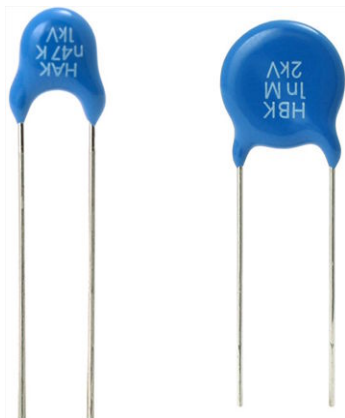


## Ceramic Singlelayer DC Disc Capacitors, Class 2, Low Loss (0.5 %), 1 kV<sub>DC</sub>, 2 kV<sub>DC</sub>, 3 kV<sub>DC</sub>



### FEATURES

- Low losses
- High stability
- Low DF minimizes self heating at HF
- Ideal for switching to 100 Hz
- Material categorization:  
For definitions of compliance please see  
[www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

### APPLICATIONS

In electronic circuits where low losses and high capacitance per volume are essential, for example:

- HF ballast
- SMPS
- Snubber and HV circuits

### 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 or 10.0 mm.

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

### CAPACITANCE RANGE

100 pF to 4700 pF

### RATED DC VOLTAGE

- 1 kV<sub>DC</sub>
- 2 kV<sub>DC</sub>
- 3 kV<sub>DC</sub>

### DIELECTRIC STRENGTH

- 2000 V<sub>AC</sub>, 50 Hz, 2 s Component test
- 3000 V<sub>AC</sub>, 50 Hz, 2 s
- 4000 V<sub>AC</sub>, 50 Hz, 2 s

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

≥ 10 000 MΩ (60 s)

### TOLERANCE ON CAPACITANCE

± 20 % (± 10 % available on request)

### DISSIPATION FACTOR

Max. 0.5 % (1 kHz)

### QUICK REFERENCE DATA

DESCRIPTION	VALUE		
Ceramic Class	2		
Ceramic Dielectric	Y5S		
Voltage (V <sub>p</sub> )	1000	2000	3000
Min. Capacitance (pF)	100	100	100
Max. Capacitance (pF)	4700	4700	3300
Mounting	Radial		

### MARKING

Marking indicates series, capacitance, tolerance code, and rated voltage.

### OPERATING TEMPERATURE RANGE

-40 °C to +125 °C

### TEMPERATURE CHARACTERISTICS

Y5S (2C3)

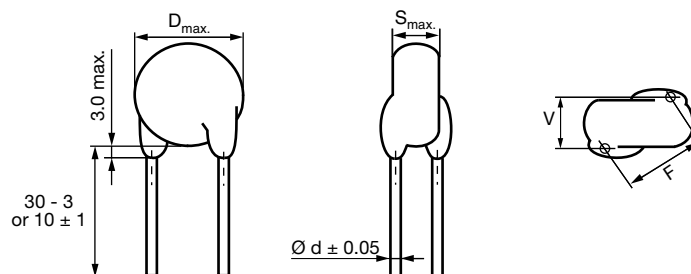
### SECTIONAL SPECIFICATIONS

Climatic category (according to EN 60068-1):

40/125/21

### APPROVALS

IEC 60384-9, EIA 198


**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
1 kV							
100	± 20 <sup>(2)</sup>	7.0	5.0	7.5	0.6	1.1	HAK101.BA...KR
150							HAK151.BA...KR
220							HAK221.BA...KR
270							HAK271.BA...KR
330							HAK331.BA...KR
390							HAK391.BA...KR
470							HAK471.BA...KR
560							HAK561.BA...KR
680		HAK681.BA...KR					
820		9.0					HAK821.BA...KR
1000							HAK102.BA...KR
1200		10.0					HAK122.BA...KR
1500		11.0					HAK152.BA...KR
1800		12.0					HAK182.BA...KR
2200							HAK222.BA...KR
2700		14.5					HAK272.BA...KR
3300							HAK332.BA...KR
3900		15.5					HAK392.BA...KR
4700		16.5					HAK472.BA...KR
2 kV							
100	± 20 <sup>(2)</sup>	7.0	5.0	7.5	0.6	1.6	HBK101.BB...KR
150							HBK151.BB...KR
220							HBK221.BB...KR
270							HBK271.BB...KR
330		8.0					HBK331.BB...KR
390							HBK391.BB...KR
470							HBK471.BB...KR
560							HBK561.BB...KR
680	9.0	HBK681.BB...KR					
820	10.0	HBK821.BB...KR					
1000	± 20 <sup>(2)</sup>	11.0	5.0	7.5	0.6	1.6	HBK102.BB...KR
1200		HBK122.BB...KR					
1500		12.5					HBK152.BB...KR
1800		14.5					HBK182.BB...KR
2200							HBK222.BB...KR
2700		16.5					HBK272.BB...KR
3300		17.5					HBK332.BB...KR
3900		19.5					HBK392.BB...KR
4700		25.5					HBK472.BB...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
3 kV							
100	± 20 <sup>(2)</sup>	7.0	5.0	10.0	0.6	1.6	HCK101.BC...KR
150							HCK151.BC...KR
220							HCK221.BC...KR
270							HCK271.BC...KR
330		8.0					HCK331.BC...KR
390							HCK391.BC...KR
470		9.0					HCK471.BC...KR
560							HCK561.BC...KR
680		10.0					HCK681.BC...KR
820							HCK821.BC...KR
1000		11.0					HCK102.BC...KR
1200							HCK122.BC...KR
1500		13.0					HCK152.BC...KR
1800							HCK182.BC...KR
2200		15.0					HCK222.BC...KR
2700							HCK272.BC...KR
3300		20.0					HCK332.BC...KR



## Notes

<sup>(1)</sup> Standard lead configuration, other lead spacing and diameter available on request<sup>(2)</sup> ± 10 % available on request

## ORDERING CODE

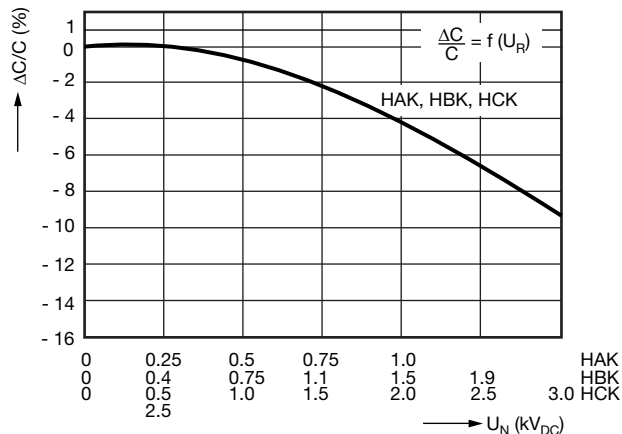
.	7 <sup>th</sup> digit	Capacitance tolerance	± 10 % = K, ± 20 % = M				
...	10 <sup>th</sup> to 12 <sup>th</sup> digit	Lead configuration	see "General Information"				
<b>Example</b>	<b>HCK</b>	<b>02</b>	<b>M</b>	<b>BC</b>	<b>DF0</b>	<b>K</b>	<b>R</b>
	Series	Capacitance value	Tolerance code	Voltage code	Lead configuration	Internal code	RoHS compliant

## MARKING

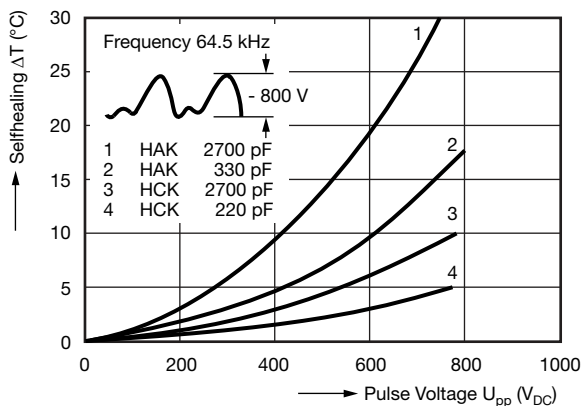
 D <sub>max.</sub> ≤ 10 mm	 D <sub>max.</sub> ≥ 11 mm
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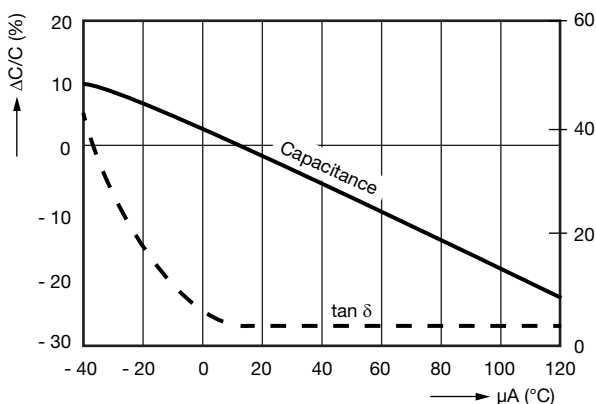
## CAPACITANCE CHANGE VS. VOLTAGE



## SELF HEATING



## CAPACITANCE CHANGE AND DISSIPATION FACTOR VS. TEMPERATURE



### RELATED DOCUMENTS

General Information

[www.vishay.com/doc?22001](http://www.vishay.com/doc?22001)



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