

## RF Power Feed-Through Capacitors with Conductor Rod, Class 1 Ceramic



### FEATURES

- Geometry minimizes inductance
- Wide range of capacitance values
- High feed-through currents

### APPLICATIONS

Filtering purposes in industrial and medical RF power equipment, where high voltages and high feed-through currents are required.

### CAPACITANCE RANGE

200 pF to 4.7 nF

### CAPACITANCE TOLERANCE

± 20 %; ± 10 %; ± 5 %

### CERAMIC DIELECTRICS

- R16 (TCC + 100 ppm/K)
- R42 (TCC - 250 ppm/K)
- R85 (TCC - 750 ppm/K)
- R230 (TCC - 750 ppm/K)

### RATED VOLTAGE

- 10 kV<sub>p</sub>
- 11 kV<sub>p</sub>
- 14 kV<sub>p</sub>

### DIELECTRIC STRENGTH TEST

200 % of rated AC voltage (50 Hz, 5 minutes)

### DISSIPATION FACTOR

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

### QUICK REFERENCE DATA

| DESCRIPTION               | VALUE               |           |        |
|---------------------------|---------------------|-----------|--------|
| Ceramic Class             | 1                   |           |        |
| Ceramic Dielectric        | R16, R42, R85, R230 | R85, R230 |        |
| Type                      | DB 045120           | DB 045155 |        |
| Voltage (V <sub>p</sub> ) | 10 000              | 11 000    | 14 000 |
| Min. Capacitance (pF)     | 800                 | 200       | 1000   |
| Max. Capacitance (pF)     | 4700                | 3000      | 2700   |
| 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.  
The contoured insulating rims are additionally glazed.

### MARKING

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

### ACCESSORIES ADDED

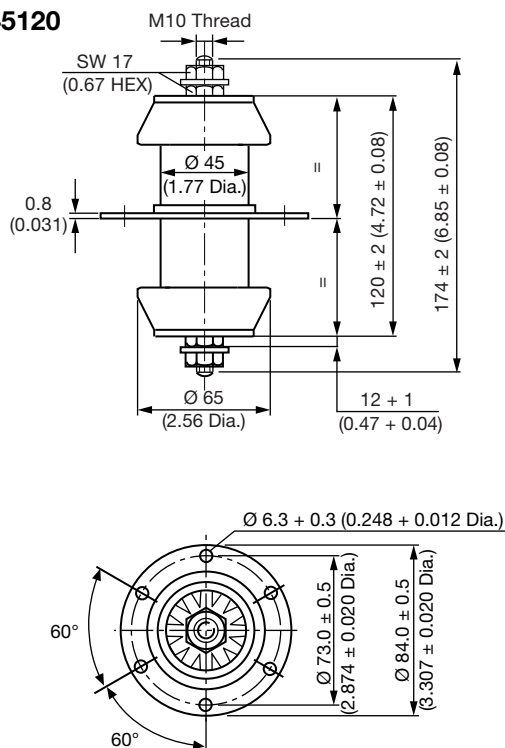
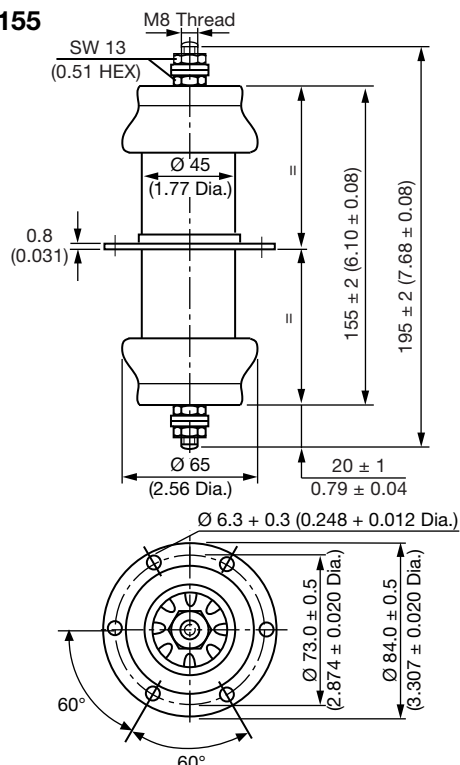
All feed-through capacitors are supplied with the necessary nuts and washers to make the connection to the conductor rod.

**SAP PART NUMBER AND ELECTRICAL DATA**

| PART NUMBER        | CERAMIC | CAP. VALUES (pF) | RATED VOLTAGE (kVp) | RATED POWER <sup>(1)</sup> (kvar) | RATED CURRENT (A <sub>RMS</sub> ) | FEED-THROUGH CURRENT <sup>(2)</sup> (A) |
|--------------------|---------|------------------|---------------------|-----------------------------------|-----------------------------------|-----------------------------------------|
| TYPE DB 045120     |         |                  |                     |                                   |                                   |                                         |
| DB045120WE201##BG1 | R16     | 200              | 11.0                | 60.0                              | 50.0                              | 50.0                                    |
| DB045120WE251##BG1 |         | 250              |                     |                                   |                                   |                                         |
| DB045120WE301##BG1 |         | 300              |                     |                                   |                                   |                                         |
| DB045120WE401##BH1 | R42     | 400              |                     |                                   |                                   |                                         |
| DB045120WE501##BH1 |         | 500              |                     |                                   |                                   |                                         |
| DB045120WE601##BH1 |         | 600              |                     |                                   |                                   |                                         |
| DB045120BH801##BH1 |         | 800              |                     |                                   |                                   |                                         |
| DB045120WE102##BJ1 | R85     | 1000             | 10.0                |                                   |                                   |                                         |
| DB045120WE122##BJ1 |         | 1200             | 11.0                |                                   |                                   |                                         |
| DB045120BH152##BJ1 |         | 1500             | 10.0                |                                   |                                   |                                         |
| DB045120WE202##BK1 | R230    | 2000             | 11.0                |                                   |                                   |                                         |
| DB045120WE252##BK1 |         | 2500             |                     |                                   |                                   |                                         |
| DB045120WE302##BK1 |         | 3000             |                     |                                   |                                   |                                         |
| DB045120BH472##BK1 |         | 4700             | 10.0                |                                   |                                   |                                         |
| TYPE DB 045155     |         |                  |                     |                                   |                                   |                                         |
| DB045155WJ102##BJ1 | R85     | 1000             | 14.0                | 56.0                              | 25.0                              | 50.0                                    |
| DB045155WJ272##BK1 | R230    | 2700             |                     |                                   |                                   |                                         |

**Notes**

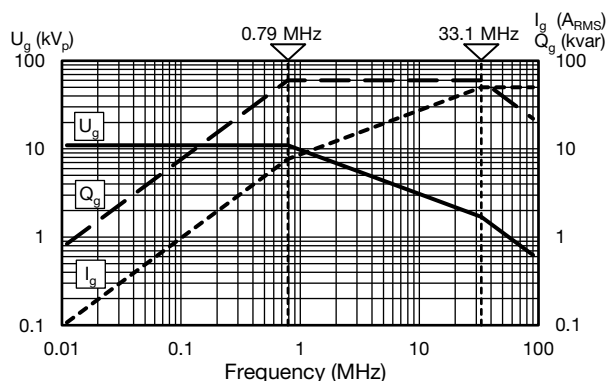
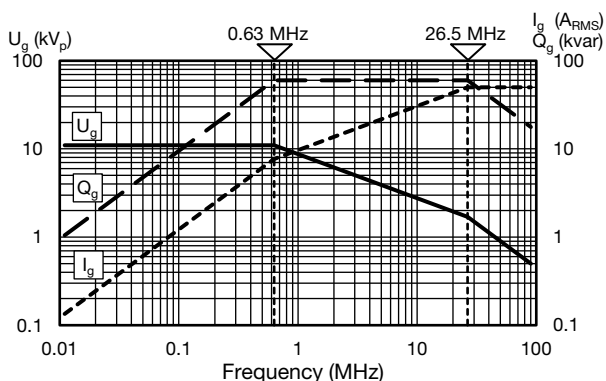
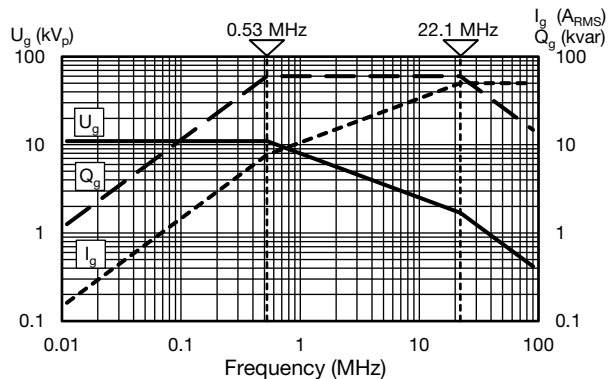
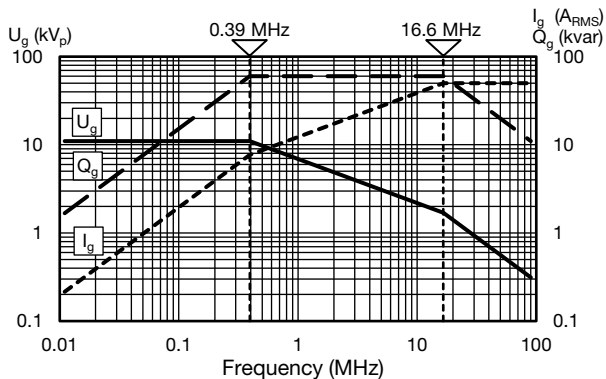
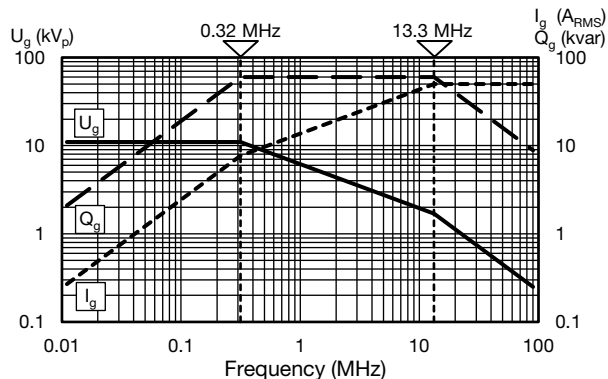
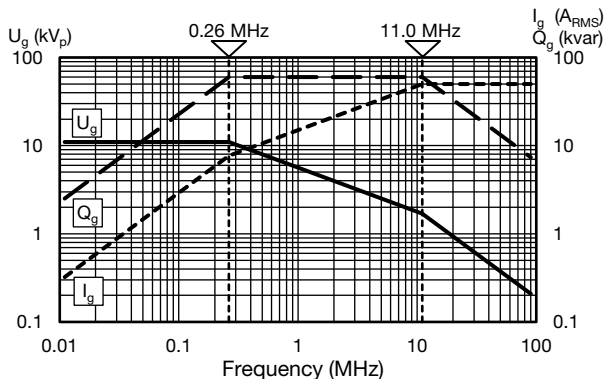
- ## 14<sup>th</sup> to 15<sup>th</sup> digit: capacitance tolerance code  $\pm 20\% = 38$ ,  $\pm 10\% = 36$ ,  $\pm 5\% = 33$
- (1) The surface temperature during operation must not exceed +100 °C
- (2) DC or low frequency RMS current (< 20 kHz)

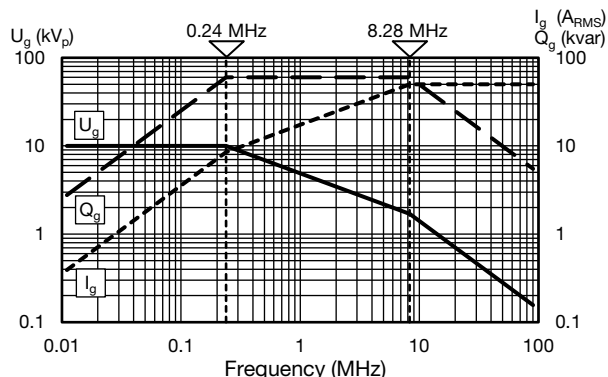
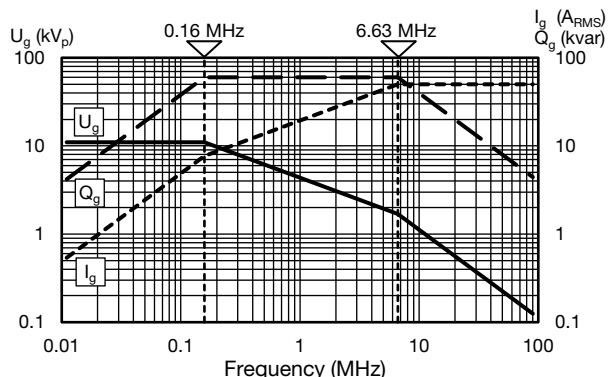
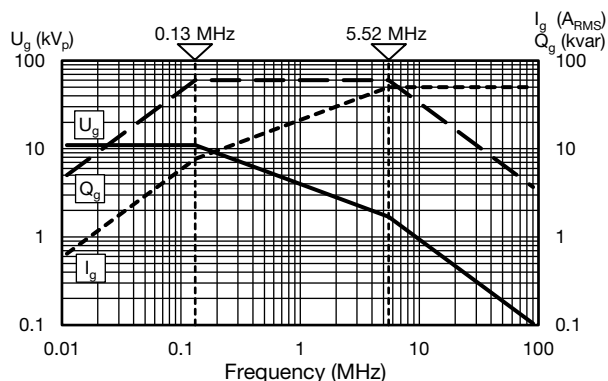
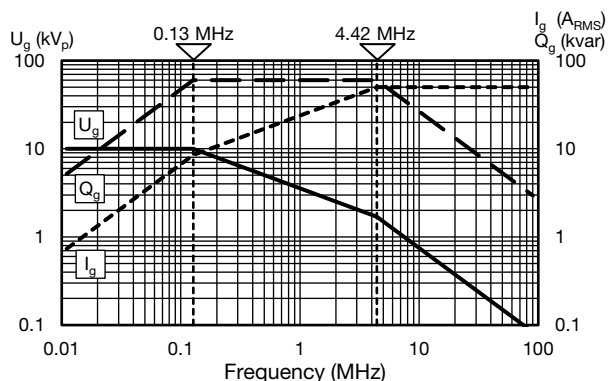
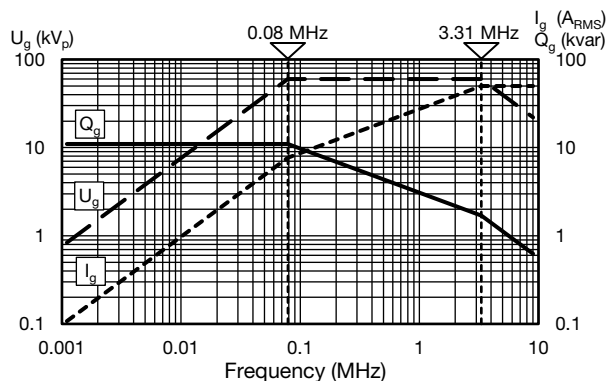
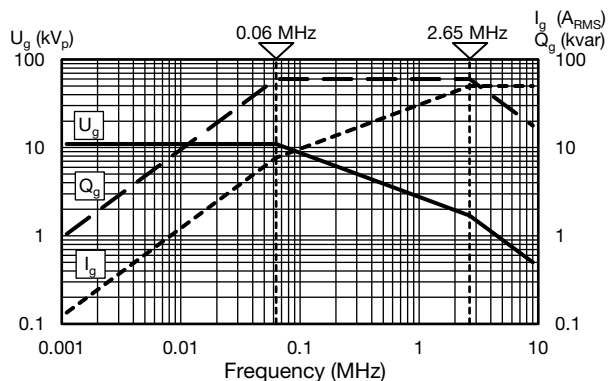
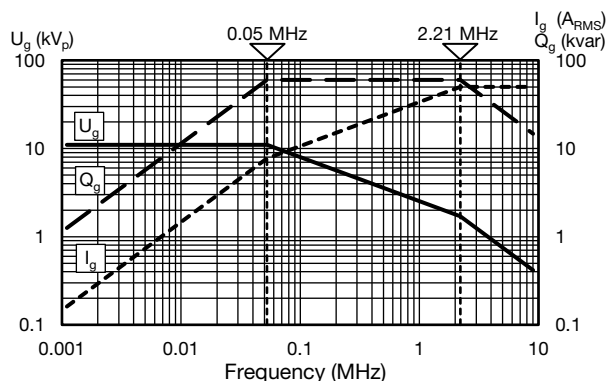
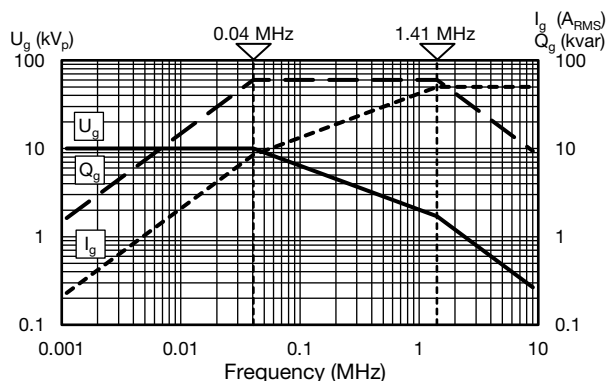
**DIMENSIONS in millimeters (inches)**
**DB 045120**

**DB 045155**


## MOUNTING GUIDELINES

- The connection to one electrode must be flexible in order to prevent the generation of physical force which could damage the capacitor elements. Such forces are often generated by the dimensional differences resulting from the normal physical tolerances of these components.
- The capacitor elements must not be used as a mechanical support for other devices or components.
- Use two wrenches when tightening the nuts on both sides of the conductor rod.  
The outer electrode terminal flange of these feed-through capacitors components should be fixed after tightening the inner electrode's connection.
- Make sure that not too much force applied to the solder connections between hardware and noble metal electrode. A torque less than 5 Nm is recommended.

## DERATING DIAGRAMS

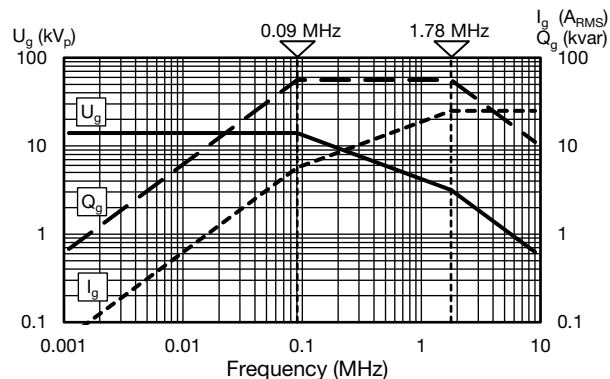
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**DB045120WE251##BG1**

**DB045120WE301##BG1**

**DB045120WE401##BH1**

**DB045120WE501##BH1**

**DB045120WE601##BH1**


**DERATING DIAGRAMS**
**DB045120BH801##BH1**

**DB045120WE102##BJ1**

**DB045120WE122##BJ1**

**DB045120BH152##BJ1**

**DB045120WE202##BK1**

**DB045120WE252##BK1**

**DB045120WE302##BK1**

**DB045120BH472##BK1**


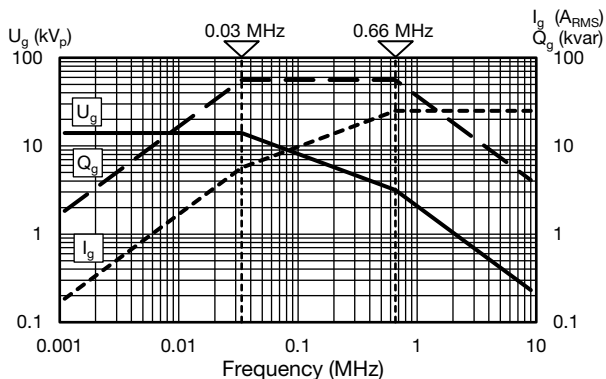


## DERATING DIAGRAMS

DB045155WJ102##BJ1



DB045155WJ272##BK1



## RELATED DOCUMENTS

General Information

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



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