

## RF Power Barrel Capacitors with Screw Terminals, Class 1 and Class 2 Ceramic



| QUICK REFERENCE DATA      |                |        |
|---------------------------|----------------|--------|
| DESCRIPTION               | VALUE          |        |
| Ceramic Class             | 1              | 2      |
| Ceramic Dielectric        | C0G, U2J, S3L  | X7R    |
| Type                      | TOS 030033     |        |
| Voltage (V <sub>P</sub> ) | 15 000         | 15 000 |
| Min. Capacitance (pF)     | 10             | 750    |
| Max. Capacitance (pF)     | 500            | 1500   |
| Mounting                  | Screw terminal |        |

### MATERIAL

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

### Connection terminals:

thread terminal, brass, silver plated.

Allowable torque: 2.9 Nm (26 lbf in)

### FINISH

Capacitor body completely protective lacquered.

### MARKING

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

### FEATURES

- High voltage power rating
- Geometry minimizes inductance, optimizes voltage withstand and maximizes heat radiation

### APPLICATIONS

- Industrial and medical RF power supply
- Filter, bypass and coupling circuits
- Antenna couplers
- Induction heating equipment

### CAPACITANCE RANGE

10 pF to 1.5 nF

### CAPACITANCE TOLERANCE

- Class 1:  $\pm 10\%$
- Class 2:  $\pm 20\%$

### CERAMIC DIELECTRICS

- Class 1: C0G, U2J, S3L
- Class 2: X7R

### RATED VOLTAGE

15 kV<sub>DC</sub>

### DIELECTRIC STRENGTH TEST

150 % of rated voltage (15 900 V<sub>RMS</sub>, 50 Hz, 3 minutes)

### DISSIPATION FACTOR

|           |                     |
|-----------|---------------------|
| C0G, U2J: | max. 0.05 % (1 MHz) |
| S3L:      | max. 0.20 % (1 MHz) |
| X7R:      | max. 2.5 % (1 kHz)  |

### INSULATION RESISTANCE

Min. 100 000 M $\Omega$  (at 25 °C)

### OPERATING TEMPERATURE RANGE

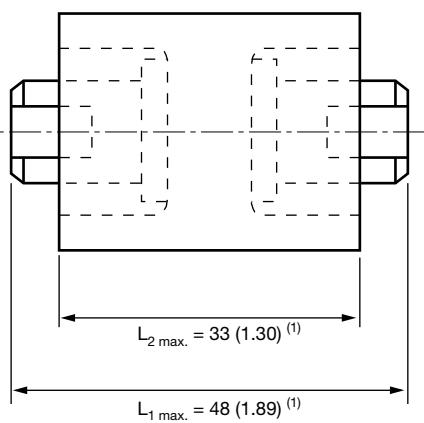
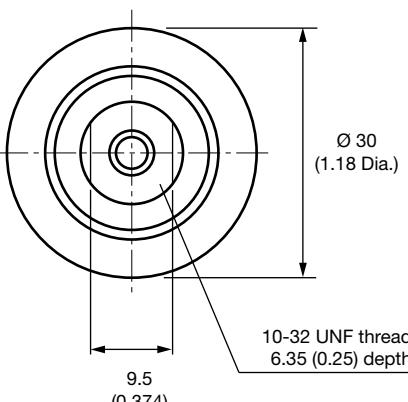
|          |                   |
|----------|-------------------|
| Class 1: | -55 °C to +100 °C |
| Class 2: | -55 °C to +85 °C  |

| <b>SAP PART NUMBER AND ELECTRICAL DATA</b> |                |                         |  |  |                      |                      |                                  |                                 |                                 |
|--|----------------|-------------------------|--|--|----------------------|----------------------|----------------------------------|---------------------------------|---------------------------------|
| <b>PART NUMBER</b>                         | <b>CERAMIC</b> | <b>CAP. VALUES (pF)</b> | <b>RATED VOLTAGE (kV<sub>DC</sub>)</b> | <b>MAXIMUM POWER RATING <sup>(1)</sup></b> |                      |                      | <b>MAXIMUM CURRENT RATING</b>    |                                 |                                 |
|  |                |                         |  | <b>1.0 MHz (kvar)</b>                      | <b>10 MHz (kvar)</b> | <b>30 MHz (kvar)</b> | <b>1.0 MHz (A<sub>RMS</sub>)</b> | <b>10 MHz (A<sub>RMS</sub>)</b> | <b>30 MHz (A<sub>RMS</sub>)</b> |
| BS030033BJ10036AC1                         | C0G (NP0)      | 10                      | 15                                     | 7.0  | 35                   | 35                   | 0.7                              | 4.7                             | 8.1                             |
| BS030033BJ25036AC1                         |                | 25                      |  | 18   | 35                   | 35                   | 1.7                              | 7.4                             | 13                              |
| BS030033BJ50036AC1                         |                | 50                      |  | 35   | 35                   | 35                   | 3.3                              | 11                              | 18                              |
| BS030033BJ75036AL1                         | U2J (N750)     | 75                      | 15                                     | 35   | 35                   | 35                   | 4.1                              | 13                              | 22                              |
| BS030033BJ10136AL1                         |                | 100                     |  | 35   | 35                   | 35                   | 4.7                              | 15                              | 26                              |
| BS030033BJ15136AL1                         |                | 150                     |  | 22   | 22                   | 22                   | 4.6                              | 14                              | 25                              |
| BS030033BJ20136AL1                         |                | 200                     |  | 15   | 15                   | 15                   | 4.3                              | 14                              | 24                              |
| BS030033BJ30136AQ1                         | S3L (N3300)    | 300                     |  | 5  | 5                    | 5                    | 3.1                              | 10                              | 17                              |
| BS030033BJ40136AQ1                         |                | 400                     |  | 5  | 5                    | 5                    | 3.6                              | 11                              | 19                              |
| BS030033BJ50136AQ1                         |                | 500                     |  | 5  | 5                    | 5                    | 4.0                              | 13                              | 22                              |
| BS030033BJ75138AV1                         | X7R (R2000)    | 750                     | 15                                     | 0.5  | 0.5                  | 0.5                  | 1.5                              | 5.0                             | 8.4                             |
| BS030033BJ10238AV1                         |                | 1000                    |  | 0.5  | 0.5                  | 0.5                  | 1.8                              | 6.0                             | 9.7                             |
| BS030033BJ12238AV1                         |                | 1200                    |  | 0.5  | 0.5                  | 0.5                  | 2.0                              | 6.0                             | 12                              |
| BS030033BJ15238AV1                         |                | 1500                    |  | 0.5  | 0.5                  | 0.5                  | 2.2                              | 6.0                             | 12                              |

**Notes**

- # 14<sup>th</sup> to 15<sup>th</sup> digit: capacitance tolerance code  $\pm 10\% = 36$ ;  $\pm 20\% = 38$
- Other capacitance values or metric threads are available on request

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

| <b>DIMENSIONS</b> in millimeters (inches)   |  |
|---|--|
|  |  |

**Notes**

- Use wrenches when tightening the screws and nuts on both end of the capacitor

(1) Dimension L<sub>1</sub> and L<sub>2</sub> will vary depending upon capacitance value

| <b>RELATED DOCUMENTS</b> |  |
|--------------------------|--|
| General Information      | <a href="http://www.vishay.com/doc?22071">www.vishay.com/doc?22071</a> |

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