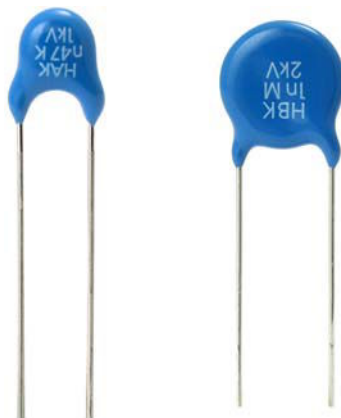


Ceramic Singlelayer DC Disc Capacitors, Class 2, Low Loss (0.5 %), 1 kV_{DC}, 2 kV_{DC}, 3 kV_{DC}



FEATURES

- Low losses
- High stability
- Low DF minimizes self heating at HF
- Ideal for switching to 100 Hz
- Material categorization:
For definitions of compliance please see
www.vishay.com/doc?99912


RoHS
COMPLIANT

APPLICATIONS

In electronic circuits where low losses and high capacitance per volume are essential, for example:

- HF ballast
- SMPS
- Snubber and HV circuits

DESIGN

The capacitors consist of ceramic disc both sides of which are silver plated. Connection leads are made of tinned copper having diameters of 0.6 mm or 0.8 mm.

The capacitors may be supplied with straight or kinked leads having a lead spacing of 7.5 mm or 10.0 mm.

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

CAPACITANCE RANGE

100 pF to 4700 pF

RATED DC VOLTAGE

- 1 kV_{DC}
- 2 kV_{DC}
- 3 kV_{DC}

DIELECTRIC STRENGTH

- 2000 V_{AC}, 50 Hz, 2 s Component test
- 3000 V_{AC}, 50 Hz, 2 s
- 4000 V_{AC}, 50 Hz, 2 s

INSULATION RESISTANCE AT 500 V_{DC}

≥ 10 000 MΩ (60 s)

TOLERANCE ON CAPACITANCE

± 20 % (± 10 % available on request)

DISSIPATION FACTOR

Max. 0.5 % (1 kHz)

QUICK REFERENCE DATA

DESCRIPTION	VALUE		
Ceramic Class	2		
Ceramic Dielectric	Y5S		
Voltage (V _p)	1000	2000	3000
Min. Capacitance (pF)	100	100	100
Max. Capacitance (pF)	4700	4700	3300
Mounting	Radial		

MARKING

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

OPERATING TEMPERATURE RANGE

- 40 °C to + 125 °C

TEMPERATURE CHARACTERISTICS

Y5S (2C3)

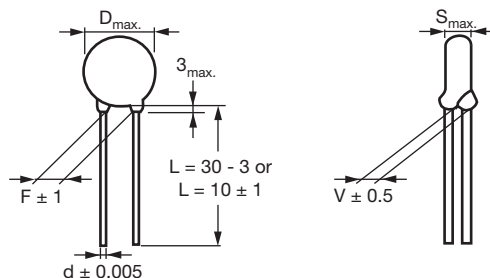
SECTIONAL SPECIFICATIONS

Climatic category (according to EN 60068-1):

40/125/21

APPROVALS

IEC 60384-9, EIA 198


DIMENSIONS in millimeters

ORDERING INFORMATION

ORDERING INFORMATION							ORDERING CODE
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	MISSING DIGITS SEE ORDERING CODE BELOW
1 kV							
100	± 20 ⁽²⁾	7.0	5.0	7.5	0.6	1.1	HAK101.BA...KR
150							HAK151.BA...KR
220							HAK221.BA...KR
270							HAK271.BA...KR
330							HAK331.BA...KR
390							HAK391.BA...KR
470							HAK471.BA...KR
560		8.0					HAK561.BA...KR
680							HAK681.BA...KR
820		9.0					HAK821.BA...KR
1000							HAK102.BA...KR
1200		10.0					HAK122.BA...KR
1500							HAK152.BA...KR
1800		12.0					HAK182.BA...KR
2200							HAK222.BA...KR
2700		14.5					HAK272.BA...KR
3300							HAK332.BA...KR
3900		15.5					HAK392.BA...KR
4700							16.5
2 kV							
100	± 20 ⁽²⁾	7.0	5.0	7.5	0.6	1.6	HBK101.BB...KR
150							HBK151.BB...KR
220							HBK221.BB...KR
270							HBK271.BB...KR
330							HBK331.BB...KR
390							HBK391.BB...KR
470		8.0					HBK471.BB...KR
560							HBK561.BB...KR
680		9.0					HBK681.BB...KR
820							HBK821.BB...KR
1000	± 20 ⁽²⁾	11.0	5.0	7.5	0.6	1.6	HBK102.BB...KR
1200							HBK122.BB...KR
1500		12.5					HBK152.BB...KR
1800							HBK182.BB...KR
2200		14.5					HBK222.BB...KR
2700							HBK272.BB...KR
3300		17.5					HBK332.BB...KR
3900							19.5
4700		25.5					HBK472.BB...KR



ORDERING INFORMATION

ORDERING INFORMATION							ORDERING CODE
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	MISSING DIGITS SEE ORDERING CODE BELOW
3 kV							
100	± 20 ⁽²⁾	7.0	5.0	10.0	0.6	1.6	HCK101.BC...KR
150							HCK151.BC...KR
220							HCK221.BC...KR
270		8.0					HCK271.BC...KR
330							HCK331.BC...KR
390		9.0					HCK391.BC...KR
470							HCK471.BC...KR
560		10.0					HCK561.BC...KR
680							HCK681.BC...KR
820		11.0					HCK821.BC...KR
1000		12.0					HCK102.BC...KR
1200		13.0					HCK122.BC...KR
1500		15.0					HCK152.BC...KR
1800		16.0					HCK182.BC...KR
2200		17.0					HCK222.BC...KR
2700		18.0					HCK272.BC...KR
3300		20.0					HCK332.BC...KR

Notes

⁽¹⁾ Standard lead configuration, other lead spacing and diameter available on request⁽²⁾ ± 10 % available on request

ORDERING CODE

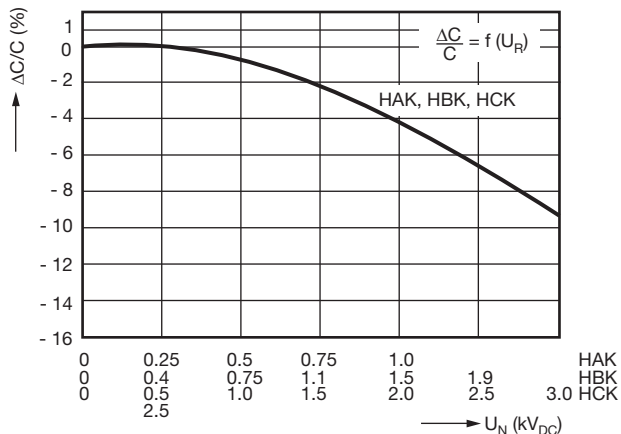
.	7 th digit	Capacitance tolerance	± 10 % = K, ± 20 % = M				
...	10 th to 12 th digit	Lead configuration	see "General Information"				
Example	HCK	02	M	BC	DF0	K	R
	Series	Capacitance value	Tolerance code	Voltage code	Lead configuration	Internal code	RoHS compliant

MARKING

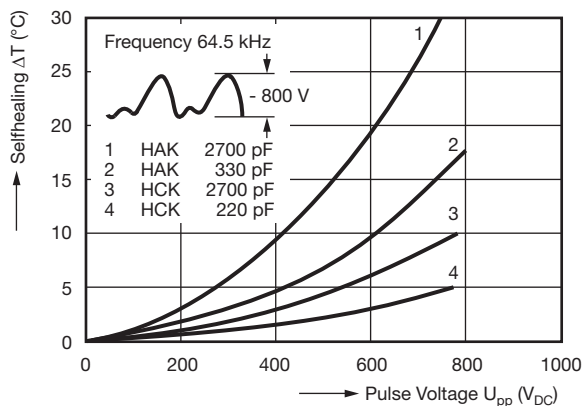
 D_{max.} ≤ 10 mm	 D_{max.} ≥ 11 mm
---	--



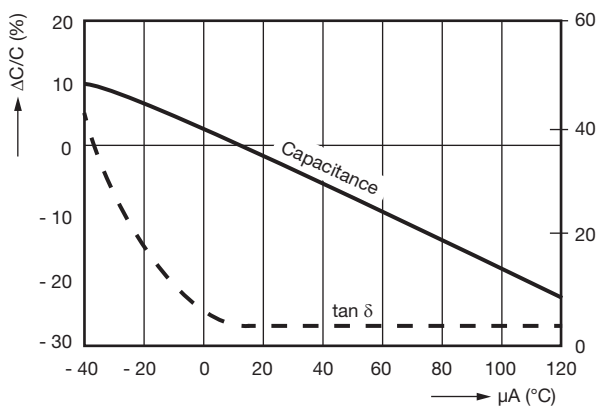
CAPACITANCE CHANGE VS. VOLTAGE



SELF HEATING



CAPACITANCE CHANGE AND DISSIPATION FACTOR VS. TEMPERATURE



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.