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www.vishay.com

HBU, HBZ, HBE, HBX Series

Vishay Draloric

Ceramic Singlelayer DC Disc Capacitors, 2 kV_{DC} General Purpose



QUICK REFERENCE DATA	
DESCRIPTION	VALUE
Ceramic Class	1 2
Ceramic Dielectric	N750, Y5T, Y5U, Y5V
Voltage (V _{DC})	2000
Min. Capacitance (pF)	10 56
Max. Capacitance (pF)	470 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



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 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

2 kV_{DC}

DIELECTRIC STRENGTH

3000 V_{DC}, 2 s Component test

INSULATION RESISTANCE AT 500 V_{DC}

≥ 10 000 MΩ (60 s)

TOLERANCE ON CAPACITANCE

± 10 %, ± 20 %, - 20 % / + 50 %

DISSIPATION FACTOR

Class 1:

C < 30 pF: $\left(\frac{100 \text{ pF}}{C} + 0.7\right) \times 10^{-4}$ max. (1 MHz)

C ≥ 30 pF: max. 0.1 % (1 MHz)

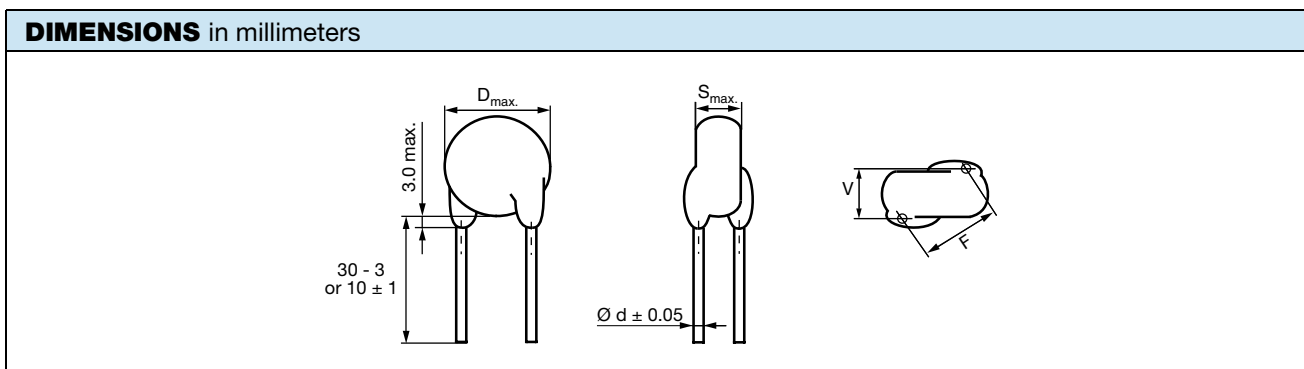
Class 2: max. 2.5 % (1 kHz)



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ORDERING INFORMATION

CAPACITANCE (pF)	TOLERANCE (%)	BODY DIAMETER D _{max.} (mm)	BODY THICKNESS S _{max.} (mm)	LEAD SPACING ⁽¹⁾ F (mm) ± 1 mm	LEAD DIAMETER ⁽¹⁾ d (mm) ± 0.05 mm	WIDTH ⁽¹⁾ V (mm) ± 0.5 mm	ORDERING CODE				
							MISSING DIGITS SEE ORDERING CODE BELOW				
N750 (U2J)											
10	± 10	7.0	4.0	7.5	0.6	1.2	HBU100KBB###KR				
15							HBU150KBB###KR				
22							HBU220KBB###KR				
33						1.3	HBU330KBB###KR				
47							HBU470KBB###KR				
68							HBU680KBB###KR				
82		8.0	4.2	7.5	0.6	1.4	HBU820KBB###KR				
100							HBU101KBB###KR				
150							HBU151KBB###KR				
220							HBU221KBB###KR				
330							HBU331KBB###KR				
470		HBU471KBB###KR									
Y5T (2D3)											
56		± 10, ± 20	7.0	3.0	7.5		0.6	1.4	HBZ560#BB###KR		
68	HBZ680#BB###KR										
82	HBZ820#BB###KR										
100	HBZ101#BB###KR										
150	HBZ151#BB###KR										
220	HBZ221#BB###KR										
330	HBZ331#BB###KR										
470	HBZ471#BB###KR										
680	9.0					3.0			7.5	0.6	HBZ681#BB###KR
1000											HBZ102#BB###KR
1500											HBZ152#BB###KR
2200											HBZ222#BB###KR
3300			HBZ332#BB###KR								
4700			HBZ472#BB###KR								



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CAPACITANCE (pF)	TOLERANCE (%)	BODY DIAMETER D _{max.} (mm)	BODY THICKNESS S _{max.} (mm)	LEAD SPACING ⁽¹⁾ F (mm) ± 1 mm	LEAD DIAMETER ⁽¹⁾ d (mm) ± 0.05 mm	WIDTH ⁽¹⁾ V (mm) ± 0.5 mm	ORDERING CODE MISSING DIGITS SEE ORDERING CODE BELOW
Y5U (2E3)							
680	± 20	7.0	3.0	7.5	0.6	1.4	HBE681MBB###KR
1000		HBE102MBB###KR					
1500		HBE152MBB###KR					
2200		HBE222MBB###KR					
3300		HBE332MBB###KR					
4700		HBE472MBB###KR					
6800		HBE682MBB###KR					
10 000		HBE103MBB###KR					
Y5V (2F3)							
1500	- 20 / + 50 ⁽²⁾	7.0	3.0	7.5	0.6	1.2	HBX152#BB###KR
2200		HBX222#BB###KR					
3300		HBX332#BB###KR					
4700		HBX472#BB###KR					
6800		HBX682#BB###KR					
10 000		HBX103#BB###KR					
15 000		HBX153#BB###KR					
22 000		HBX223#BB###KR					

Notes

⁽¹⁾ Standard lead configuration, other lead spacing and diameter available on request

⁽²⁾ ± 20 % available on request

ORDERING CODE							
#	7 th digit	Capacitance tolerance		± 10 % = K, ± 20 % = M, - 20 % / + 50 % = S			
###	10 th to 12 th digit	Lead configuration		see "General Information"			
Example	HBX	223	S	BB	CRU	K	R
	Series	Capacitance value	Tolerance code	Voltage code	Lead configuration	Internal code	RoHS compliant

MARKING			
 56p K 2 kV U HBU 10 pF to 220 pF HBZ 56 pF to 2.2 nF HBE 680 pF to 4.7 nF	 3n3 K HBU 330 pF to 470 pF HBZ 3.3 nF to 4.7 nF HBE 6.8 nF to 10 nF	 3n3 M 2 kV HBX 1.5 nF to 4.7 nF	 HBX 10n S HBX 6.8 nF to 22 nF

RELATED DOCUMENTS	
General Information	www.vishay.com/doc?22001



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