

## 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

### LINKS TO ADDITIONAL RESOURCES



| 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                      | PD 70             |        |        |        | PE 100            |        |        |        | PE 140                  |        |        |        |        | PE 200            |        |        |        |
| Voltage (V <sub>p</sub> ) | 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    |        |        |        |                   |        |        |        |                         |        |        |        |        |                   |        |        |        |

### 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: ± 2 pF; ± 1 pF; ± 0.5 pF  
 ≥ 10 pF: ± 20 %; ± 10 %; ± 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 (≥ 1 nF)

### INSULATION RESISTANCE

Min. 10 000 MΩ (at 25 °C)

### OPERATING TEMPERATURE RANGE

-55 °C to +100 °C

**SAP PART NUMBER AND ELECTRICAL DATA**

| PART NUMBER      | CERAMIC | CAP. VALUES<br>(pF) | RATED VOLTAGE<br>(kV <sub>P</sub> ) | RATED POWER <sup>(1)</sup><br>(kvar) | RATED CURRENT<br>(A <sub>RMS</sub> ) |
|------------------|---------|---------------------|-------------------------------------|--------------------------------------|--------------------------------------|
| TYPE PD0070      |         |                     |                                     |                                      |                                      |
| PD0070WJ250##BF1 | R7      | 25                  | 14                                  | 15                                   | 16                                   |
| PD0070WJ300##BF1 |         | 30                  |                                     |                                      |                                      |
| PD0070WJ400##BG1 | R16     | 40                  | 14                                  | 20                                   |                                      |
| PD0070WJ500##BG1 |         | 50                  |                                     |                                      |                                      |
| PD0070WJ600##BG1 |         | 60                  |                                     |                                      |                                      |
| PD0070WF800##BG1 |         | 80                  | 12                                  |                                      |                                      |
| PD0070WJ101##BH1 | R42     | 100                 | 14                                  | 20                                   |                                      |
| PD0070WH121##BH1 |         | 120                 | 13                                  |                                      |                                      |
| PD0070WH161##BH1 |         | 160                 |                                     |                                      |                                      |
| PD0070WJ201##BJ1 | R85     | 200                 | 14                                  | 20                                   |                                      |
| PD0070WJ251##BJ1 |         | 250                 |                                     |                                      |                                      |
| PD0070WJ301##BJ1 |         | 300                 |                                     |                                      |                                      |
| PD0070WH401##BJ1 |         | 400                 | 13                                  |                                      |                                      |
| PD0070WH501##BJ1 |         | 500                 |                                     |                                      |                                      |
| PD0070WF601##BJ1 |         | 600                 | 12                                  |                                      |                                      |
| PD0070WE801##BJ1 |         | 800                 | 11                                  |                                      |                                      |
| TYPE PE0100      |         |                     |                                     |                                      |                                      |
| PE0100BJ500##BF1 | R7      | 50                  | 15                                  | 30                                   | 35                                   |
| PE0100BJ600##BF1 |         | 60                  |                                     |                                      |                                      |
| PE0100BJ800##BG1 | R16     | 80                  | 15                                  | 40                                   |                                      |
| PE0100BJ101##BG1 |         | 100                 |                                     |                                      |                                      |
| PE0100BJ121##BG1 |         | 120                 |                                     |                                      |                                      |
| PE0100WH161##BG1 |         | 160                 | 13                                  |                                      |                                      |
| PE0100BJ201##BH1 | R42     | 200                 | 15                                  | 40                                   |                                      |
| PE0100WJ251##BH1 |         | 250                 | 14                                  |                                      |                                      |
| PE0100WH301##BH1 |         | 300                 | 13                                  |                                      |                                      |
| PE0100WJ401##BJ1 | R85     | 400                 | 14                                  | 40                                   |                                      |
| PE0100WJ501##BJ1 |         | 500                 |                                     |                                      |                                      |
| PE0100WJ601##BJ1 |         | 600                 |                                     |                                      |                                      |
| PE0100WJ801##BJ1 |         | 800                 |                                     |                                      |                                      |
| PE0100WH102##BJ1 |         | 1000                | 13                                  |                                      |                                      |
| PE0100WH122##BJ1 |         | 1200                |                                     |                                      |                                      |
| PE0100WE162##BJ1 |         | 1600                | 11                                  |                                      |                                      |

**Notes**

- ## 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



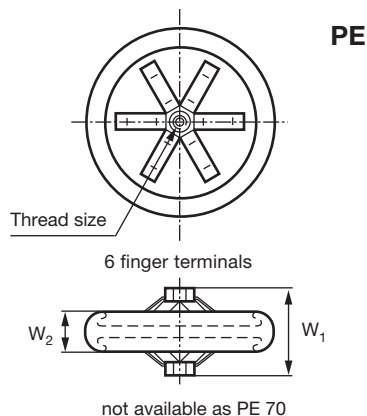
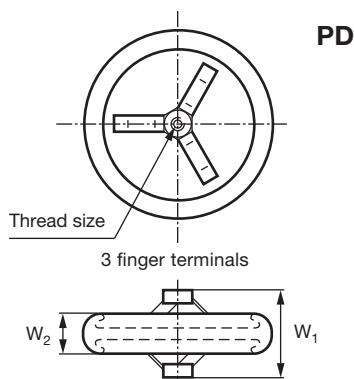
## SAP PART NUMBER AND ELECTRICAL DATA

| PART NUMBER      | CERAMIC | CAP. VALUES<br>(pF) | RATED VOLTAGE<br>(kV <sub>p</sub> ) | RATED POWER <sup>(1)</sup><br>(kvar) | RATED CURRENT<br>(A <sub>RMS</sub> ) |
|------------------|---------|---------------------|-------------------------------------|--------------------------------------|--------------------------------------|
| TYPE PE0140      |         |                     |                                     |                                      |                                      |
| PE0140BJ101##BF1 | R7      | 100                 | 15                                  | 67.5                                 | 45                                   |
| PE0140BJ121##BF1 |         | 120                 |                                     |                                      |                                      |
| PE0140BJ161##BG1 | R16     | 160                 | 15                                  | 90                                   |                                      |
| PE0140BJ201##BG1 |         | 200                 |                                     |                                      |                                      |
| PE0140BJ251##BG1 |         | 250                 |                                     |                                      |                                      |
| PE0140WJ301##BG1 |         | 300                 | 14                                  |                                      |                                      |
| PE0140BJ401##BH1 | R42     | 400                 | 15                                  | 90                                   |                                      |
| PE0140WJ501##BH1 |         | 500                 | 14                                  |                                      |                                      |
| PE0140WH601##BH1 |         | 600                 | 13                                  |                                      |                                      |
| PE0140WH801##BH1 |         | 800                 |                                     |                                      |                                      |
| PE0140WJ102##BJ1 | R85     | 1000                | 14                                  | 90                                   |                                      |
| PE0140WJ122##BJ1 |         | 1200                |                                     |                                      |                                      |
| PE0140WJ162##BJ1 |         | 1600                |                                     |                                      |                                      |
| PE0140WH202##BJ1 |         | 2000                | 13                                  |                                      |                                      |
| PE0140WH252##BJ1 |         | 2500                |                                     |                                      |                                      |
| PE0140WF302##BJ1 |         | 3000                |                                     |                                      |                                      |
| PE0140WL302##BK1 | R230    | 3000                | 16                                  | 90                                   | 45                                   |
| TYPE PE0200      |         |                     |                                     |                                      |                                      |
| PE0200BJ161##BF1 | R7      | 160                 | 15                                  | 112                                  | 60                                   |
| PE0200BJ201##BF1 |         | 200                 |                                     |                                      |                                      |
| PE0200BJ251##BF1 |         | 250                 |                                     |                                      |                                      |
| PE0200WJ301##BF1 |         | 300                 | 14                                  |                                      |                                      |
| PE0200WF401##BF1 |         | 400                 | 12                                  |                                      |                                      |
| PE0200BJ501##BG1 | R16     | 500                 | 15                                  | 150                                  |                                      |
| PE0200BJ601##BG1 |         | 600                 |                                     |                                      |                                      |
| PE0200BJ801##BH1 | R42     | 800                 | 15                                  | 150                                  |                                      |
| PE0200WJ102##BH1 |         | 1000                | 14                                  |                                      |                                      |
| PE0200WJ122##BH1 |         | 1200                |                                     |                                      |                                      |
| PE0200WJ162##BH1 |         | 1600                |                                     |                                      |                                      |
| PE0200WJ202##BJ1 | R85     | 2000                | 14                                  | 150                                  |                                      |
| PE0200WJ252##BJ1 |         | 2500                |                                     |                                      |                                      |
| PE0200WJ302##BJ1 |         | 3000                |                                     |                                      |                                      |
| PE0200WH402##BJ1 |         | 4000                | 13                                  |                                      |                                      |
| PE0200WH502##BJ1 |         | 5000                |                                     |                                      |                                      |
| PE0200WF602##BJ1 |         | 6000                |                                     |                                      |                                      |

## Notes

- ## 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

**DIMENSIONS** in millimeters (inches)


| TYPE                                     | PD 70 <sup>(2)</sup> | PE 100 <sup>(3)</sup> | PE 140 <sup>(3)</sup> | PE 200 <sup>(3)</sup> |
|------------------------------------------|----------------------|-----------------------|-----------------------|-----------------------|
| Diameter D                               | 70 ± 2 (2.76 ± 0.08) | 100 ± 2 (3.94 ± 0.08) | 140 ± 3 (5.51 ± 0.12) | 200 ± 4 (7.87 ± 0.16) |
| Thread size                              | M6                   | M8                    | M8                    | M10                   |
| Width W <sub>1</sub>                     | 35 ± 1 (1.38 ± 0.04) | 40 ± 1 (1.58 ± 0.04)  | 40 ± 1 (1.58 ± 0.04)  | 45 ± 1 (1.77 ± 0.04)  |
| Width W <sub>2 max.</sub> <sup>(1)</sup> | 31 (1.22)            | 31 (1.22)             | 31 (1.22)             | 32 (1.26)             |

**Notes**

<sup>(1)</sup> Dimension W<sub>2</sub> will vary depending upon capacitance

<sup>(2)</sup> Type PE 70 is not available

<sup>(3)</sup> Types PD 100, PD 140, and PD 200 are not available

**RELATED DOCUMENTS**

General Information

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



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