

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


**RoHS**  
COMPLIANT

### FEATURES

- High capacitance in small sizes
- Low losses
- Wide range of different leadstyles
- 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 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.

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)

### QUICK REFERENCE DATA

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

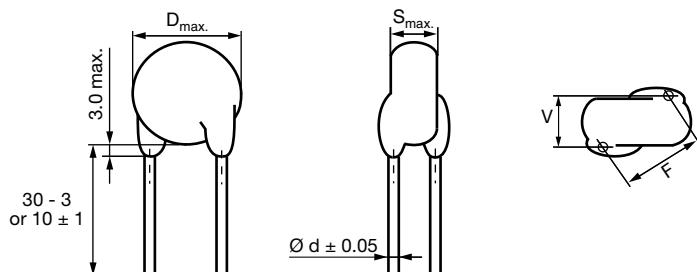
Class 1 N750 (U2J)

Class 2 Y5S, Y5U, Y5V

### SECTIONAL SPECIFICATIONS

Climatic category (according to EN 60068-1):

40/085/21

**DIMENSIONS** in millimeters

**ORDERING INFORMATION**

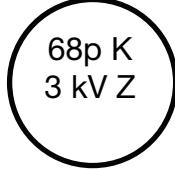
CAPACITANCE (pF)	TOLERANCE (%)	BODY DIAMETER $D_{max.}$ (mm)	BODY THICKNESS $S_{MAX.}$ (mm)	LEAD SPACING <sup>(1)</sup> $F$ (mm) ± 1 mm	LEAD DIAMETER <sup>(1)</sup> $d$ (mm) ± 0.05 mm	WIDTH <sup>(1)</sup> $V$ (mm) ± 0.5 mm	ORDERING CODE		
							MISSING DIGITS SEE ORDERING CODE BELOW		
<b>N750 (U2J)</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				1.4	HCU470KBC...KR		
68		9.0					HCU680KBC...KR		
82		10.0	4.4				HCU820KBC...KR		
100		11.0	1.6			HCU101KBC...KR			
150		15.0				HCU151KBC...KR			
220		17.0				HCU221KBC...KR			
330						HCU331KBC...KR			
<b>Y5T (2D3)</b>									
68	± 10, ± 20	7.0	4.0	10.0	0.6	1.8	HCZ680MBC...KR		
82							HCZ820MBC...KR		
100							HCZ101MBC...KR		
120							HCZ121MBC...KR		
150							HCZ151MBC...KR		
180		8.0					HCZ181MBC...KR		
220		10.0					HCZ221MBC...KR		
330		11.0					HCZ331MBC...KR		
470		15.0					HCZ471MBC...KR		
680		17.0					HCZ681MBC...KR		
1000		21.0				2.0	HCZ102MBC...KR		
1200		25.0					HCZ122MBC...KR		
1500							HCZ152MBC...KR		
2200							HCZ222MBC...KR		
3300							HCZ332MBC...KR		
4700							HCZ472MBC...KR		
6800							HCZ682MBC...KR		

<b>ORDERING INFORMATION</b>							
CAPACITANCE (pF)	TOLERANCE (%)	BODY DIAMETER $D_{max.}$ (mm)	BODY THICKNESS $S_{MAX.}$ (mm)	LEAD SPACING <sup>(1)</sup> F (mm) $\pm 1$ mm	LEAD DIAMETER <sup>(1)</sup> d (mm) $\pm 0.05$ mm	WIDTH <sup>(1)</sup> V (mm) $\pm 0.5$ mm	ORDERING CODE
							MISSING DIGITS SEE ORDERING CODE BELOW
<b>Y5U (2E3)</b>							
470	$\pm 20$	7.0	4.0	10.0	0.6	2.0	HCE471MBC...KR
680							HCE681MBC...KR
1000							HCE102MBC...KR
1500							HCE152MBC...KR
2200							HCE222MBC...KR
3300						0.8	HCE332MBC...KR
4700							HCE472MBC...KR
6800							HCE682MBC...KR
10 000						2.5	HCE103MBC...KR

**Note**

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

<b>ORDERING CODE</b>							
.	7 <sup>th</sup> digit	Capacitance tolerance		$\pm 10\% = K, \pm 20\% = M$			
...	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

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

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

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