# 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 ($V_p$) | 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 $kV_{DC}$

## DIELECTRIC STRENGTH TEST

150 % of rated voltage (15 900 $V_{RMS}$, 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


For technical questions, contact: powcap@vishay.com
THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

## SAP PART NUMBER AND ELECTRICAL DATA

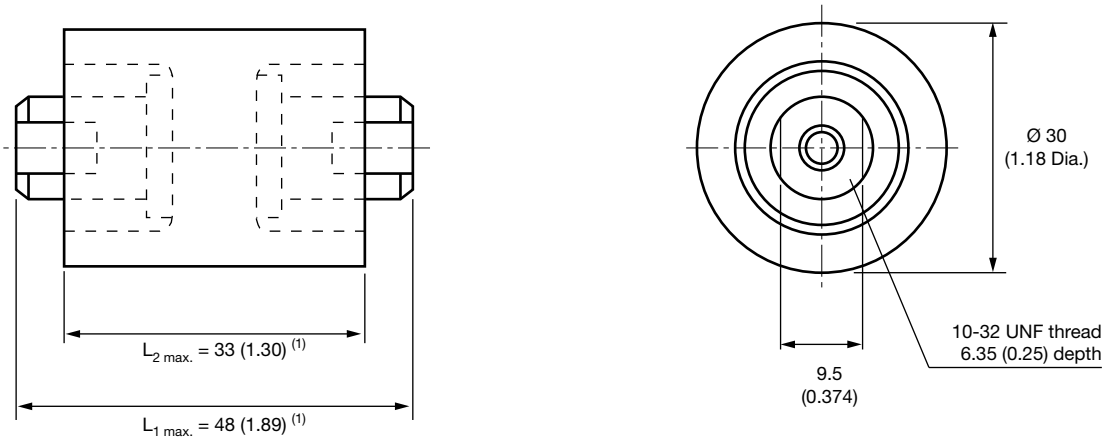
| PART NUMBER | CERAMIC | CAP. VALUES (pF) | RATED VOLTAGE ($kV_{DC}$) | MAXIMUM POWER RATING (1) | | | MAXIMUM CURRENT RATING | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 1.0 MHz (kvar) | 10 MHz (kvar) | 30 MHz (kvar) | 1.0 MHz ($A_{RMS}$) | 10 MHz ($A_{RMS}$) | 30 MHz ($A_{RMS}$) |
| BS030033BJ10036AC1 | 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**

- # 14th to 15th digit: capacitance tolerance code ± 10 % = 36; ± 20 % = 38
- Other capacitance values or metric threads are available on request

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

## DIMENSIONS in millimeters (inches)




**Notes**

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

(1) Dimension $L_1$ and $L_2$ will vary depending upon capacitance value

## RELATED DOCUMENTS

| | |
|---|---|
| General Information | www.vishay.com/doc?22071 |



For technical questions, contact: powcap@vishay.com

THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

# Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, “Vishay”), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Hyperlinks included in this datasheet may direct users to third-party websites. These links are provided as a convenience and for informational purposes only. Inclusion of these hyperlinks does not constitute an endorsement or an approval by Vishay of any of the products, services or opinions of the corporation, organization or individual associated with the third-party website. Vishay disclaims any and all liability and bears no responsibility for the accuracy, legality or content of the third-party website or for that of subsequent links.

Vishay products are not designed for use in life-saving or life-sustaining applications or any application in which the failure of the Vishay product could result in personal injury or death unless specifically qualified in writing by Vishay. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.

***© 2024 VISHAY INTERTECHNOLOGY, INC. ALL RIGHTS RESERVED***



THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000