

## Ceramic Singlelayer DC Disc Capacitors, 1 kV<sub>DC</sub> General Purpose



QUICK REFERENCE DATA	
DESCRIPTION	VALUE
Ceramic Class	1      2
Ceramic Dielectric	N750, Y5T, Y5U, Y5V
Voltage (V <sub>DC</sub> )	1000
Min. Capacitance (pF)	10      47
Max. Capacitance (pF)	680      22 000
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      Y5T, 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 5.0 mm or 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

1 kV<sub>DC</sub>

### DIELECTRIC STRENGTH

1750 kV<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 %, -20 % +50 %

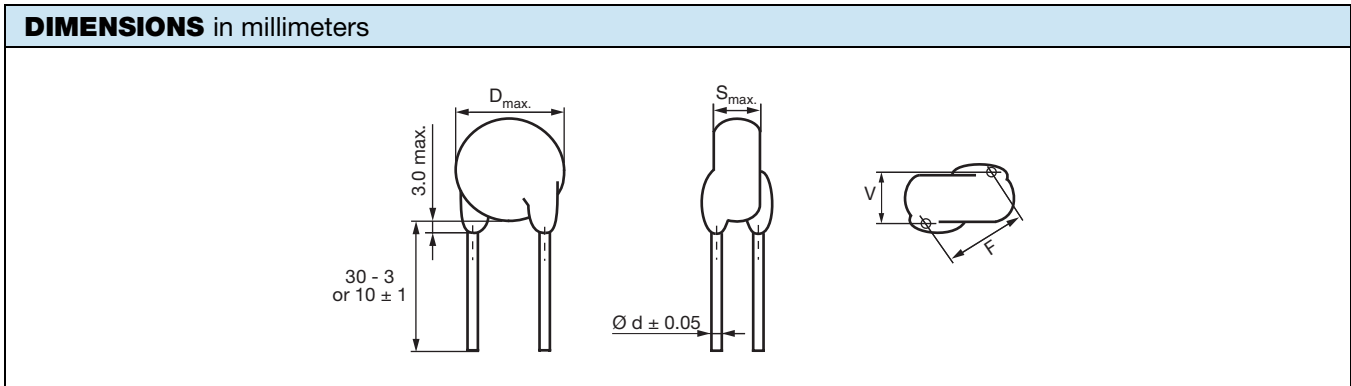
### DISSIPATION FACTOR

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 $D_{max.}$ (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>N750 (U2J)</b>								
10	$\pm 10$	7.0	3.0	7.5	0.6	1.4	HAU100KBA###KR	
15							HAU150KBA###KR	
22							HAU220KBA###KR	
33							HAU330KBA###KR	
47							HAU470KBA###KR	
68							HAU680KBA###KR	
82		8.0	3.5	7.5	0.6	1.4	HAU820KBA###KR	
100							HAU101KBA###KR	
150							HAU151KBA###KR	
220							HAU221KBA###KR	
330							HAU331KBA###KR	
470							HAU471KBA###KR	
560		HAU561KBA###KR						
680		HAU681KBA###KR						
<b>Y5T (2D3)</b>								
47		$\pm 10, \pm 20$	7.0	3.0	5.0	0.6	1.2	HAZ470#BA###KR
56	HAZ560#BA###KR							
68	HAZ680#BA###KR							
82	HAZ820#BA###KR							
100	HAZ101#BA###KR							
150	HAZ151#BA###KR							
220	HAZ221#BA###KR							
330	HAZ331#BA###KR							
470	HAZ471#BA###KR							
680	HAZ681#BA###KR							
1000	9.0		3.0	7.5	0.6	1.2	HAZ102#BA###KR	
1500							HAZ152#BA###KR	
2200							HAZ222#BA###KR	
3300							HAZ332#BA###KR	
4700							HAZ472#BA###KR	
							11.0	
	13.0							
	15.0							



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>							
1000	± 20	7.0	3.0	5.0	0.6	1.2	HAE102MBA###KR
1500		9.0					HAE152MBA###KR
2200		HAE222MBA###KR					
3300		11.0					HAE332MBA###KR
4700		13.0		HAE472MBA###KR			
6800		15.0		HAE682MBA###KR			
10 000				7.5			HAE103MBA###KR
<b>Y5V (2F3)</b>							
2200	- 20 / + 50 <sup>(2)</sup>	7.0	3.0	5.0	0.6	1.2	HAX222#BA###KR
3300		9.0					HAX332#BA###KR
4700		HAX472#BA###KR					
6800		12.0					HAX682#BA###KR
10 000		17.0		HAX103#BA###KR			
15 000		18.0		HAX153#BA###KR			
22 000				7.5			HAX223#BA###KR

**Notes**

- <sup>(1)</sup> Standard lead configuration, other lead spacing and diameter available on request
- <sup>(2)</sup> ± 20 % available on request

ORDERING CODE							
#	7 <sup>th</sup> digit	Capacitance tolerance	± 10 % = K, ± 20 % = M, - 20 % / + 50 % = S				
###	10 <sup>th</sup> to 12 <sup>th</sup> digit	Lead configuration	see "General Information"				
<b>Example</b>	<b>HAU</b>	<b>101</b>	<b>K</b>	<b>BA</b>	<b>BFG</b>	<b>K</b>	<b>R</b>
	Series	Capacitance value	Tolerance code	Voltage code	Lead configuration	Internal code	RoHS compliant

MARKING			
 33p K 1 kV U	 ▼ n56 K	 2n2 S 1 kV	 ▼ HAX 10n S
HAU 10 pF to 330 pF HAZ 47 pF to 2.2 nF HAE 1.0 nF to 4.7 nF	HAU 470 pF to 680 pF HAZ 3.3 nF to 4.7 pF HAE 6.8 nF to 10 nF	HAX 2.2 nF to 6.8 nF	HAX 10 nF to 22 nF

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



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