

## RF Power Plate Capacitors with Contoured Rim, Class 1 Ceramic



### FEATURES

- Low losses
- High reliability
- Wide range of capacitance values

### APPLICATIONS

- Induction and dielectric heating
- Antenna coupling
- Filter, bypass and coupling circuits

### DESIGN SUPPORT TOOLS

[click logo to get started](#)

**3D**  
Models  
Available

| QUICK REFERENCE DATA  |                                |        |        |        |                        |        |        |        |                            |        |        |        |                                |        |        |        |        |
|-----------------------|--------------------------------|--------|--------|--------|------------------------|--------|--------|--------|----------------------------|--------|--------|--------|--------------------------------|--------|--------|--------|--------|
| DESCRIPTION           | VALUE                          |        |        |        |                        |        |        |        |                            |        |        |        |                                |        |        |        |        |
| Ceramic class         | 1                              |        |        |        |                        |        |        |        |                            |        |        |        |                                |        |        |        |        |
| Ceramic dielectric    | R7, R16, R42, R85              |        |        |        | R7, R16, R42, R85      |        |        |        | R7, R16, R42, R85, R230    |        |        |        | R7, R16, R42, R85              |        |        |        |        |
| Type                  | PA 70, PD 70                   |        |        |        | PA 100, PD 100, PE 100 |        |        |        | PA140, PC140, PD140, PE140 |        |        |        | PA 200, PC 200, PD 200, PE 200 |        |        |        |        |
| Voltage ( $V_p$ )     | 11 000                         | 12 000 | 13 000 | 14 000 | 11 000                 | 13 000 | 14 000 | 15 000 | 12 000                     | 13 000 | 14 000 | 15 000 | 16 000                         | 12 000 | 13 000 | 14 000 | 15 000 |
| Min. capacitance (pF) | 800                            | 80     | 120    | 25     | 1600                   | 160    | 250    | 50     | 3000                       | 600    | 300    | 100    | 3000                           | 400    | 4000   | 300    | 160    |
| Max. capacitance (pF) | 800                            | 600    | 500    | 300    | 1600                   | 1200   | 800    | 200    | 3000                       | 2500   | 1600   | 400    | 3000                           | 6000   | 5000   | 3000   | 800    |
| Mounting              | Screw terminal / band terminal |        |        |        |                        |        |        |        |                            |        |        |        |                                |        |        |        |        |

### MATERIAL

Capacitor elements made from class 1 ceramic dielectric with noble metal electrodes.

Flexible connection terminals made from copper / brass, silver plated, to allow for series and parallel interconnection.

### FINISH

Noble metal electrodes and terminals are protective lacquered. The contoured insulating rim is glazed.

### MARKING

Type designator, capacitance value and tolerance, rated peak voltage, ceramic material code, production date code, manufacturer logo.

### ACCESSORIES ADDED

Two screws and washers (PD, PE)

### CAPACITANCE RANGE

25 pF to 6.0 nF

### CAPACITANCE TOLERANCE

< 10 pF:  $\pm 2$  pF;  $\pm 1$  pF;  $\pm 0.5$  pF

$\geq 10$  pF:  $\pm 20$  %;  $\pm 10$  %;  $\pm 5$  %

### CERAMIC DIELECTRIC

- R7 (TCC: +100 ppm/K)
- R16 (TCC: +100 ppm/K)
- R42 (TCC: -250 ppm/K)
- R85 (TCC: -750 ppm/K)
- R230 (TCC: -750 ppm/K)

### RATED VOLTAGE

- 11 kV<sub>p</sub>
- 12 kV<sub>p</sub>
- 13 kV<sub>p</sub>
- 14 kV<sub>p</sub>
- 15 kV<sub>p</sub>
- 16 kV<sub>p</sub>

### DIELECTRIC STRENGTH TEST

200 % of rated voltage, 50 Hz

### DISSIPATION FACTOR

R7: max. 0.07 %

R16: max. 0.04 %

R42, R85, R230: max. 0.05 %

Measuring frequencies:

1 MHz (< 1 nF); 300 kHz or 100 kHz ( $\geq 1$  nF)

### INSULATION RESISTANCE

Min. 10 000 M $\Omega$  (at 25 °C)

### OPERATING TEMPERATURE RANGE

-55 °C to +100 °C



| SAP PART NUMBER AND ELECTRICAL DATA |         |                  |                     |                                   |                                   |    |
|-------------------------------------|---------|------------------|---------------------|-----------------------------------|-----------------------------------|----|
| PART NUMBER                         | CERAMIC | CAP. VALUES (pF) | RATED VOLTAGE (kVp) | RATED POWER <sup>(1)</sup> (kvar) | RATED CURRENT (A <sub>RMS</sub> ) |    |
|                                     |         |                  |                     |                                   | PD                                | PA |
| <b>TYPE P. 70</b>                   |         |                  |                     |                                   |                                   |    |
| P#0070WJ250##BF1                    | R7      | 25               | 14                  | 15                                | 16                                | 10 |
| P#0070WJ300##BF1                    |         | 30               |                     |                                   |                                   |    |
| P#0070WJ400##BG1                    | R16     | 40               | 14                  | 20                                |                                   |    |
| P#0070WJ500##BG1                    |         | 50               |                     |                                   |                                   |    |
| P#0070WJ600##BG1                    |         | 60               |                     |                                   |                                   |    |
| P#0070WF800##BG1                    |         | 80               |                     |                                   |                                   |    |
| P#0070WJ101##BH1                    | R42     | 100              | 14                  | 20                                |                                   |    |
| P#0070WH121##BH1                    |         | 120              | 13                  |                                   |                                   |    |
| P#0070WH161##BH1                    |         | 160              |                     |                                   |                                   |    |
| P#0070WJ201##BJ1                    | R85     | 200              | 14                  | 20                                |                                   |    |
| P#0070WJ251##BJ1                    |         | 250              |                     |                                   |                                   |    |
| P#0070WJ301##BJ1                    |         | 300              |                     |                                   |                                   |    |
| P#0070WH401##BJ1                    |         | 400              |                     |                                   |                                   |    |
| P#0070WH501##BJ1                    |         | 500              | 13                  |                                   |                                   |    |
| P#0070WF601##BJ1                    |         | 600              |                     |                                   |                                   |    |
| P#0070WF601##BJ1                    |         | 600              |                     |                                   |                                   |    |
| P#0070WE801##BJ1                    |         | 800              |                     |                                   | 11                                |    |

**Note**

- RoHS-compliant parts on request

| SAP PART NUMBER AND ELECTRICAL DATA |         |                  |                     |                                   |                                   |    |    |
|-------------------------------------|---------|------------------|---------------------|-----------------------------------|-----------------------------------|----|----|
| PART NUMBER                         | CERAMIC | CAP. VALUES (pF) | RATED VOLTAGE (kVp) | RATED POWER <sup>(1)</sup> (kvar) | RATED CURRENT (A <sub>RMS</sub> ) |    |    |
|                                     |         |                  |                     |                                   | PE                                | PD | PA |
| <b>TYPE P. 100</b>                  |         |                  |                     |                                   |                                   |    |    |
| P#0100BJ500##BF1                    | R7      | 50               | 15                  | 30                                | 35                                | 25 | 15 |
| P#0100BJ600##BF1                    |         | 60               |                     |                                   |                                   |    |    |
| P#0100BJ800##BG1                    | R16     | 80               | 15                  | 40                                |                                   |    |    |
| P#0100BJ101##BG1                    |         | 100              |                     |                                   |                                   |    |    |
| P#0100BJ121##BG1                    |         | 120              |                     |                                   |                                   |    |    |
| P#0100WH161##BG1                    |         | 160              |                     |                                   |                                   |    |    |
| P#0100BJ201##BH1                    | R42     | 200              | 15                  | 40                                |                                   |    |    |
| P#0100WJ251##BH1                    |         | 250              | 14                  |                                   |                                   |    |    |
| P#0100WH301##BH1                    |         | 300              | 13                  |                                   |                                   |    |    |
| P#0100WJ401##BJ1                    | R85     | 400              | 14                  | 40                                |                                   |    |    |
| P#0100WJ501##BJ1                    |         | 500              |                     |                                   |                                   |    |    |
| P#0100WJ601##BJ1                    |         | 600              |                     |                                   |                                   |    |    |
| P#0100WJ801##BJ1                    |         | 800              |                     |                                   |                                   |    |    |
| P#0100WH102##BJ1                    |         | 1000             | 13                  |                                   |                                   |    |    |
| P#0100WH122##BJ1                    |         | 1200             |                     |                                   |                                   |    |    |
| P#0100WE162##BJ1                    |         | 1600             |                     |                                   |                                   |    |    |

**Notes**

- # 2<sup>nd</sup> digit: code letter of terminal version A, C, D, E
  - ## 14<sup>th</sup> to 15<sup>th</sup> digit: capacitance tolerance code  $\pm 20\%$  = 38;  $\pm 10\%$  = 36;  $\pm 5\%$  = 33
  - RoHS-compliant parts on request
- <sup>(1)</sup> The surface temperature during operation must not exceed +100 °C



| SAP PART NUMBER AND ELECTRICAL DATA |         |                  |                                  |                                   |                                   |     |        |
|-------------------------------------|---------|------------------|----------------------------------|-----------------------------------|-----------------------------------|-----|--------|
| PART NUMBER                         | CERAMIC | CAP. VALUES (pF) | RATED VOLTAGE (kV <sub>p</sub> ) | RATED POWER <sup>(1)</sup> (kvar) | RATED CURRENT (A <sub>RMS</sub> ) |     |        |
|                                     |         |                  |                                  |                                   | PE                                | PD  | PA, PC |
| <b>TYPE P. 140</b>                  |         |                  |                                  |                                   |                                   |     |        |
| P#0140BJ101##BF1                    | R7      | 100              | 15                               | 67.5                              | 45                                | 30  | 20     |
| P#0140BJ121##BF1                    |         | 120              |                                  |                                   |                                   |     |        |
| P#0140BJ161##BG1                    | R16     | 160              | 15                               | 90                                |                                   |     |        |
| P#0140BJ201##BG1                    |         | 200              |                                  |                                   |                                   |     |        |
| P#0140BJ251##BG1                    |         | 250              |                                  |                                   |                                   |     |        |
| P#0140WJ301##BG1                    | R42     | 300              | 14                               | 90                                |                                   |     |        |
| P#0140BJ401##BH1                    |         | 400              | 15                               |                                   |                                   |     |        |
| P#0140WJ501##BH1                    |         | 500              | 14                               |                                   |                                   |     |        |
| P#0140WH601##BH1                    |         | 600              | 13                               |                                   |                                   |     |        |
| P#0140WH801##BH1                    | 800     |                  |                                  |                                   |                                   |     |        |
| P#0140WJ102##BJ1                    | R85     | 1000             | 14                               | 90                                |                                   |     |        |
| P#0140WJ122##BJ1                    |         | 1200             |                                  |                                   |                                   |     |        |
| P#0140WJ162##BJ1                    |         | 1600             |                                  |                                   |                                   |     |        |
| P#0140WH202##BJ1                    |         | 2000             | 13                               |                                   |                                   |     |        |
| P#0140WH252##BJ1                    |         | 2500             |                                  |                                   |                                   |     |        |
| P#0140WF302##BJ1                    |         | 3000             |                                  |                                   | 12                                |     |        |
| P#0140WL302##BK1                    | R230    | 3000             | 16                               | 90                                | 45                                | (2) | (2)    |

**Note**

- RoHS-compliant parts on request

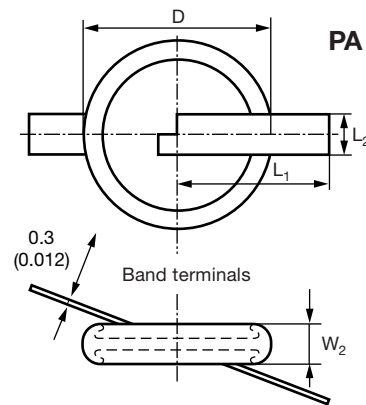
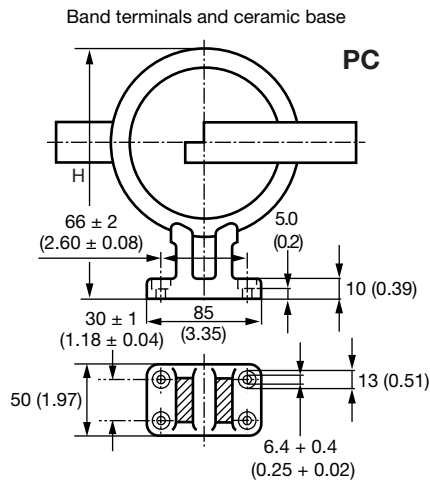
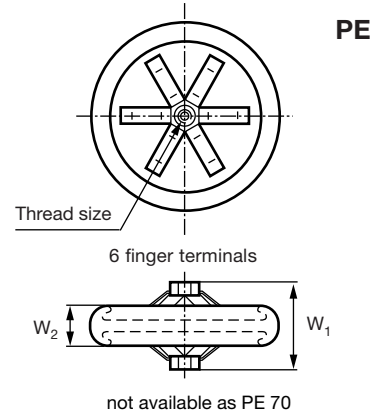
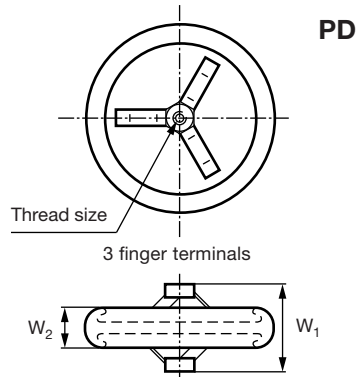
| SAP PART NUMBER AND ELECTRICAL DATA |         |                  |                                  |                                   |                                   |    |        |    |
|-------------------------------------|---------|------------------|----------------------------------|-----------------------------------|-----------------------------------|----|--------|----|
| PART NUMBER                         | CERAMIC | CAP. VALUES (pF) | RATED VOLTAGE (kV <sub>p</sub> ) | RATED POWER <sup>(1)</sup> (kvar) | RATED CURRENT (A <sub>RMS</sub> ) |    |        |    |
|                                     |         |                  |                                  |                                   | PE                                | PD | PA, PC |    |
| <b>TYPE P. 200</b>                  |         |                  |                                  |                                   |                                   |    |        |    |
| P#0200BJ161##BF1                    | R7      | 160              | 15                               | 112                               | 60                                | 40 | 25     |    |
| P#0200BJ201##BF1                    |         | 200              |                                  |                                   |                                   |    |        |    |
| P#0200BJ251##BF1                    |         | 250              |                                  |                                   |                                   |    |        |    |
| P#0200WJ301##BF1                    |         | 300              |                                  |                                   |                                   |    |        | 14 |
| P#0200WF401##BF1                    |         | 400              |                                  |                                   |                                   |    |        | 12 |
| P#0200BJ501##BG1                    | R16     | 500              | 15                               | 150                               |                                   |    |        |    |
| P#0200BJ601##BG1                    |         | 600              |                                  |                                   |                                   |    |        |    |
| P#0200BJ801##BH1                    | R42     | 800              | 15                               | 150                               |                                   |    |        |    |
| P#0200WJ102##BH1                    |         | 1000             | 14                               |                                   |                                   |    |        |    |
| P#0200WJ122##BH1                    |         | 1200             |                                  |                                   |                                   |    |        |    |
| P#0200WJ162##BH1                    |         | 1600             |                                  |                                   |                                   |    |        |    |
| P#0200WJ202##BJ1                    | R85     | 2000             | 14                               | 150                               |                                   |    |        |    |
| P#0200WJ252##BJ1                    |         | 2500             |                                  |                                   |                                   |    |        |    |
| P#0200WJ302##BJ1                    |         | 3000             |                                  |                                   |                                   |    |        |    |
| P#0200WH402##BJ1                    |         | 4000             | 13                               |                                   |                                   |    |        |    |
| P#0200WH502##BJ1                    |         | 5000             |                                  |                                   |                                   |    |        |    |
| P#0200WF602##BJ1                    |         | 6000             |                                  |                                   | 12                                |    |        |    |

**Notes**

- # 2<sup>nd</sup> digit: code letter of terminal version A, C, D, E
- ## 14<sup>th</sup> to 15<sup>th</sup> digit: capacitance tolerance code ± 20 % = 38; ± 10 % = 36; ± 5 % = 33
- RoHS-compliant parts on request

(1) The surface temperature during operation must not exceed +100 °C

(2) Only PE type available

**DIMENSIONS** in millimeters (inches)


| TYPE                           | PA 70<br>PD 70<br>(2)      | PA 100<br>PD 100<br>PE 100<br>(3) | PA 140<br>PC 140<br>PD 140<br>PE 140 | PA 200<br>PC 200<br>PD 200<br>PE 200 |
|--------------------------------|----------------------------|-----------------------------------|--------------------------------------|--------------------------------------|
| Diameter D                     | $70 \pm 2$ (2.76 ± 0.08)   | $100 \pm 2$ (3.94 ± 0.08)         | $140 \pm 3$ (5.51 ± 0.12)            | $200 \pm 4$ (7.87 ± 0.16)            |
| Thread size                    | M6                         | M8                                | M8                                   | M10                                  |
| Width $W_1$                    | $35 \pm 1$ (1.38 ± 0.04)   | $40 \pm 1$ (1.58 ± 0.04)          | $40 \pm 1$ (1.58 ± 0.04)             | $45 \pm 1$ (1.77 ± 0.04)             |
| Width $W_{2 \text{ max.}}$ (1) | 31 (1.22)                  | 31 (1.22)                         | 31 (1.22)                            | 32 (1.26)                            |
| Height H                       | -                          | -                                 | $186 \pm 5$ (7.32 ± 0.20)            | $246 \pm 5$ (9.69 ± 0.20)            |
| Length $L_1$                   | $100 \pm 5$ (3.94 ± 0.20)  | $145 \pm 5$ (5.71 ± 0.20)         | $145 \pm 5$ (5.71 ± 0.20)            | $255 \pm 5$ (10.04 ± 0.20)           |
| Length $L_2$                   | $15 \pm 0.5$ (0.59 ± 0.02) | $30 \pm 0.5$ (1.18 ± 0.02)        | $30 \pm 0.5$ (1.18 ± 0.02)           | $30 \pm 0.5$ (1.18 ± 0.02)           |

**Notes**

- (1) Dimension  $W_2$  will vary depending upon capacitance
- (2) Types PC 70 and PE 70 are not available
- (3) Type PC 100 is not available

**RELATED DOCUMENTS**

General Information

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



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