

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



### FEATURES

- Small size
- High reliability
- Wide range of capacitance values

### APPLICATIONS

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

### CAPACITANCE RANGE

5.6 pF to 2.0 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)
- N2200 (TCC - 2200 ppm/K)

### RATED VOLTAGE

- 5.0 kV<sub>p</sub>
- 7.5 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: max. 0.05 %  
 N2200: max. 0.10 %  
 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

### QUICK REFERENCE DATA

| DESCRIPTION               | VALUE                    |       |       |       |      |
|---------------------------|--------------------------|-------|-------|-------|------|
| Ceramic Class             | 1                        |       |       |       |      |
| Ceramic Dielectric        | R7, R16, R42, R85, N2200 |       |       |       |      |
| Type                      | PS 20                    | PS 30 | PS 40 | PS 55 |      |
| Voltage (V <sub>p</sub> ) | 5000                     | 5000  | 7500  | 5000  | 5000 |
| Min. Capacitance (pF)     | 5.6                      | 10    | 120   | 22    | 22   |
| Max. Capacitance (pF)     | 270                      | 560   | 120   | 1000  | 2000 |
| Mounting                  | Screw terminal           |       |       |       |      |

### MATERIAL

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

Connection terminals:  
 made from copper / brass, silver plated.

### FINISH

Capacitor body completely protective lacquered.

### MARKING

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

### ACCESSORIES ADDED

Two screws and washers.



| 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> ) |  |  |  |
| TYPE PS 20                          |         |                  |                                  |                                   |                                   |  |  |  |
| PS0020BE956##BF1                    | R7      | 5.6              | 5.0                              | 5.0                               | 5.0                               |  |  |  |
| PS0020BE968##BF1                    |         | 6.8              |                                  |                                   |                                   |  |  |  |
| PS0020BE982##BG1                    | R16     | 8.2              |                                  | 10                                |                                   |  |  |  |
| PS0020BE100##BG1                    |         | 10               |                                  |                                   |                                   |  |  |  |
| PS0020BE120##BG1                    |         | 12               |                                  |                                   |                                   |  |  |  |
| PS0020BE150##BG1                    |         | 15               |                                  |                                   |                                   |  |  |  |
| PS0020BE180##BH1                    | R42     | 18               |                                  | 15                                |                                   |  |  |  |
| PS0020BE200##BH1                    |         | 20               |                                  |                                   |                                   |  |  |  |
| PS0020BE220##BH1                    |         | 22               |                                  |                                   |                                   |  |  |  |
| PS0020BE270##BH1                    |         | 27               |                                  |                                   |                                   |  |  |  |
| PS0020BE330##BH1                    |         | 33               |                                  |                                   |                                   |  |  |  |
| PS0020BE390##BJ1                    | R85     | 39               |                                  | 25                                |                                   |  |  |  |
| PS0020BE470##BJ1                    |         | 47               |                                  |                                   |                                   |  |  |  |
| PS0020BE560##BJ1                    |         | 56               |                                  |                                   |                                   |  |  |  |
| PS0020BE680##BJ1                    |         | 68               |                                  |                                   |                                   |  |  |  |
| PS0020BE820##BJ1                    |         | 82               |                                  |                                   |                                   |  |  |  |
| PS0020BE101##BJ1                    |         | 100              |                                  |                                   |                                   |  |  |  |
| PS0020BE121##AP1                    | N2200   | 120              |                                  | 10                                |                                   |  |  |  |
| PS0020BE151##AP1                    |         | 150              |                                  |                                   |                                   |  |  |  |
| PS0020BE181##AP1                    |         | 180              |                                  |                                   |                                   |  |  |  |
| PS0020BE221##AP1                    |         | 220              |                                  |                                   |                                   |  |  |  |
| PS0020BE271##AP1                    |         | 270              |                                  |                                   |                                   |  |  |  |
| TYPE PS 30                          |         |                  |                                  |                                   |                                   |  |  |  |
| PS0030BE100##BF1                    | R7      | 10               | 5.0                              | 8.0                               | 10                                |  |  |  |
| PS0030BE120##BF1                    |         | 12               |                                  |                                   |                                   |  |  |  |
| PS0030BE150##BF1                    |         | 15               |                                  |                                   |                                   |  |  |  |
| PS0030BE180##BF1                    |         | 18               |                                  |                                   |                                   |  |  |  |
| PS0030BE200##BG1                    | R16     | 20               |                                  | 15                                |                                   |  |  |  |
| PS0030BE220##BG1                    |         | 22               |                                  |                                   |                                   |  |  |  |
| PS0030BE270##BG1                    |         | 27               |                                  |                                   |                                   |  |  |  |
| PS0030BE300##BG1                    |         | 30               |                                  |                                   |                                   |  |  |  |
| PS0030BE330##BG1                    |         | 33               |                                  |                                   |                                   |  |  |  |
| PS0030BE390##BG1                    |         | 39               |                                  |                                   |                                   |  |  |  |
| PS0030BE470##BH1                    | R42     | 47               |                                  | 20                                |                                   |  |  |  |
| PS0030BE560##BH1                    |         | 56               |                                  |                                   |                                   |  |  |  |
| PS0030BE680##BH1                    |         | 68               |                                  |                                   |                                   |  |  |  |
| PS0030BE820##BH1                    |         | 82               |                                  |                                   |                                   |  |  |  |
| PS0030BE101##BJ1                    | R85     | 100              |                                  | 30                                |                                   |  |  |  |
| PS0030VZ121##BJ1                    |         | 120              | 7.5                              |                                   |                                   |  |  |  |
| PS0030BE151##BJ1                    |         | 150              | 5.0                              |                                   |                                   |  |  |  |
| PS0030BE181##BJ1                    |         | 180              |                                  |                                   |                                   |  |  |  |
| PS0030BE201##BJ1                    |         | 200              |                                  |                                   |                                   |  |  |  |
| PS0030BE221##BJ1                    |         | 220              |                                  |                                   |                                   |  |  |  |
| PS0030BE271##AP1                    | N2200   | 270              | 15                               |                                   |                                   |  |  |  |
| PS0030BE331##AP1                    |         | 330              |                                  |                                   |                                   |  |  |  |
| PS0030BE391##AP1                    |         | 390              |                                  |                                   |                                   |  |  |  |
| PS0030BE471##AP1                    |         | 470              |                                  |                                   |                                   |  |  |  |
| PS0030BE561##AP1                    |         | 560              |                                  |                                   |                                   |  |  |  |

**Notes**

- # 14<sup>th</sup> to 15<sup>th</sup> digit: capacitance tolerance code < 10 pF:  $\pm 2$  pF = 15;  $\pm 1$  pF = 14;  $\pm 0.5$  pF = 13;  
 $\geq 10$  pF:  $\pm 20$  % = 38;  $\pm 10$  % = 36;  $\pm 5$  % = 33

<sup>(1)</sup> The surface temperature during operation must not exceed +100 °C



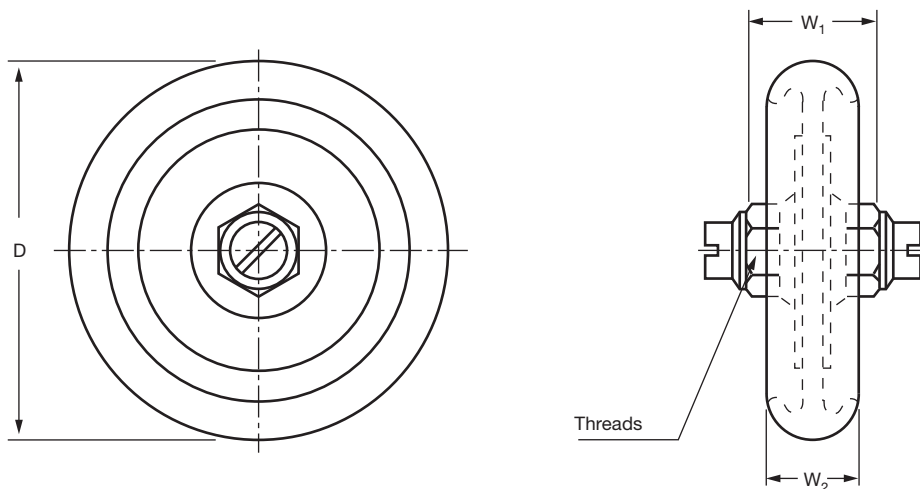
| SAP PART NUMBER AND ELECTRICAL DATA |         |                  |                                  |                                   |                                   |
|-------------------------------------|---------|------------------|----------------------------------|-----------------------------------|-----------------------------------|
| PART NUMBER                         | CERAMIC | CAP. VALUES (pF) | RATED VOLTAGE (kV <sub>p</sub> ) | RATED POWER <sup>(1)</sup> (kvar) | RATED CURRENT (A <sub>RM</sub> S) |
| TYPE PS 40                          |         |                  |                                  |                                   |                                   |
| PS0040BE220##BF1                    | R7      | 22               | 5.0                              | 12                                | 15                                |
| PS0040BE270##BF1                    |         | 27               |                                  |                                   |                                   |
| PS0040BE300##BG1                    |         | R16              |                                  |                                   |                                   |
| PS0040BE330##BG1                    | 33      |                  |                                  |                                   |                                   |
| PS0040BE390##BG1                    | 39      |                  |                                  |                                   |                                   |
| PS0040BE470##BG1                    | 47      |                  |                                  |                                   |                                   |
| PS0040BE560##BG1                    | 56      |                  |                                  |                                   |                                   |
| PS0040BE680##BG1                    | 68      | 25               |                                  |                                   |                                   |
| PS0040BE820##BH1                    | R42     |                  |                                  | 82                                |                                   |
| PS0040BE910##BH1                    |         |                  |                                  | 91                                |                                   |
| PS0040BE101##BH1                    |         |                  |                                  | 100                               |                                   |
| PS0040BE121##BH1                    |         |                  |                                  | 120                               |                                   |
| PS0040BE151##BH1                    |         | 150              |                                  |                                   |                                   |
| PS0040BE181##BJ1                    | R85     | 180              |                                  | 35                                |                                   |
| PS0040BE201##BJ1                    |         | 200              |                                  |                                   |                                   |
| PS0040BE221##BJ1                    |         | 220              |                                  |                                   |                                   |
| PS0040BE241##BJ1                    |         | 240              |                                  |                                   |                                   |
| PS0040BE251##BJ1                    |         | 250              |                                  |                                   |                                   |
| PS0040BE271##BJ1                    |         | 270              |                                  |                                   |                                   |
| PS0040BE331##BJ1                    |         | 330              |                                  |                                   |                                   |
| PS0040BE361##BJ1                    |         | 360              |                                  |                                   |                                   |
| PS0040BE391##BJ1                    |         | 390              |                                  |                                   |                                   |
| PS0040BE471##AP1                    | N2200   | 470              |                                  | 20                                |                                   |
| PS0040BE561##AP1                    |         | 560              |                                  |                                   |                                   |
| PS0040BE681##AP1                    |         | 680              |                                  |                                   |                                   |
| PS0040BE821##AP1                    |         | 820              |                                  |                                   |                                   |
| PS0040BE102##AP1                    |         | 1000             |                                  |                                   |                                   |
| TYPE PS 55                          |         |                  |                                  |                                   |                                   |
| PS0055BE220##BF1                    | R7      | 22               | 5.0                              | 15                                | 18                                |
| PS0055BE270##BF1                    |         | 27               |                                  |                                   |                                   |
| PS0055BE330##BF1                    |         | 33               |                                  |                                   |                                   |
| PS0055BE390##BF1                    |         | 39               |                                  |                                   |                                   |
| PS0055BE470##BF1                    |         | 47               |                                  |                                   |                                   |
| PS0055BE560##BG1                    | R16     | 56               |                                  | 40                                |                                   |
| PS0055BE680##BG1                    |         | 68               |                                  |                                   |                                   |
| PS0055BE820##BG1                    |         | 82               |                                  |                                   |                                   |
| PS0055BE101##BG1                    |         | 100              |                                  |                                   |                                   |
| PS0055BE121##BG1                    |         | 120              |                                  |                                   |                                   |
| PS0055BE151##BH1                    | R42     | 150              |                                  | 55                                |                                   |
| PS0055BE181##BH1                    |         | 180              |                                  |                                   |                                   |
| PS0055BE221##BH1                    |         | 220              |                                  |                                   |                                   |
| PS0055BE271##BH1                    |         | 270              |                                  |                                   |                                   |
| PS0055BE331##BJ1                    |         | 330              |                                  |                                   |                                   |
| PS0055BE391##BJ1                    | R85     | 390              |                                  | 25                                |                                   |
| PS0055BE471##BJ1                    |         | 470              |                                  |                                   |                                   |
| PS0055BE511##BJ1                    |         | 510              |                                  |                                   |                                   |
| PS0055BE561##BJ1                    |         | 560              |                                  |                                   |                                   |
| PS0055BE681##BJ1                    |         | 680              |                                  |                                   |                                   |
| PS0055BE821##AP1                    | N2200   | 820              |                                  | 25                                |                                   |
| PS0055BE102##AP1                    |         | 1000             |                                  |                                   |                                   |
| PS0055BE122##AP1                    |         | 1200             |                                  |                                   |                                   |
| PS0055BE152##AP1                    |         | 1500             |                                  |                                   |                                   |
| PS0055BE182##AP1                    |         | 1800             |                                  |                                   |                                   |
| PS0055BE202##AP1                    |         | 2000             |                                  |                                   |                                   |

**Notes**

- # 14<sup>th</sup> to 15<sup>th</sup> digit: capacitance tolerance code:  $\pm 20\%$  = 38;  $\pm 10\%$  = 36;  $\pm 5\%$  = 33

<sup>(1)</sup> The surface temperature during operation must not exceed +100 °C

## DIMENSIONS in millimeters (inches)



| TYPE                                     | PS 20                | PS 30                    | PS 40                    | PS 55                |
|------------------------------------------|----------------------|--------------------------|--------------------------|----------------------|
| Diameter D                               | 24 ± 1 (0.95 ± 0.04) | 34.5 ± 1.5 (1.36 ± 0.06) | 44.5 ± 1.5 (1.75 ± 0.06) | 56 ± 2 (2.20 ± 0.08) |
| Thread size                              | M5                   | M5                       | M6                       | M6                   |
| Width W <sub>1</sub> max.                | 22 (0.87)            | 22 (0.87)                | 21 (0.82)                | 21 (0.82)            |
| Width W <sub>2</sub> max. <sup>(1)</sup> | 16 (0.63)            | 16 (0.63)                | 15 (0.59)                | 15 (0.59)            |

### Note

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

## RELATED DOCUMENTS

General Information

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



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