

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



QUICK REFERENCE DATA		
DESCRIPTION	VALUE	
Ceramic Class	1	
Ceramic Dielectric	R85	R85, R230
Type	DB 050110	DB 050180
Voltage (V <sub>p</sub> )	15 000	20 000
Min. Capacitance (pF)	2000	1000
Max. Capacitance (pF)	2000	3000
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.

### FEATURES

- Geometry minimizes inductance
- High voltage ratings
- 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

1.0 nF to 3.0 nF

### CAPACITANCE TOLERANCE

± 20 %; ± 10 %

### CERAMIC DIELECTRICS

- R85 (TCC - 750 ppm/K)
- R230 (TCC - 750 ppm/K)

### RATED VOLTAGE

- 15 kV<sub>p</sub>
- 20 kV<sub>p</sub>

### DIELECTRIC STRENGTH TEST

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

### DISSIPATION FACTOR

Max. 0.05 % (100 kHz or 300 kHz)

### INSULATION RESISTANCE

Min. 10 000 MΩ (at 25 °C)

### OPERATING TEMPERATURE RANGE

-55 °C to +100 °C



**SAP PART NUMBER AND ELECTRICAL DATA**

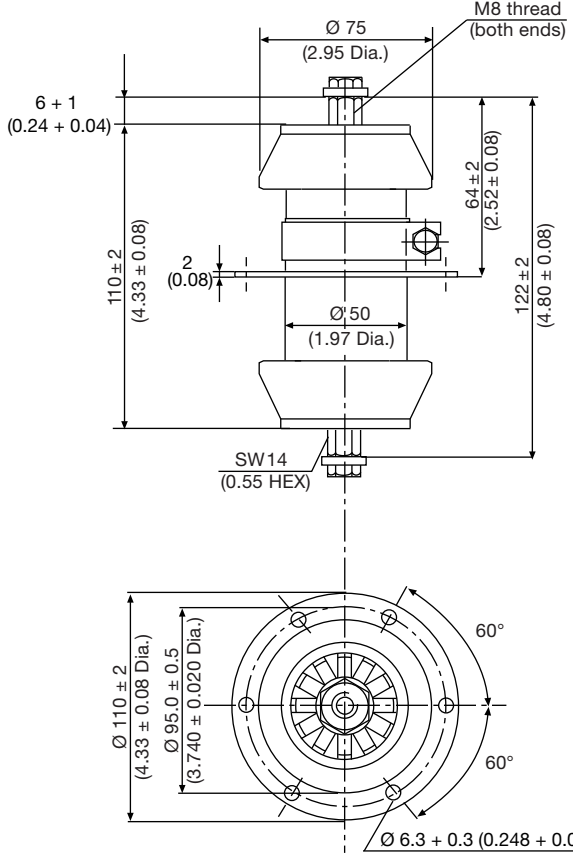
PART NUMBER	CERAMIC	CAP. VALUES (pF)	RATED VOLTAGE (kVp)	RATED POWER (1) (kvar)	RATED CURRENT (ARMS)	FEED-THROUGH CURRENT (2) (A)
<b>TYPE DB 050110</b>						
DB050110BJ202##BK1	R230	2000	15.0	Max. 200.0	75.0	50.0
<b>TYPE DB 050180</b>						
DB050180WP102##BJ1	R85	1000	20.0	70.0	50.0	70.0
DB050180WP152##BJ1		1500				
DB050180WP302##BK1	R230	3000		100.0	60.0	

**Notes**

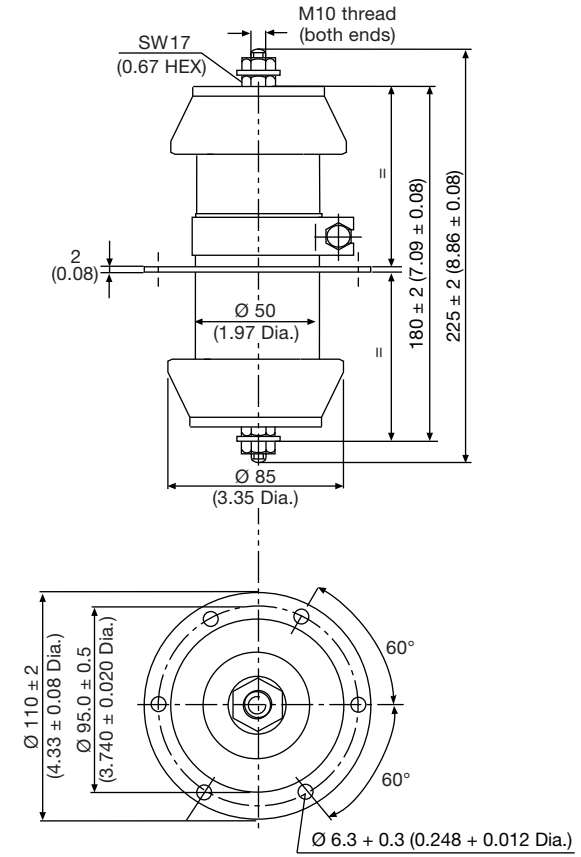
- ## 14<sup>th</sup> to 15<sup>th</sup> digit: capacitance tolerance code  $\pm 20\% = 38, \pm 10\% = 36$
- (1) The surface temperature during operation must not exceed  $+100\text{ }^{\circ}\text{C}$
- (2) DC or low frequency RMS current ( $< 20\text{ kHz}$ )

**DIMENSIONS** in millimeters (inches)

**DB 050110**

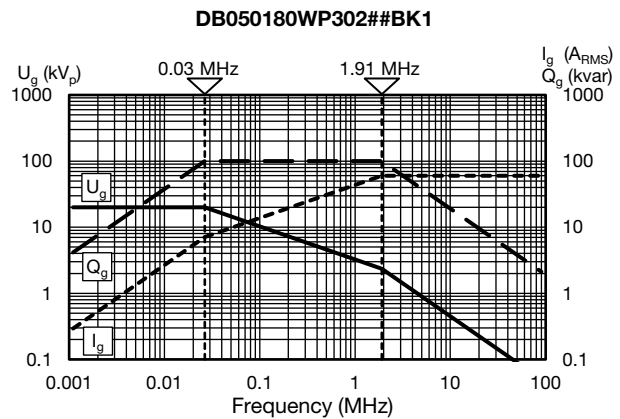
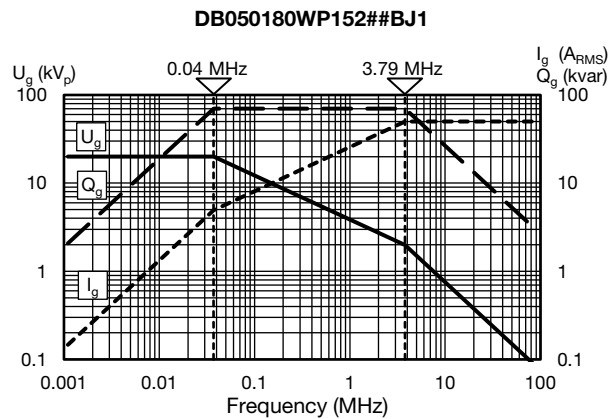
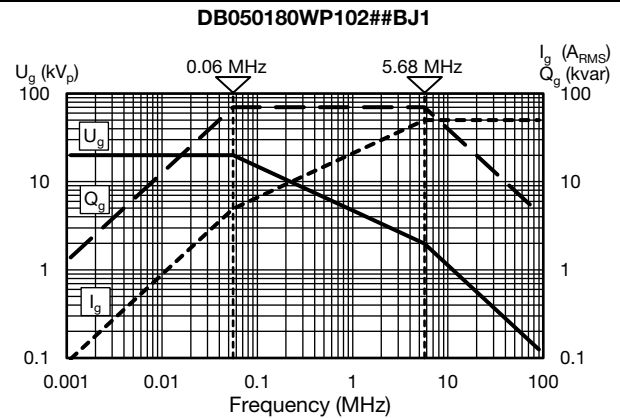
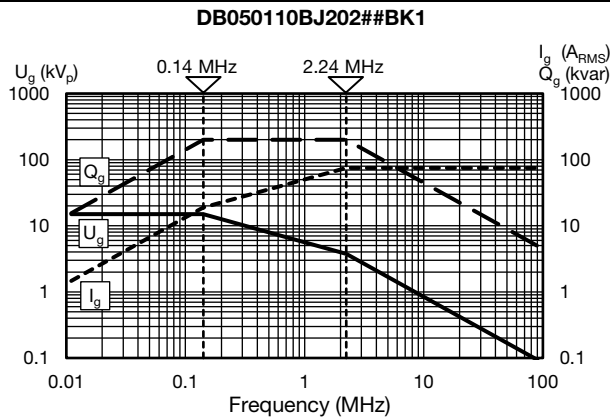


**DB 050180**



**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**

**RELATED DOCUMENTS**

General Information

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



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