofarads) 2 digit significant figure, followed by a multiplier 330 = 33 pF 392 = 3900 pF 104 = 0.1 µF	K = ± 10 % M = ± 20 % S = special	5 = 50 V S = special	E = lead (Pb)-free, bulk P = tin / lead, bulk	Blank = standard (dash number) (up to 3 digits) From 1 to 999 as applicable						

Historical Part Number example: CS20108D1C103K5 (will continue to be accepted)

CS201	08	D	1	C	103	K	5	P03
HISTORICAL MODEL	PIN COUNT	PACKAGE HEIGHT	SCHEMATIC	CHARACTERISTIC	CAPACITANCE VALUE	TOLERANCE	VOLTAGE	PACKAGING

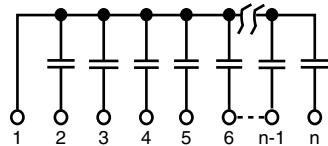
### Note

- For additional information on packaging, refer to the Through-hole Network Packaging document ([www.vishay.com/doc?31542](http://www.vishay.com/doc?31542))

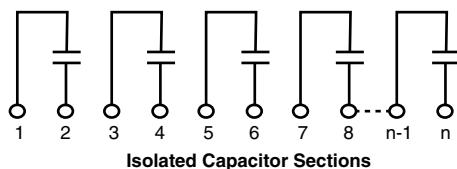
**DIMENSIONS** in inches (millimeters)


Pin #1 is extreme left-hand terminal on side with marking.

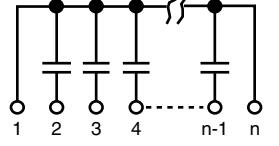
NUMBER OF PINS	L MAXIMUM	NUMBER OF PINS	L MAXIMUM	NUMBER OF PINS	L MAXIMUM
4 pin	0.400 (10.16)	9 pin	0.900 (22.86)	14 pin	1.400 (35.56)
5 pin	0.500 (12.70)	10 pin	1.000 (25.40)	15 pin	1.500 (38.10)
6 pin	0.600 (15.24)	11 pin	1.100 (27.94)	16 pin	1.600 (40.64)
7 pin	0.700 (17.78)	12 pin	1.200 (30.48)	17 pin	1.700 (43.18)
8 pin	0.800 (20.32)	13 pin	1.300 (33.02)	18 pin	1.800 (45.72)

**SCHEMATICS**
**Schematic 1**


Common Bus - 1 Ground Lead

**Schematic 3**


Isolated Capacitor Sections

**Schematic 4**


Common Bus - 2 Ground Leads

## 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.