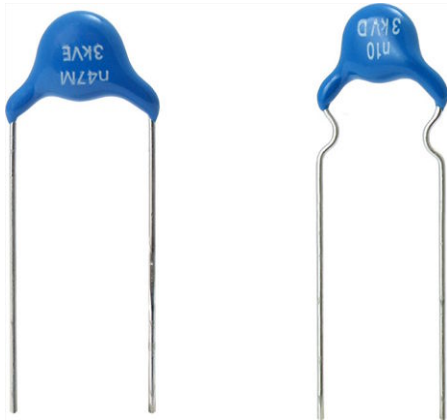


## Ceramic Singlelayer DC Disc Capacitors, 3 kV<sub>DC</sub> General Purpose



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 %

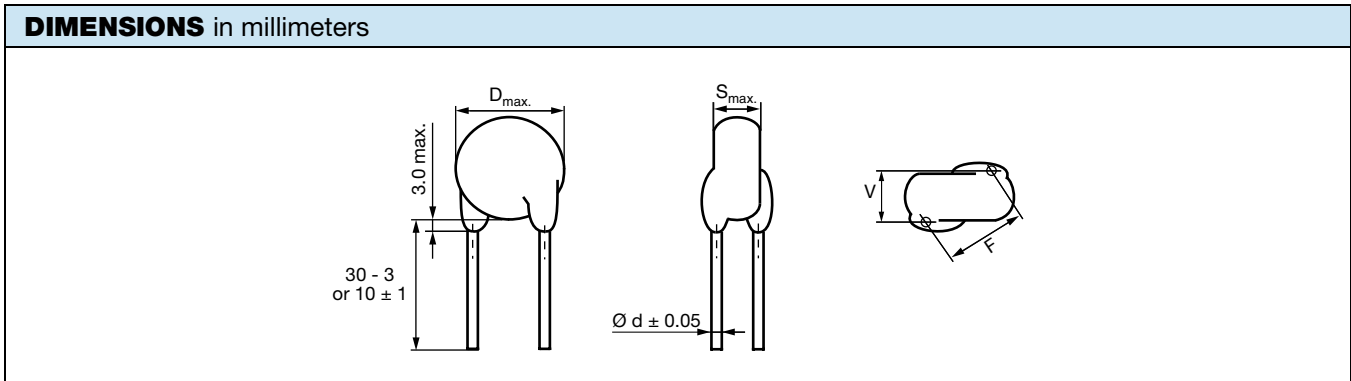
### DISSIPATION FACTOR

Class 1:

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

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

Class 2:    max. 2.5 % (1 kHz)



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			
<b>N750 (U2J)</b>										
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	4.4	1.4	HCU470KBC###KR
68							9.0			HCU680KBC###KR
82		10.0	4.4		1.6	HCU820KBC###KR				
100		11.0				HCU101KBC###KR				
150		15.0				HCU151KBC###KR				
220		17.0				HCU221KBC###KR				
330		17.0				HCU331KBC###KR				
<b>Y5T (2D3)</b>										
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	4.0		2.0	HCZ221#BC###KR				
330		10.0				HCZ331#BC###KR				
470		11.0				HCZ471#BC###KR				
680		15.0				HCZ681#BC###KR				
1000		17.0				HCZ102#BC###KR				
1200		21.0				HCZ122#BC###KR				
1500		25.0	HCZ152#BC###KR							
2200		25.0	HCZ222#BC###KR							
3300		25.0	HCZ332#BC###KR							
4700		25.0	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
<b>Y5U (2E3)</b>							
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
4700					17.0	HCE472MBC###KR	
6800		21.0			HCE682MBC###KR		
10 000		25.0			HCE103MBC###KR		

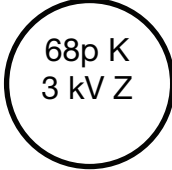
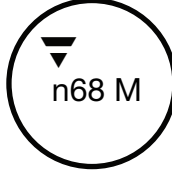
**Note**

<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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