

Ceramic Singlelayer DC Disc Capacitors, 500 V_{DC} General Purpose



FEATURES

- High capacitance in small sizes
- Low losses
- Wide range of different lead styles
- Material categorization:
for definitions of compliance please see
www.vishay.com/doc?99912


RoHS
COMPLIANT

APPLICATIONS

- Bypassing
- Resonant circuits
- Coupling

DESIGN

The capacitors consist of a ceramic disc which is silver plated on both sides. Connection leads are made of tinned copper having diameters of 0.6 mm.

The capacitors may be supplied with straight or kinked leads having a lead spacing of 5.0 mm or 7.5 mm.

Coating is made of blue colored flame retardant epoxy resin in accordance with UL 94 V-0.

CAPACITANCE RANGE

10 pF to 10 nF

RATED VOLTAGE

500 V_{DC}

DIELECTRIC STRENGTH

1250 V_{DC}, 2 s Component test

INSULATION RESISTANCE AT 500 V_{DC}

≥ 5000 MΩ (60 s)

TOLERANCE ON CAPACITANCE

± 10 %, ± 20 %, - 20 % / + 50 %

DISSIPATION FACTOR

C < 100 pF: max. 3.0 % (1 MHz)

C ≥ 100 pF: max. 3.0 % (1 kHz)

QUICK REFERENCE DATA

DESCRIPTION	VALUE
Ceramic Class	2
Ceramic Dielectric	Y5T, Y5U
Voltage (V _{DC})	500
Min. Capacitance (pF)	10
Max. Capacitance (pF)	10 000
Mounting	Radial

MARKING

Marking indicates, capacitance, tolerance code, and rated voltage.

OPERATING TEMPERATURE RANGE

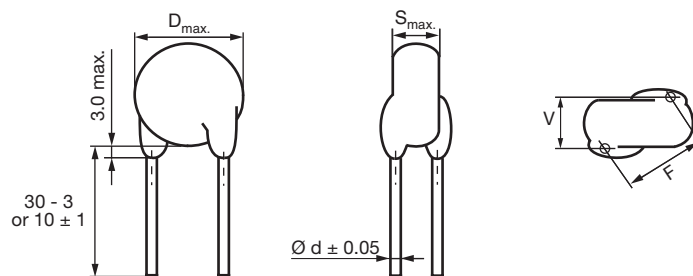
-40 °C to +85 °C

TEMPERATURE CHARACTERISTICS

Y5T, Y5U

SECTIONAL SPECIFICATIONS

Climatic category (according to EN 60068-1):
40/085/21


DIMENSIONS in millimeters

ORDERING INFORMATION

CAPACITANCE (pF)	TOLERANCE (%)	BODY DIAMETER D _{max.} (mm)	BODY THICKNESS S _{max.} (mm)	LEAD SPACING ⁽¹⁾ F (mm) ± 1 mm	LEAD DIAMETER ⁽¹⁾ d (mm) ± 0.05 mm	WIDTH ⁽¹⁾ V (mm) ± 0.5 mm	ORDERING CODE					
							MISSING DIGITS SEE ORDERING CODE BELOW					
Y5T (2D3)												
10	± 10, ± 20	6.0	3.0	5.0	0.6	1.6	HSZ100#AQ####KR					
12							HSZ120#AQ####KR					
15						1.5	HSZ150#AQ####KR					
18						1.3	HSZ180#AQ####KR					
22						1.1	HSZ220#AQ####KR					
27						1.3	HSZ270#AQ####KR					
33						1.4	HSZ330#AQ####KR					
39							HSZ390#AQ####KR					
47						1.2	HSZ470#AQ####KR					
56							HSZ560#AQ####KR					
68						1.4	HSZ680#AQ####KR					
82							HSZ820#AQ####KR					
100						1.1	HSZ101#AQ####KR					
120							HSZ121#AQ####KR					
150						1.6	HSZ151#AQ####KR					
180							HSZ181#AQ####KR					
220						1.3	HSZ221#AQ####KR					
270							HSZ271#AQ####KR					
330						1.2	HSZ331#AQ####KR					
390							HSZ391#AQ####KR					
470							HSZ471#AQ####KR					
560							HSZ561#AQ####KR					
680		7.0				1.1	HSZ681#AQ####KR					
820							HSZ821#AQ####KR					
1000		8.0				1.2	HSZ102#AQ####KR					
1200							HSZ122#AQ####KR					
1500		9.0				1.1	HSZ152#AQ####KR					
1800							HSZ182#AQ####KR					
2200		11.0		7.5		1.2	HSZ222#AQ####KR					
2700							HSZ272#AQ####KR					
3300		15.0					HSZ332#AQ####KR					
3900							HSZ392#AQ####KR					
4700						1.1	HSZ472#AQ####KR					



ORDERING INFORMATION

CAPACITANCE (pF)	TOLERANCE (%)	BODY DIAMETER D _{max.} (mm)	BODY THICKNESS S _{max.} (mm)	LEAD SPACING ⁽¹⁾ F (mm) ± 1 mm	LEAD DIAMETER ⁽¹⁾ d (mm) ± 0.05 mm	WIDTH ⁽¹⁾ V (mm) ± 0.5 mm	ORDERING CODE MISSING DIGITS SEE ORDERING CODE BELOW				
Y5U (2E3)											
470	- 20 / + 50 ⁽²⁾	6.0	4.0	5.0	0.6	1.1	HSE471#AQ####KR				
680						1.2	HSE681#AQ####KR				
1000						1.4	HSE102#AQ####KR				
1500		7.0		7.5		1.2	HSE152#AQ####KR				
2200							HSE222#AQ####KR				
3300		11.0				1.1	HSE332#AQ####KR				
4700							HSE472#AQ####KR				
6800		13.0					HSE682#AQ####KR				
8200		15.0				1.4	HSE822#AQ####KR				
10 000						1.2	HSE103#AQ####KR				

Notes

⁽¹⁾ Standard lead configuration, other lead spacing and diameter available on request⁽²⁾ ± 20 % available on request

ORDERING CODE

#	7 th digit	Capacitance tolerance	± 10 % = K, ± 20 % = M, - 20 % / + 50 % = S				
###	10 th to 12 th digit	Lead configuration	see "General Information"				
Example	HSE	103	S	AQ	CRY	K	R
	Series	Capacitance value	Tolerance code	Voltage code	Lead configuration	Internal code	RoHS compliant

MARKING

HSE 470 pF to 4.7 nF	HSE 6.8 nF to 10 nF	HSZ 10 pF to 3.9 nF	HSZ 4.7 nF

RELATED DOCUMENTS

General Information	www.vishay.com/doc?22001
---------------------	--



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.

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.

Material Category Policy

Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as RoHS-Compliant fulfill the definitions and restrictions defined under Directive 2011/65/EU of The European Parliament and of the Council of June 8, 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (EEE) - recast, unless otherwise specified as non-compliant.

Please note that some Vishay documentation may still make reference to RoHS Directive 2002/95/EC. We confirm that all the products identified as being compliant to Directive 2002/95/EC conform to Directive 2011/65/EU.

Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as Halogen-Free follow Halogen-Free requirements as per JEDEC JS709A standards. Please note that some Vishay documentation may still make reference to the IEC 61249-2-21 definition. We confirm that all the products identified as being compliant to IEC 61249-2-21 conform to JEDEC JS709A standards.