

## Ceramic Singlelayer DC Disc Capacitors, 500 V<sub>DC</sub> General Purpose



QUICK REFERENCE DATA	
DESCRIPTION	VALUE
Ceramic Class	2
Ceramic Dielectric	Y5T, Y5U
Voltage (V <sub>DC</sub> )	500
Min. Capacitance (pF)	10
Max. Capacitance (pF)	10 000
Mounting	Radial

### MARKING

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

### OPERATING TEMPERATURE RANGE

-40 °C to +85 °C

### TEMPERATURE CHARACTERISTICS

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

- Bypassing
- Resonant circuits
- Coupling

### 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.

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 10 nF

### RATED VOLTAGE

500 V<sub>DC</sub>

### DIELECTRIC STRENGTH

1250 V<sub>DC</sub>, 2 s Component test

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

≥ 5000 MΩ (60 s)

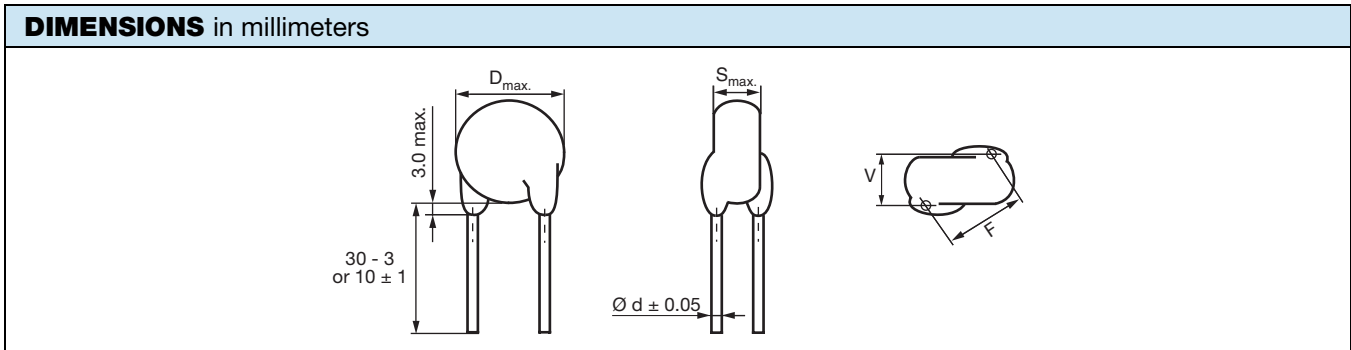
### TOLERANCE ON CAPACITANCE

± 10 %, ± 20 %, - 20 % / + 50 %

### DISSIPATION FACTOR

C < 100 pF: max. 3.0 % (1 MHz)

C ≥ 100 pF: max. 3.0 % (1 kHz)



ORDERING INFORMATION							
CAPACITANCE (pF)	TOLERANCE (%)	BODY DIAMETER $D_{max.}$ (mm)	BODY THICKNESS $S_{max.}$ (mm)	LEAD SPACING <sup>(1)</sup> F (mm) $\pm 1 \text{ mm}$	LEAD DIAMETER <sup>(1)</sup> d (mm) $\pm 0.05 \text{ mm}$	WIDTH <sup>(1)</sup> V (mm) $\pm 0.5 \text{ mm}$	ORDERING CODE MISSING DIGITS SEE ORDERING CODE BELOW
<b>Y5T (2D3)</b>							
10	$\pm 10, \pm 20$	6.0	3.0	5.0	0.6	1.6	HSZ100#AQ###KR
12							HSZ120#AQ###KR
15						1.5	HSZ150#AQ###KR
18							HSZ180#AQ###KR
22						1.1	HSZ220#AQ###KR
27							HSZ270#AQ###KR
33						1.4	HSZ330#AQ###KR
39							HSZ390#AQ###KR
47						1.2	HSZ470#AQ###KR
56							HSZ560#AQ###KR
68						1.4	HSZ680#AQ###KR
82							HSZ820#AQ###KR
100							HSZ101#AQ###KR
120						1.1	HSZ121#AQ###KR
150							HSZ151#AQ###KR
180						1.6	HSZ181#AQ###KR
220							HSZ221#AQ###KR
270						1.3	HSZ271#AQ###KR
330				HSZ331#AQ###KR			
390				1.2	HSZ391#AQ###KR		
470					HSZ471#AQ###KR		
560		HSZ561#AQ###KR					
680		1.1	HSZ681#AQ###KR				
820			HSZ821#AQ###KR				
1000		1.2	HSZ102#AQ###KR				
1200			HSZ122#AQ###KR				
1500		1.1	HSZ152#AQ###KR				
1800			HSZ182#AQ###KR				
2200		1.2	HSZ222#AQ###KR				
2700			HSZ272#AQ###KR				
3300			HSZ332#AQ###KR				
3900			HSZ392#AQ###KR				
4700		1.1	HSZ472#AQ###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 / + 50 <sup>(2)</sup>	6.0	4.0	5.0	0.6	1.1	HSE471#AQ###KR
680						1.2	HSE681#AQ###KR
1000						1.4	HSE102#AQ###KR
1500		7.0		7.5		1.2	HSE152#AQ###KR
2200						HSE222#AQ###KR	
3300						HSE332#AQ###KR	
4700		11.0	7.5	1.1	HSE472#AQ###KR		
6800					HSE682#AQ###KR		
8200					HSE822#AQ###KR		
10 000		15.0	1.4	HSE822#AQ###KR			
				1.2	HSE103#AQ###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>HSE</b>	<b>103</b>	<b>S</b>	<b>AQ</b>	<b>CRY</b>	<b>K</b>	<b>R</b>
	Series	Capacitance value	Tolerance code	Voltage code	Lead configuration	Internal code	RoHS compliant

## MARKING

HSE 470 pF to 4.7 nF	HSE 6.8 nF to 10 nF	HSZ 10 pF to 3.9 nF	HSZ 4.7 nF

## RELATED DOCUMENTS

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