

Ceramic Singlelayer DC Disc Capacitors, 1 kV_{DC} General Purpose



| QUICK REFERENCE DATA | |
|----------------------------|---------------------|
| DESCRIPTION | VALUE |
| Ceramic Class | 1 2 |
| Ceramic Dielectric | N750, Y5T, Y5U, Y5V |
| Voltage (V _{DC}) | 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



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

1000 V_{DC}

DIELECTRIC STRENGTH

1750 V_{DC}, 2 s Component test

INSULATION RESISTANCE AT 500 V_{DC}

≥ 10 000 MΩ (60 s)

TOLERANCE ON CAPACITANCE

± 10 %, ± 20 %, -20 % +50 %

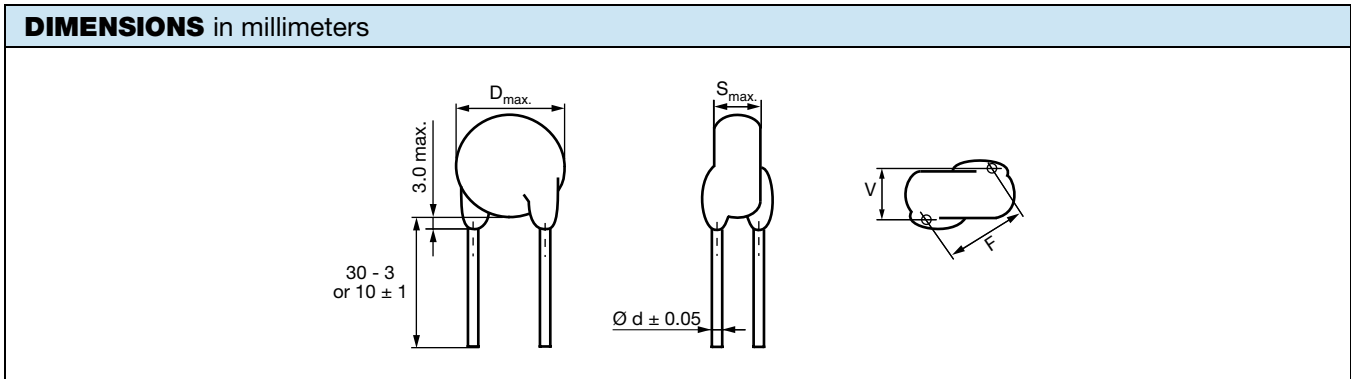
DISSIPATION FACTOR

Class 1:

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

$C \geq 30 \text{ pF: } \text{max. 0.1 \% (1 MHz)}$

Class 2: max. 2.5 % (1 kHz)



| ORDERING INFORMATION | | | | | | | | |
|----------------------|----------------|------------------------------|-------------------------------|-----------------------------------------------|---------------------------------------------------|------------------------------------------|---------------------------------------------------------------|----------------|
| CAPACITANCE (pF) | TOLERANCE (%) | BODY DIAMETER D_{max} (mm) | BODY THICKNESS S_{max} (mm) | LEAD SPACING ⁽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 | 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 | | 18.0 | 3.5 | 7.5 | 0.6 | 1.4 | HAU561KBA###KR | |
| 680 | | | | | | | HAU681KBA###KR | |
| Y5T (2D3) | | | | | | | | |
| 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 | |
| | | | | | | | 15.0 | |



| 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 |
| Y5U (2E3) | | | | | | | |
| 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 | | | |
| Y5V (2F3) | | | | | | | |
| 2200 | - 20 / + 50 ⁽²⁾ | 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

- ⁽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 | HAU | 101 | K | BA | BFG | K | R |
| | 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 | www.vishay.com/doc?22001 |



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