

Ceramic Singlelayer DC Disc Capacitors, 2 kV_{DC} General Purpose



QUICK REFERENCE DATA	
DESCRIPTION	VALUE
Ceramic Class	1 2
Ceramic Dielectric	N750, Y5T, Y5U, Y5V
Voltage (V _{DC})	2000
Min. Capacitance (pF)	10 56
Max. Capacitance (pF)	470 22 000
Mounting	Radial

MARKING

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

OPERATING TEMPERATURE RANGE

-40 °C to +85 °C

TEMPERATURE CHARACTERISTICS

Class 1 N750 (U2J)

Class 2 Y5T, Y5U, Y5V

SECTIONAL SPECIFICATIONS

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

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

- Lighting ballasts
- SMPS

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 or 0.8 mm.

The capacitors may be supplied with straight or kinked leads having a lead spacing of 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 22 nF

RATED VOLTAGE

2 kV_{DC}

DIELECTRIC STRENGTH

3000 V_{DC}, 2 s Component test

INSULATION RESISTANCE AT 500 V_{DC}

≥ 10 000 MΩ (60 s)

TOLERANCE ON CAPACITANCE

± 10 %, ± 20 %, - 20 % / + 50 %

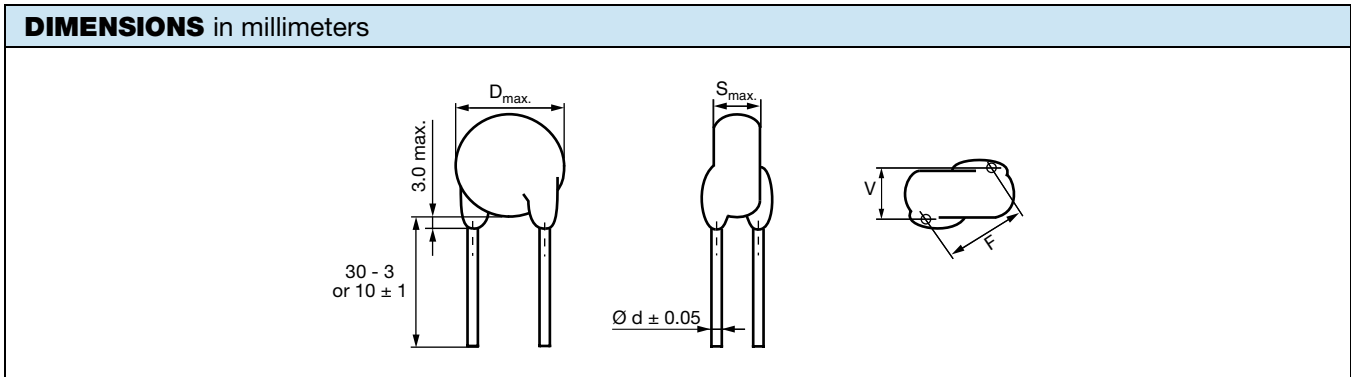
DISSIPATION FACTOR

Class 1:

$C < 30 \text{ pF: } \left(\frac{100 \text{ pF}}{C} + 0.7 \right) \times 10^{-4} \text{ max. (1 MHz)}$

$C \geq 30 \text{ pF: } \text{max. } 0.1 \% \text{ (1 MHz)}$

Class 2: max. 2.5 % (1 kHz)



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	
N750 (U2J)								
10	± 10	7.0	4.0	± 1 mm	0.6	1.2	HBU100KBB###KR	
15							HBU150KBB###KR	
22							HBU220KBB###KR	
33						1.3	HBU330KBB###KR	
47							1.4	HBU470KBB###KR
68								HBU680KBB###KR
82		HBU820KBB###KR						
100		HBU101KBB###KR						
150		HBU151KBB###KR						
220		4.2	12.0			HBU221KBB###KR		
330			15.0			HBU331KBB###KR		
470			17.0			HBU471KBB###KR		
Y5T (2D3)								
56	$\pm 10, \pm 20$		7.0	3.0	7.5	0.6	1.4	HBZ560#BB###KR
68		HBZ680#BB###KR						
82		HBZ820#BB###KR						
100		HBZ101#BB###KR						
150		HBZ151#BB###KR						
220		HBZ221#BB###KR						
330		HBZ331#BB###KR						
470		HBZ471#BB###KR						
680		9.0						HBZ681#BB###KR
1000								HBZ102#BB###KR
1500								HBZ152#BB###KR
2200								HBZ222#BB###KR
3300			HBZ332#BB###KR					
4700			17.0					HBZ472#BB###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)												
680	± 20	7.0	3.0	7.5	0.6	1.4	HBE681MBB###KR					
1000							HBE102MBB###KR					
1500							HBE152MBB###KR					
2200		9.0					HBE222MBB###KR					
3300							HBE332MBB###KR					
4700							HBE472MBB###KR					
6800							HBE682MBB###KR					
10 000		17.0					HBE103MBB###KR					
Y5V (2F3)												
1500		- 20 / + 50 ⁽²⁾					7.0	3.0	7.5	0.6	1.2	HBX152#BB###KR
2200	9.0		HBX222#BB###KR									
3300	11.0		HBX332#BB###KR									
4700			HBX472#BB###KR									
6800			HBX682#BB###KR									
10 000			15.0	HBX103#BB###KR								
15 000	17.0		HBX153#BB###KR									
22 000	20.0		HBX223#BB###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	HBX	223	S	BB	CRU	K	R
	Series	Capacitance value	Tolerance code	Voltage code	Lead configuration	Internal code	RoHS compliant

MARKING

<p>56p K 2 kV U</p> <p>HBU 10 pF to 220 pF HBZ 56 pF to 2.2 nF HBE 680 pF to 4.7 nF</p>	<p>3n3 K</p> <p>HBU 330 pF to 470 pF HBZ 3.3 nF to 4.7 nF HBE 6.8 nF to 10 nF</p>	<p>3n3 M 2 kV</p> <p>HBX 1.5 nF to 4.7 nF</p>	<p>HBX 10n S</p> <p>HBX 6.8 nF to 22 nF</p>
---	---	---	---

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.