

## Ceramic Singlelayer DC Disc Capacitors, 3 kV<sub>DC</sub> General Purpose



QUICK REFERENCE DATA		
DESCRIPTION	VALUE	
Ceramic Class	1	2
Ceramic Dielectric	N750, Y5T, Y5U	
Voltage (V <sub>DC</sub> )	3000	
Min. Capacitance (pF)	10	68
Max. Capacitance (pF)	330	10 000
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 Y5S, 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](http://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

3 kV<sub>DC</sub>

### DIELECTRIC STRENGTH

5000 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 %

### DISSIPATION FACTOR

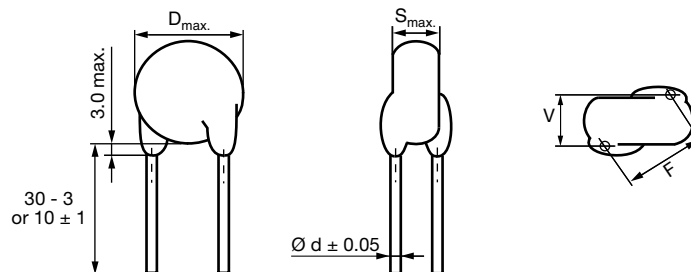
Class 1:

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

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

Class 2: max. 2.5 % (1 kHz)

## 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	10.0	0.6	1.3	HCU100KBC###KR	
15							HCU150KBC###KR	
22							HCU220KBC###KR	
33							HCU330KBC###KR	
47						8.0	1.4	HCU470KBC###KR
68								HCU680KBC###KR
82		10.0	4.4		0.8	1.6	HCU820KBC###KR	
100							HCU101KBC###KR	
150							HCU151KBC###KR	
220							HCU221KBC###KR	
330							15.0	HCU331KBC###KR
							17.0	HCU331KBC###KR
Y5T (2D3)								
68	± 10, ± 20	7.0	4.0	10.0	0.6	1.8	HCZ680#BC###KR	
82							HCZ820#BC###KR	
100							HCZ101#BC###KR	
120							HCZ121#BC###KR	
150							HCZ151#BC###KR	
180							HCZ181#BC###KR	
220							8.0	HCZ221#BC###KR
330								HCZ331#BC###KR
470		10.0			HCZ471#BC###KR			
680					HCZ681#BC###KR			
1000		11.0			0.8	2.0	HCZ102#BC###KR	
1200							HCZ122#BC###KR	
1500							HCZ152#BC###KR	
2200							HCZ222#BC###KR	
3300							21.0	HCZ332#BC###KR
4700								HCZ472#BC###KR
6800							25.0	HCZ682#BC###KR

**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
Y5U (2E3)							
470	± 20	7.0	4.0	10.0	0.6	2.0	HCE471MBC###KR
680		8.0					HCE681MBC###KR
1000		9.0					HCE102MBC###KR
1500		11.0					HCE152MBC###KR
2200							HCE222MBC###KR
3300		15.0			0.8	2.2	HCE332MBC###KR
4700		17.0					HCE472MBC###KR
6800		21.0					HCE682MBC###KR
10 000		25.0				2.5	HCE103MBC###KR

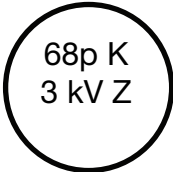
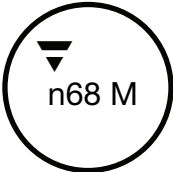
**Note**

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

**ORDERING CODE**

#	7 <sup>th</sup> digit	Capacitance tolerance	± 10 % = K, ± 20 % = M				
###	10 <sup>th</sup> to 12 <sup>th</sup> digit	Lead configuration	see "General Information"				
<b>Example</b>	<b>HCE</b>	<b>152</b>	<b>M</b>	<b>BC</b>	<b>DD0</b>	<b>K</b>	<b>R</b>
	Series	Capacitance value	Tolerance code	Voltage code	Lead configuration	Internal code	RoHS compliant

**MARKING**

 <p>68p K 3 kV Z</p> <p>HCU 10 pF to 150 pF HCZ 68 pF to 1.0 nF HCE 470 pF to 2.2 nF</p>	 <p>n68 M</p> <p>HCU 220 pF to 330 pF HCZ 1.2 nF to 6.8 nF HCE 3.3 nF to 10 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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