

## High Voltage Disc Capacitors, 20 kV<sub>DC</sub> Screw Mounting, Class 2 Ceramic



| QUICK REFERENCE DATA      |                |
|---------------------------|----------------|
| DESCRIPTION               | VALUE          |
| Type                      | HPC      HPD   |
| Ceramic Class             | 2              |
| Ceramic Dielectric        | R2000H         |
| Voltage (V <sub>p</sub> ) | 20 000         |
| Min. Capacitance (pF)     | 350            |
| Max. Capacitance (pF)     | 5000           |
| Mounting                  | Screw mounting |

### MATERIAL

Capacitor elements made from class 2 ceramic dielectric with noble metal electrodes.

Connection terminals: thread terminal, brass, silver plated

Allowable torque: 5.0 Nm (44 lbf · in)

### FINISH

The capacitor body of the HPD type is completely protective lacquered. The HPC type feature a coating made from silicone elastomer to minimize the adverse effect of moisture, dust and other impurities in the working environment.

### MARKING

Capacitance value and tolerance, manufacturer logo.

### FEATURES

- High reliability
- Wide range of capacitance values

### APPLICATIONS

HPC and HPD high voltage capacitors made from class 2-ceramic dielectric can be used as coupling and bypass capacitors where low power ratings are required and larger capacitance changes with temperature can be tolerated.

### CAPACITANCE RANGE

350 pF to 5.0 nF

### CAPACITANCE TOLERANCE

± 20 %

### CERAMIC DIELECTRIC

R2000H (Z5U)

### RATED VOLTAGE

20 kV<sub>DC</sub> or 15 kV<sub>RMS</sub> (up to 120 Hz)

### DIELECTRIC STRENGTH TEST

25 kV<sub>RMS</sub>, 50 Hz, 5 minutes

### DISSIPATION FACTOR

Max. 0.5 % (1 MHz)

### INSULATION RESISTANCE

Min. 50 000 MΩ (at 25 °C)

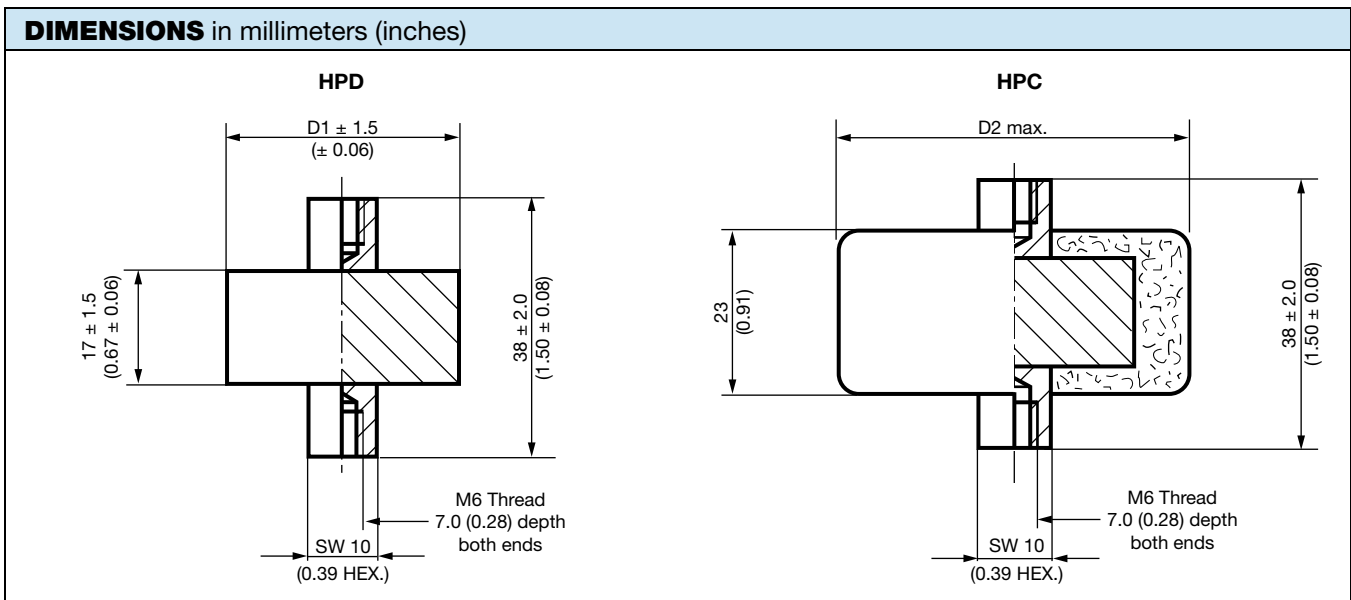
### OPERATING TEMPERATURE RANGE

-25 °C to +85 °C

| SAP PART NUMBER, ELECTRICAL AND DIMENSIONAL DATA |              |                         |  |  |   |                          |                               |
|--|--------------|-------------------------|--|--|---|--------------------------|-------------------------------|
| PART NUMBER                                      | CERAMIC      | CAPACITANCE VALUES (pF) | RATED VOLTAGE <sup>(1)</sup> (kV <sub>DC</sub> ) | RATED VOLTAGE <sup>(1)</sup> (kV <sub>AC</sub> ) | RATED RF-CURRENT <sup>(2)</sup> (A <sub>RMS</sub> ) | D <sub>1</sub> mm (inch) | D <sub>2</sub> max. mm (inch) |
| <b>TYPE HPC</b>                                  |              |                         |  |  |   |                          |                               |
| HPC050WP35138AX1                                 | R2000H (Z5U) | 350                     | 20   | (15 kV <sub>RMS</sub> up to 120 Hz)              | 6.0 max.  |                          | 50 (1.97)                     |
| HPC050WP50138AX1                                 |              | 500                     |  |  |   |                          |                               |
| HPC050WP75138AX1                                 |              | 750                     |  |  |   |                          |                               |
| HPC050WP10238AX1                                 |              | 1000                    |  |  |   |                          |                               |
| HPC060WP15238AX1                                 |              | 1500                    |  |  |   |                          | 60 (2.36)                     |
| HPC060WP20238AX1                                 |              | 2000                    |  |  |   |                          |                               |
| HPC070WP30238AX1                                 |              | 3000                    |  |  |   |                          |                               |
| HPC090WP50238AX1                                 |              | 5000                    |  |  |   |                          |                               |
| <b>TYPE HPD</b>                                  |              |                         |  |  |   |                          |                               |
| HPD021WP35138AX1                                 | R2000H (Z5U) | 350                     | 20   | (15 kV <sub>RMS</sub> up to 120 Hz)              | 6.0 max.  | 21 (0.83)                |                               |
| HPD025WP50138AX1                                 |              | 500                     |  |  |   | 25 (0.98)                |                               |
| HPD030WP75138AX1                                 |              | 750                     |  |  |   | 30 (1.18)                |                               |
| HPD035WP10238AX1                                 |              | 1000                    |  |  |   | 35 (1.38)                |                               |
| HPD043WP15238AX1                                 |              | 1500                    |  |  |   | 43 (1.69)                |                               |
| HPD050WP20238AX1                                 |              | 2000                    |  |  |   | 50 (1.97)                |                               |
| HPD059WP30238AX1                                 |              | 3000                    |  |  |   | 59 (2.32)                |                               |
| HPD075WP50238AX1                                 |              | 5000                    |  |  |   | 75 (2.95)                |                               |

**Notes**

- (1) The type HPD must be operated in a high insulation environment, e.g. oil or inert gas. When operate this type in free air the rated voltage must be reduced to 7.0 kV<sub>DC</sub>.
- (2) To an max. ambient temperature +60 °C



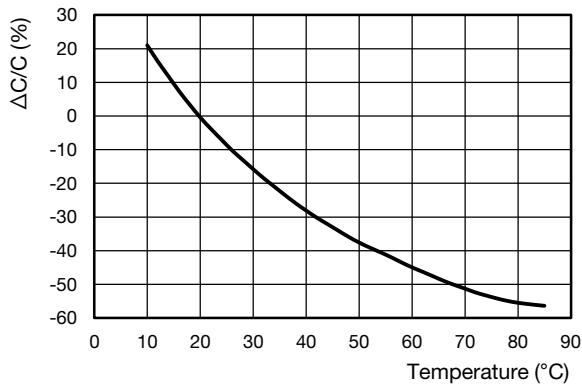


**MOUNTING GUIDELINES**

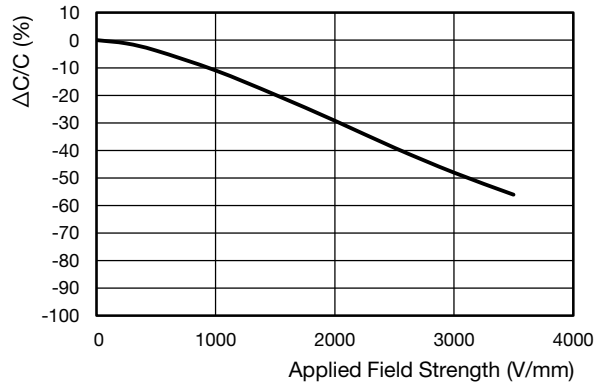
- Avoid installation in which too much torque is applied to the capacitor elements. Screw torque limit must be 5.0 Nm (44 lbf · in.)
- Do not use screws whose thread is longer than specified in the datasheet
- The capacitor elements must not be used as a mechanical support for other devices or components

**CERAMIC CHARACTERISTICS (TYPICAL)**

**CAPACITANCE CHANGE VS. TEMPERATURE**



**DC VOLTAGE DEPENDENCE OF CAPACITANCE**



**RELATED DOCUMENTS**

General Information

[www.vishay.com/doc?22071](http://www.vishay.com/doc?22071)



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