

## Ceramic Singlelayer DC Disc Capacitors, 2 kV<sub>DC</sub> General Purpose


**RoHS**  
COMPLIANT

### 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](http://www.vishay.com/doc?99912)

### 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<sub>DC</sub>

### DIELECTRIC STRENGTH

3000 V<sub>DC</sub>, 2 s Component test

### INSULATION RESISTANCE AT 500 V<sub>DC</sub>

≥ 10 000 MΩ (60 s)

### TOLERANCE ON CAPACITANCE

± 10 %, ± 20 %, - 20 % / + 50 %

### DISSIPATION FACTOR

Class 1:

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

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

Class 2: max. 2.5 % (1 kHz)

### QUICK REFERENCE DATA

DESCRIPTION	VALUE	
Ceramic Class	1	2
Ceramic Dielectric	N750, Y5T, Y5U, Y5V	
Voltage (V <sub>DC</sub> )	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

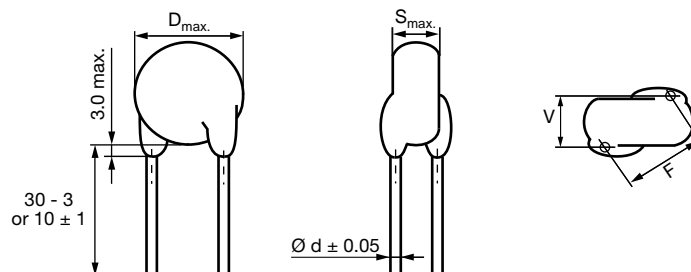
### TEMPERATURE CHARACTERISTICS

Class 1 N750 (U2J)

Class 2 Y5T, Y5U, Y5V

### SECTIONAL SPECIFICATIONS

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


**DIMENSIONS** in millimeters

**ORDERING INFORMATION**

CAPACITANCE (pF)	TOLERANCE (%)	BODY DIAMETER D <sub>max.</sub> (mm)	BODY THICKNESS S <sub>max.</sub> (mm)	LEAD SPACING <sup>(1)</sup> F (mm) ± 1 mm	LEAD DIAMETER <sup>(1)</sup> d (mm) ± 0.05 mm	WIDTH <sup>(1)</sup> V (mm) ± 0.5 mm	ORDERING CODE
							MISSING DIGITS SEE ORDERING CODE BELOW
N750 (U2J)							
10	± 10	7.0	4.0	7.5	0.6	1.2	HBU100KBB####KR
15							HBU150KBB####KR
22							HBU220KBB####KR
33						1.3	HBU330KBB####KR
47							HBU470KBB####KR
68		8.0	4.2			1.4	HBU680KBB####KR
82							HBU820KBB####KR
100		10.0					HBU101KBB####KR
150		12.0					HBU151KBB####KR
220							HBU221KBB####KR
330		15.0					HBU331KBB####KR
470		17.0					HBU471KBB####KR
Y5T (2D3)							
56	± 10, ± 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							HBZ472#BB####KR



## ORDERING INFORMATION

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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		11.0					HBE332MBB####KR
4700		13.0					HBE472MBB####KR
6800		15.0					HBE682MBB####KR
10 000		17.0					HBE103MBB####KR
Y5V (2F3)							
1500	- 20 / + 50 <sup>(2)</sup>	7.0	3.0	7.5	0.6	1.2	HBX152#BB####KR
2200		9.0					HBX222#BB####KR
3300							HBX332#BB####KR
4700		11.0					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



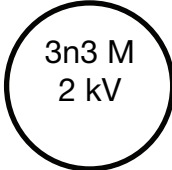

## Notes

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

## ORDERING CODE

#	7 <sup>th</sup> digit	Capacitance tolerance	± 10 % = K, ± 20 % = M, - 20 % / + 50 % = S				
###	10 <sup>th</sup> to 12 <sup>th</sup> digit	Lead configuration	see "General Information"				
<b>Example</b>	<b>HBX</b>	<b>223</b>	<b>S</b>	<b>BB</b>	<b>CRU</b>	<b>K</b>	<b>R</b>
	Series	Capacitance value	Tolerance code	Voltage code	Lead configuration	Internal code	RoHS compliant

## MARKING

 <p>HBU 10 pF to 220 pF HBZ 56 pF to 2.2 nF HBE 680 pF to 4.7 nF</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>HBX 1.5 nF to 4.7 nF</p>	 <p>HBX 6.8 nF to 22 nF</p>
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## RELATED DOCUMENTS

General Information	<a href="http://www.vishay.com/doc?22001">www.vishay.com/doc?22001</a>
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