

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



QUICK REFERENCE DATA			
DESCRIPTION	VALUE		
Ceramic Class	1		
Ceramic Dielectric	R16, R85, R230	R7, R16, R42, R85	
Type	DB 030088	DB 030100	
Voltage (V <sub>p</sub> )	10 000	7000	8000
Min. Capacitance (pF)	150	1500	100
Max. Capacitance (pF)	2500	1500	1200
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

- Small size
- Geometry minimizes inductance
- Wide range of capacitance values

### APPLICATIONS

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

### CAPACITANCE RANGE

100 pF to 2.5 nF

### CAPACITANCE TOLERANCE

± 20 %; ± 10 %; ± 5 %

### CERAMIC DIELECTRICS

- R7 (TCC + 100 ppm/K)
- R16 (TCC + 100 ppm/K)
- R42 (TCC - 250 ppm/K)
- R85 (TCC - 750 ppm/K)
- R230 (TCC - 750 ppm/K)

### RATED VOLTAGE

- 7.0 kV<sub>p</sub>
- 8.0 kV<sub>p</sub>
- 10.0 kV<sub>p</sub>

### DIELECTRIC STRENGTH TEST

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

### DISSIPATION FACTOR

R7: max. 0.07 %  
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. 50 000 MΩ (at 25 °C)

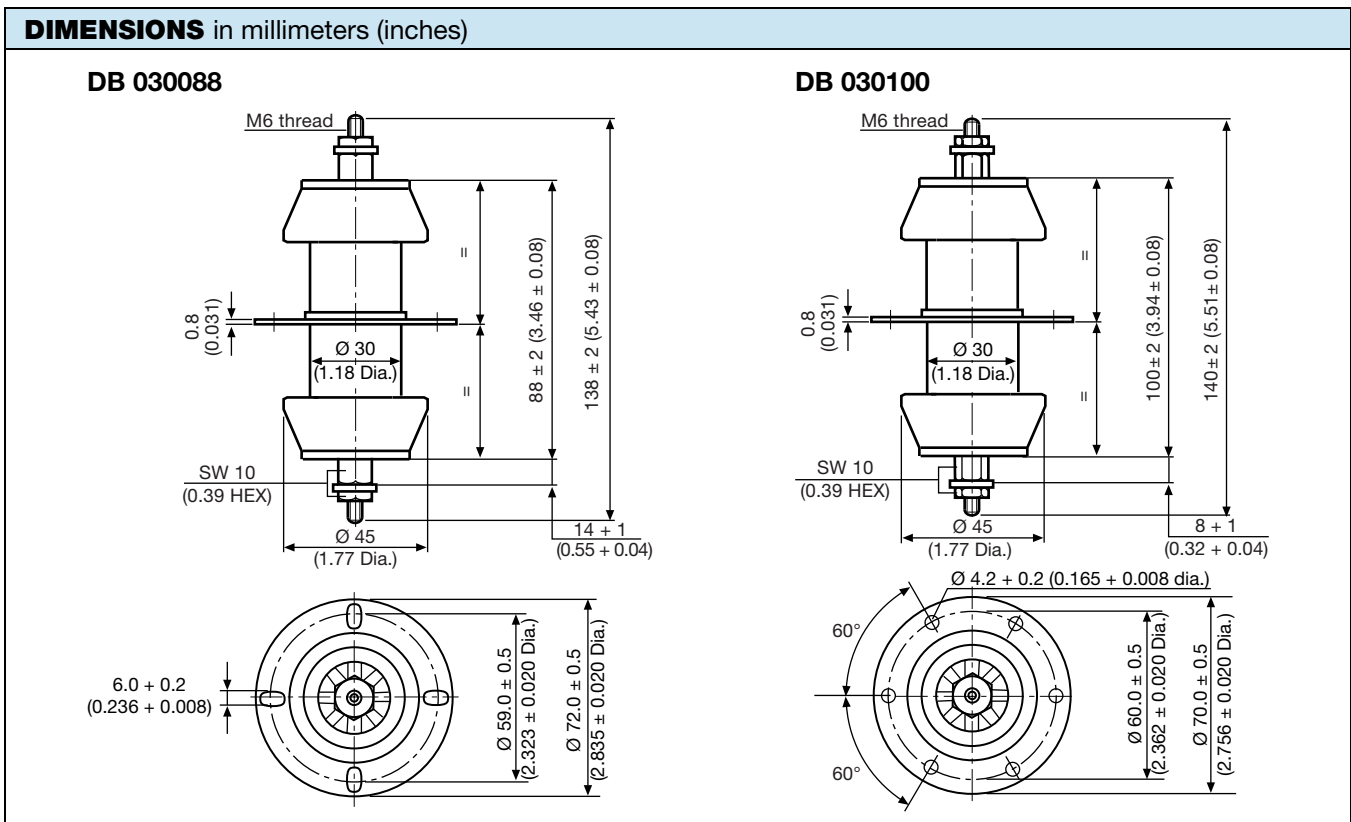
### OPERATING TEMPERATURE RANGE

-55 °C to +100 °C

SAP PART NUMBER AND ELECTRICAL DATA										
PART NUMBER	CERAMIC	CAP. VALUES (pF)	RATED VOLTAGE (kV <sub>P</sub> )	RATED POWER <sup>(1)</sup> (kvar)	RATED CURRENT (A <sub>RMS</sub> )	FEED-THROUGH CURRENT <sup>(2)</sup> (A)				
<b>TYPE DB 030088</b>										
DB030088BH151##BG1	R16	150	10.0	80.0	30.0	30.0				
DB030088BH102##BJ1	R85	1000								
DB030088BH202##BK1	R230	2000								
DB030088BH252##BK1		2500								
<b>TYPE DB 030100</b>										
DB030100BP101##BF1	R7	100	8.0	30.0	30.0	30.0				
DB030100BP121##BG1	R16	120								
DB030100BP161##BG1		160								
DB030100BP201##BG1		200								
DB030100BP251##BH1		R42					250			
DB030100BP301##BH1	300									
DB030100BP401##BH1	400									
DB030100BP501##BH1	500									
DB030100BP601##BJ1	R85	600								
DB030100BP801##BJ1		800								
DB030100BP102##BJ1		1000								
DB030100BP122##BJ1		1200								
DB030100VY152##BJ1		1500					7.0			

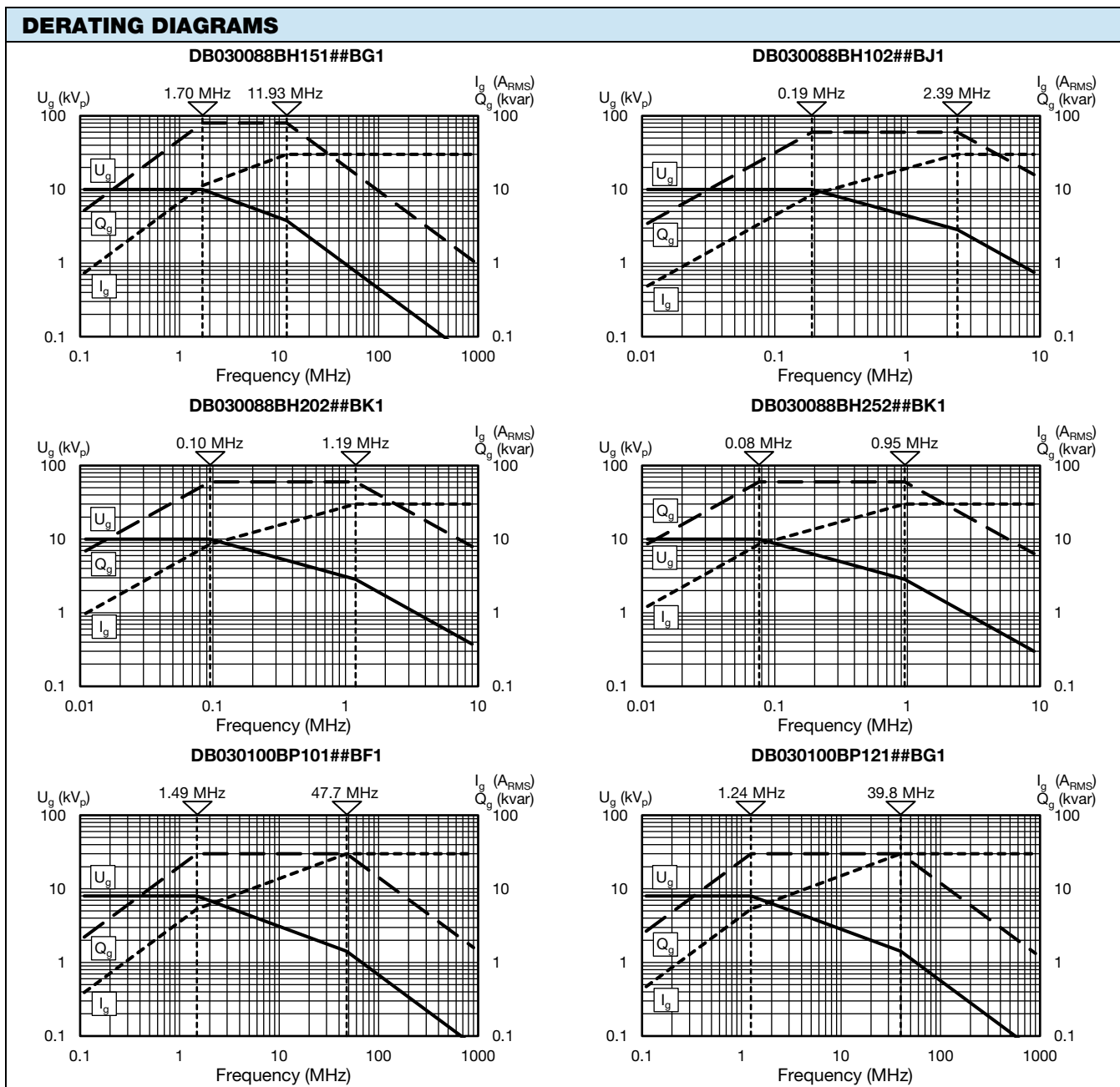
**Notes**

- ## 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)



**MOUNTING GUIDELINES**

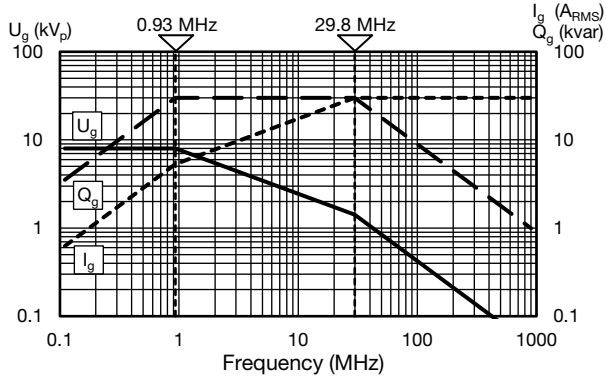
- The connection to one electrode must be flexible in order to prevent the generation of physical force which could damage the capacitor elements. Such forces are often generated by the dimensional differences resulting from the normal physical tolerances of these components.
- The capacitor elements 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.



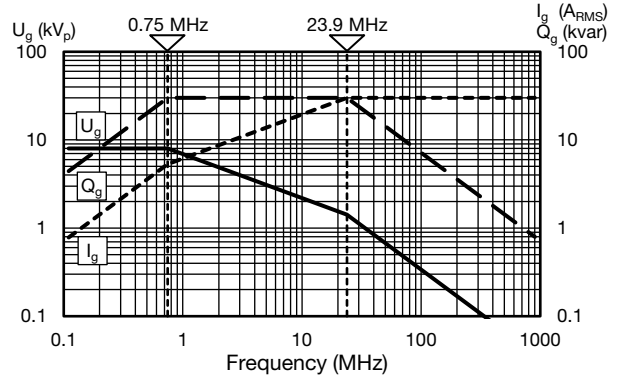


DERATING DIAGRAMS

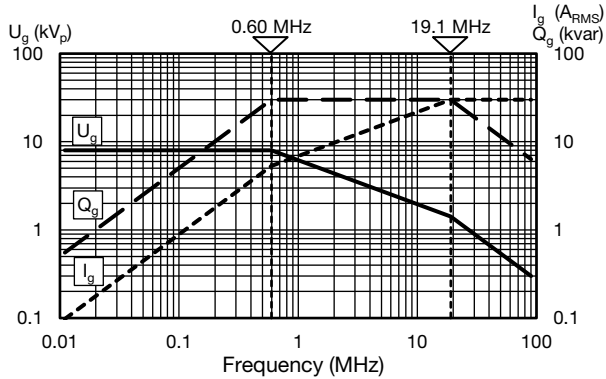
DB030100BP161##BG1



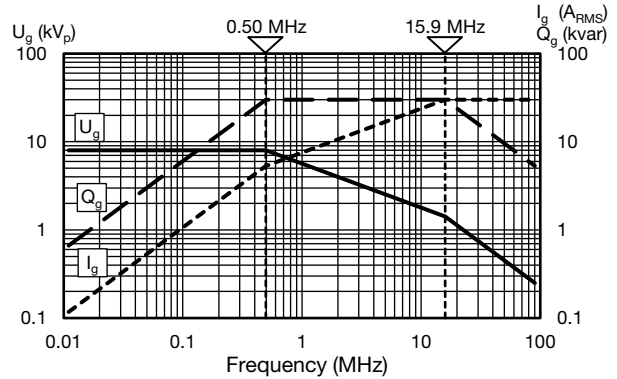
DB030100BP201##BG1



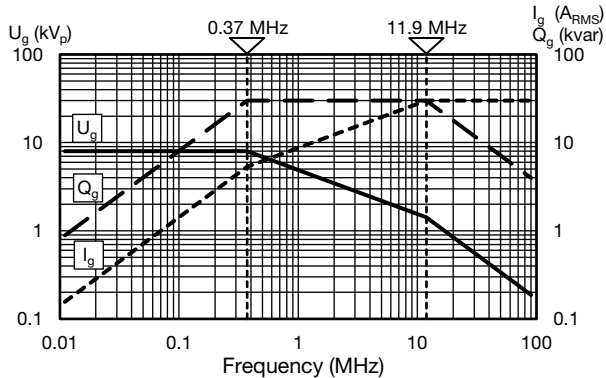
DB030100BP251##BH1



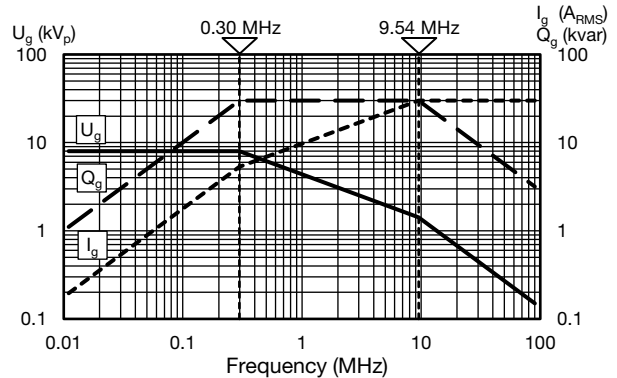
DB030100BP301##BH1



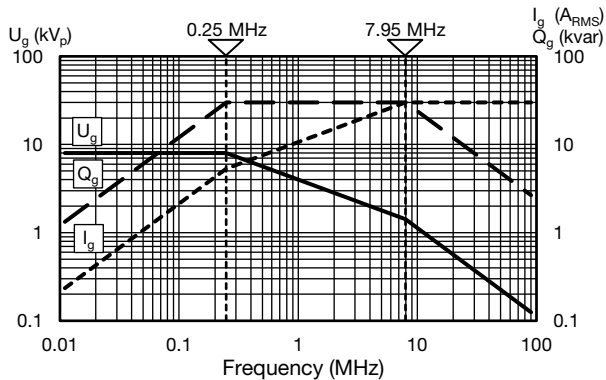
DB030100BP401##BH1



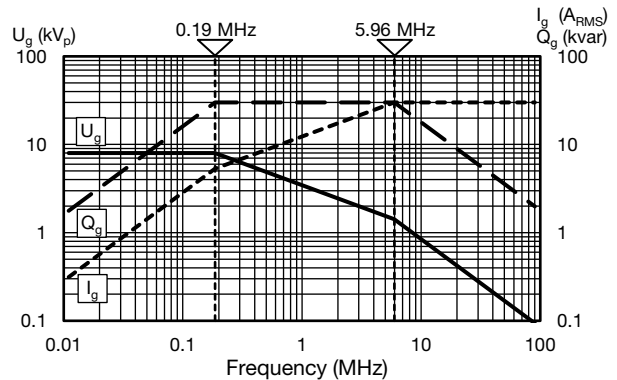
DB030100BP501##BH1



DB030100BP601##BJ1



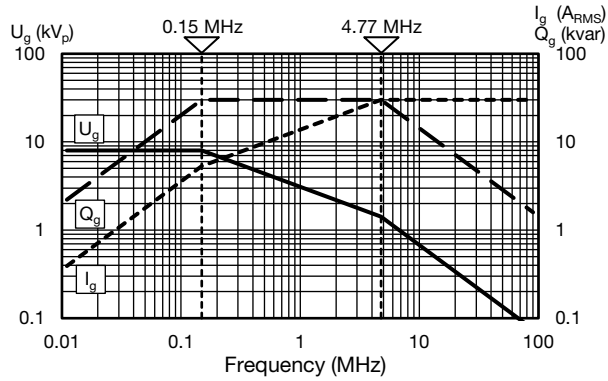
DB030100BP801##BJ1



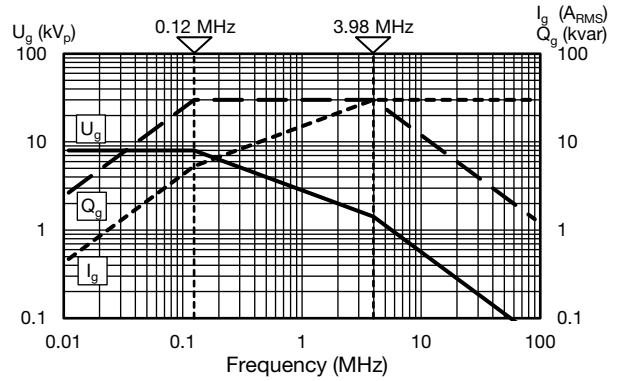


DERATING DIAGRAMS

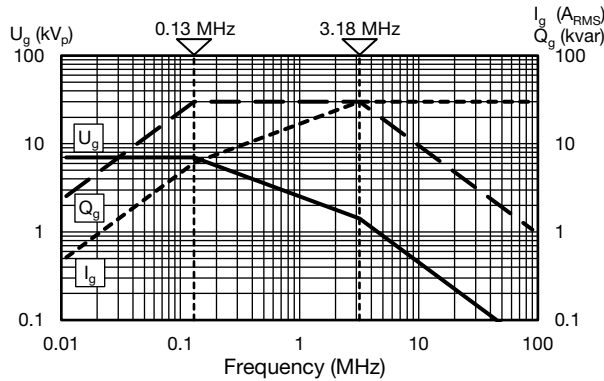
DB030100BP102##BJ1



DB030100BP122##BJ1



DB030100VY152##BJ1



RELATED DOCUMENTS

General Information

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



## 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.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. 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.