

## 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: ± 10 %
- Class 2: ± 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 MΩ (at 25 °C)

### OPERATING TEMPERATURE RANGE

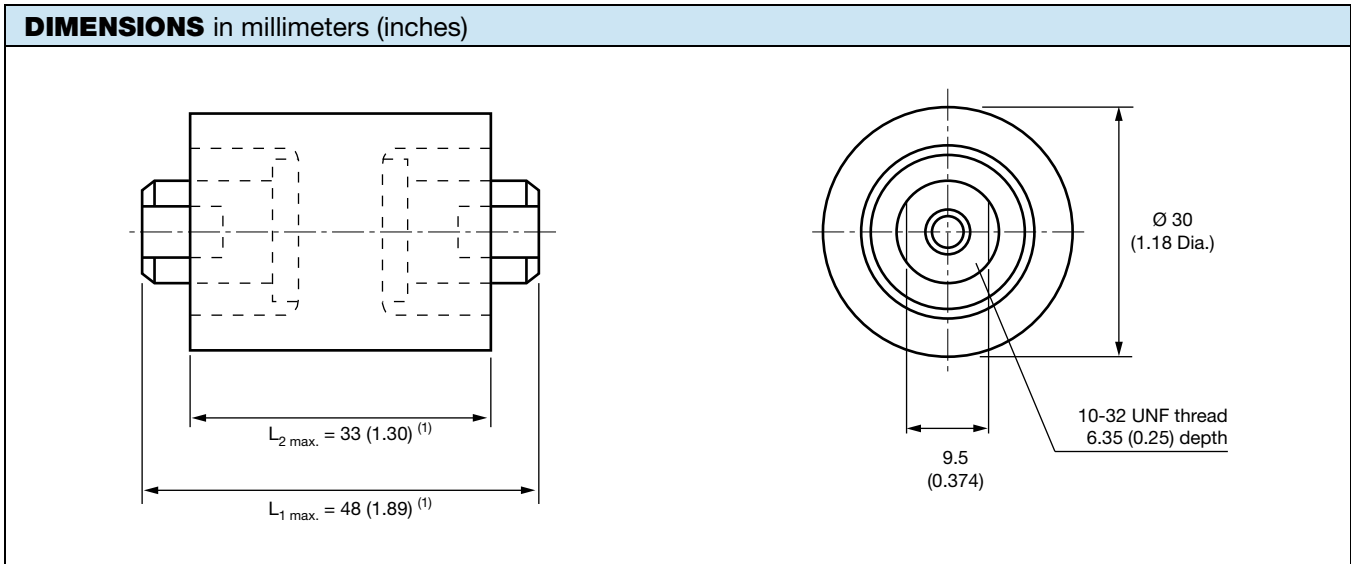
Class 1: -55 °C to +100 °C

Class 2: -55 °C to +85 °C

| SAP PART NUMBER AND ELECTRICAL DATA |             |                  |                                   |                                     |               |               |                             |                            |                            |
|-------------------------------------|-------------|------------------|-----------------------------------|-------------------------------------|---------------|---------------|-----------------------------|----------------------------|----------------------------|
| PART NUMBER                         | CERAMIC     | CAP. VALUES (pF) | RATED VOLTAGE (kV <sub>DC</sub> ) | MAXIMUM POWER RATING <sup>(1)</sup> |               |               | MAXIMUM CURRENT RATING      |                            |                            |
|                                     |             |                  |                                   | 1.0 MHz (kvar)                      | 10 MHz (kvar) | 30 MHz (kvar) | 1.0 MHz (A <sub>RMS</sub> ) | 10 MHz (A <sub>RMS</sub> ) | 30 MHz (A <sub>RMS</sub> ) |
| 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               |                                   | 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              |                                   | 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 ± 10 % = 36; ± 20 % = 38
- Other capacitance values or metric threads are available on request
- <sup>(1)</sup> The surface temperature during operation must not exceed +100 °C


**Notes**

- Use wrenches when tightening the screws and nuts on both end of the capacitor
- <sup>(1)</sup> Dimension L<sub>1</sub> and L<sub>2</sub> will vary depending upon capacitance value

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



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