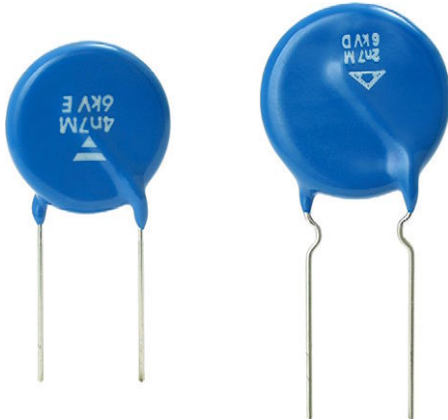


## Ceramic Singlelayer DC Disc Capacitors, 6 kV<sub>DC</sub> General Purpose



QUICK REFERENCE DATA	
DESCRIPTION	VALUE
Ceramic Class	1                      2
Ceramic Dielectric	N750, Y5T, Y5U
Voltage (V <sub>DC</sub> )	6000
Min. Capacitance (pF)	10                      56
Max. Capacitance (pF)	330                      6800
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

### 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 12.5 mm.

Coating is made of blue colored flame retardant epoxy resin in accordance with UL 94 V-0.

### CAPACITANCE RANGE

10 pF to 6.8 nF

### RATED VOLTAGE

6 kV<sub>DC</sub>

### DIELECTRIC STRENGTH

9000 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 %

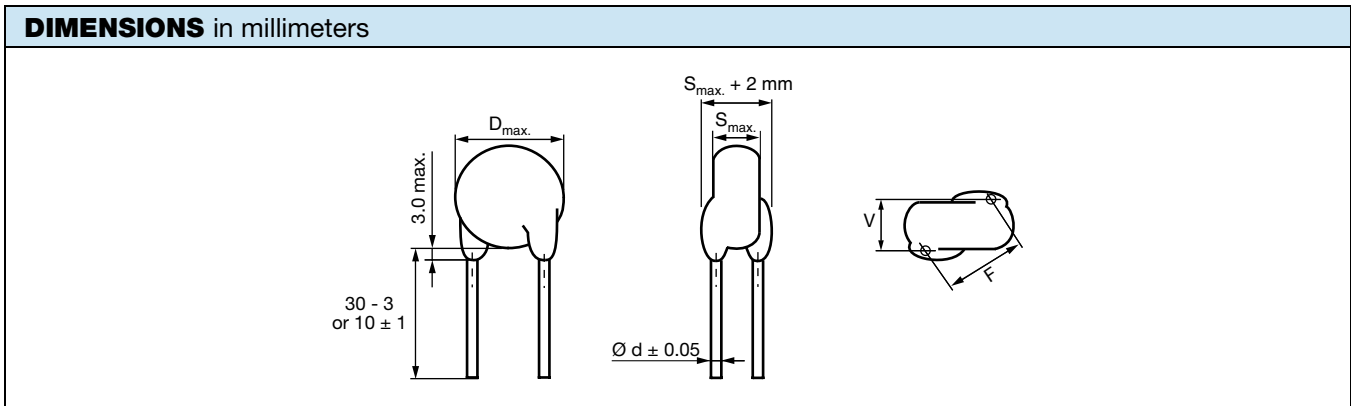
### DISSIPATION FACTOR

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	4.8	12.5	0.6	2.2	HFU100KBF###KR				
15							HFU150KBF###KR				
22							HFU220KBF###KR				
33							HFU330KBF###KR				
47							HFU470KBF###KR				
68		HFU680KBF###KR									
82		12.0	5.2		0.8	2.4	HFU820KBF###KR				
100							HFU101KBF###KR				
150							HFU151KBF###KR				
220							HFU221KBF###KR				
330							HFU331KBF###KR				
<b>Y5T (2E3)</b>											
56	± 20 <sup>(2)</sup>			7.0			5.0	12.5	0.6	3.5	HFZ560#BF###KR
68		HFZ680#BF###KR									
82		HFZ820#BF###KR									
100		HFZ101#BF###KR									
120		HFZ121#BF###KR									
150		HFZ151#BF###KR									
180		HFZ181#BF###KR									
220		HFZ221#BF###KR									
270		HFZ271#BF###KR									
330		HFZ331#BF###KR									
390		HFZ391#BF###KR									
470		HFZ471#BF###KR									
560		HFZ561#BF###KR									
680		HFZ681#BF###KR									
820		HFZ821#BF###KR									
1000		HFZ102#BF###KR									
1200		HFZ122#BF###KR									
1500		HFZ152#BF###KR									
1800		HFZ182#BF###KR									
2200		HFZ222#BF###KR									
2700		HFZ272#BF###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>										
150	± 20	7.0	5.0	12.5	0.6	3.5	HFE151MBF###KR			
220							HFE221MBF###KR			
330							HFE331MBF###KR			
470		9.0					HFE471MBF###KR			
680							HFE681MBF###KR			
1000							HFE102MBF###KR			
1500		13.0	HFE152MBF###KR							
2200		15.0	HFE222MBF###KR							
3300		21.0	5.5		HFE332MBF###KR					
4700					HFE472MBF###KR					
6800					23.0		HFE682MBF###KR			
								0.8		

**Notes**

- <sup>(1)</sup> Standard lead configuration, other lead spacing and diameter available on request
- <sup>(2)</sup> ± 10 % 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>HFE</b>	<b>682</b>	<b>M</b>	<b>BF</b>	<b>EF0</b>	<b>K</b>	<b>R</b>
	Series	Capacitance value	Tolerance code	Voltage code	Lead configuration	Internal code	RoHS compliant

MARKING	
HFU 10 pF to 100 pF HFZ 56 pF to 470 pF HFE 150 pF to 1.0 nF	HFU 150 pF to 330 pF HFZ 560 pF to 2.7 nF HFE 1.5 nF to 6.8 nF

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



## **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.