

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



QUICK REFERENCE DATA			
DESCRIPTION	VALUE		
Ceramic Class	1		
Ceramic Dielectric	R16, R42, R85, R230	R85, R230	
Type	DB 045120	DB 045155	
Voltage ( $V_p$ )	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.

### 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

$\pm 20\%$ ;  $\pm 10\%$ ;  $\pm 5\%$

### 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 ( $\geq 1$  nF)

### INSULATION RESISTANCE

Min. 10 000 M $\Omega$  (at 25 °C)

### OPERATING TEMPERATURE RANGE

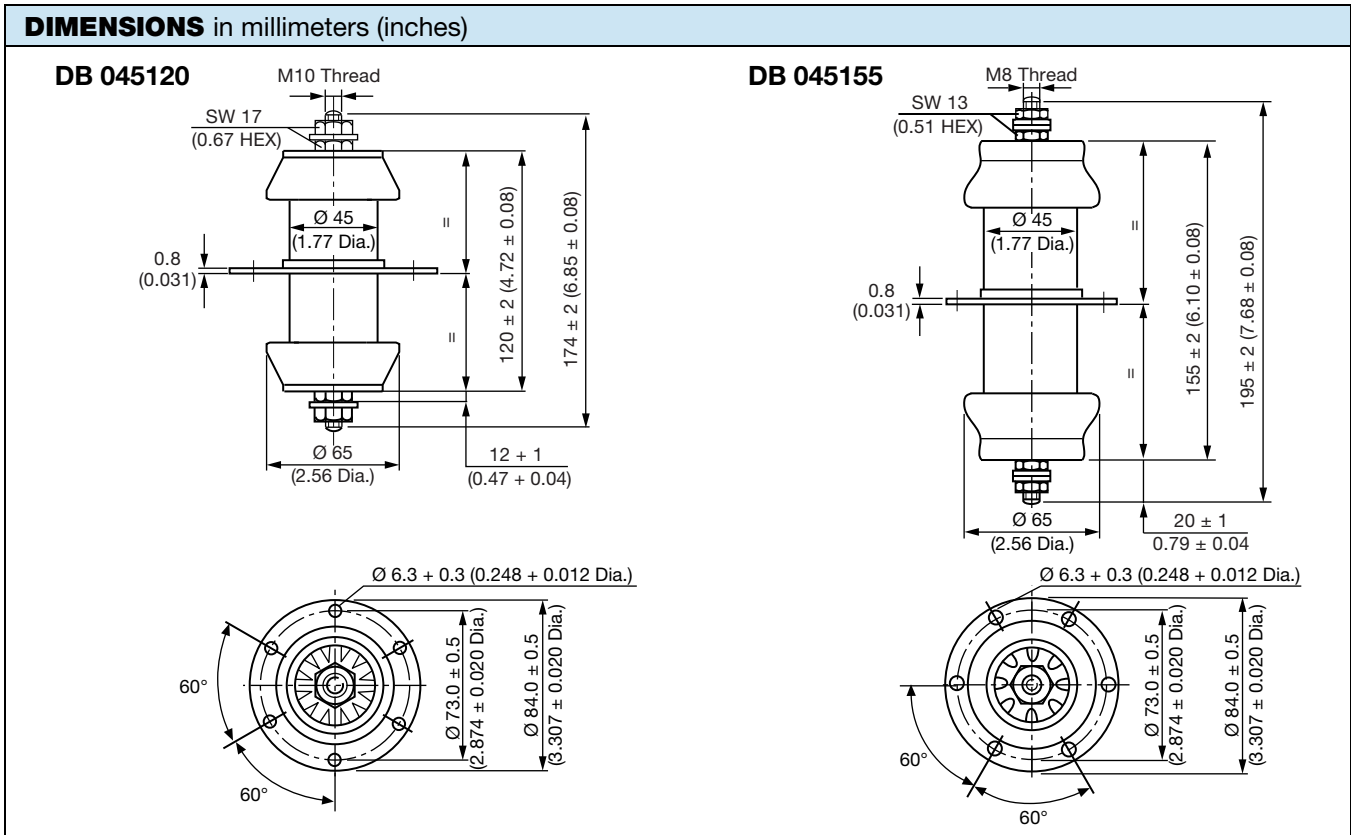
-55 °C to +100 °C



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 045120</b>						
DB045120WE201##BG1	R16	200	11.0	60.0	50.0	50.0
DB045120WE251##BG1		250				
DB045120WE301##BG1		300				
DB045120WE401##BH1	R42	400	10.0			
DB045120WE501##BH1		500				
DB045120WE601##BH1		600				
DB045120BH801##BH1	R85	800	11.0			
DB045120WE102##BJ1		1000				
DB045120WE122##BJ1		1200				
DB045120BH152##BJ1	R230	1500	10.0			
DB045120WE202##BK1		2000	11.0			
DB045120WE252##BK1		2500				
DB045120WE302##BK1	3000					
DB045120BH472##BK1		4700	10.0			
<b>TYPE DB 045155</b>						
DB045155WJ102##BJ1	R85	1000	14.0	56.0	25.0	50.0
DB045155WJ272##BK1	R230	2700				

**Notes**

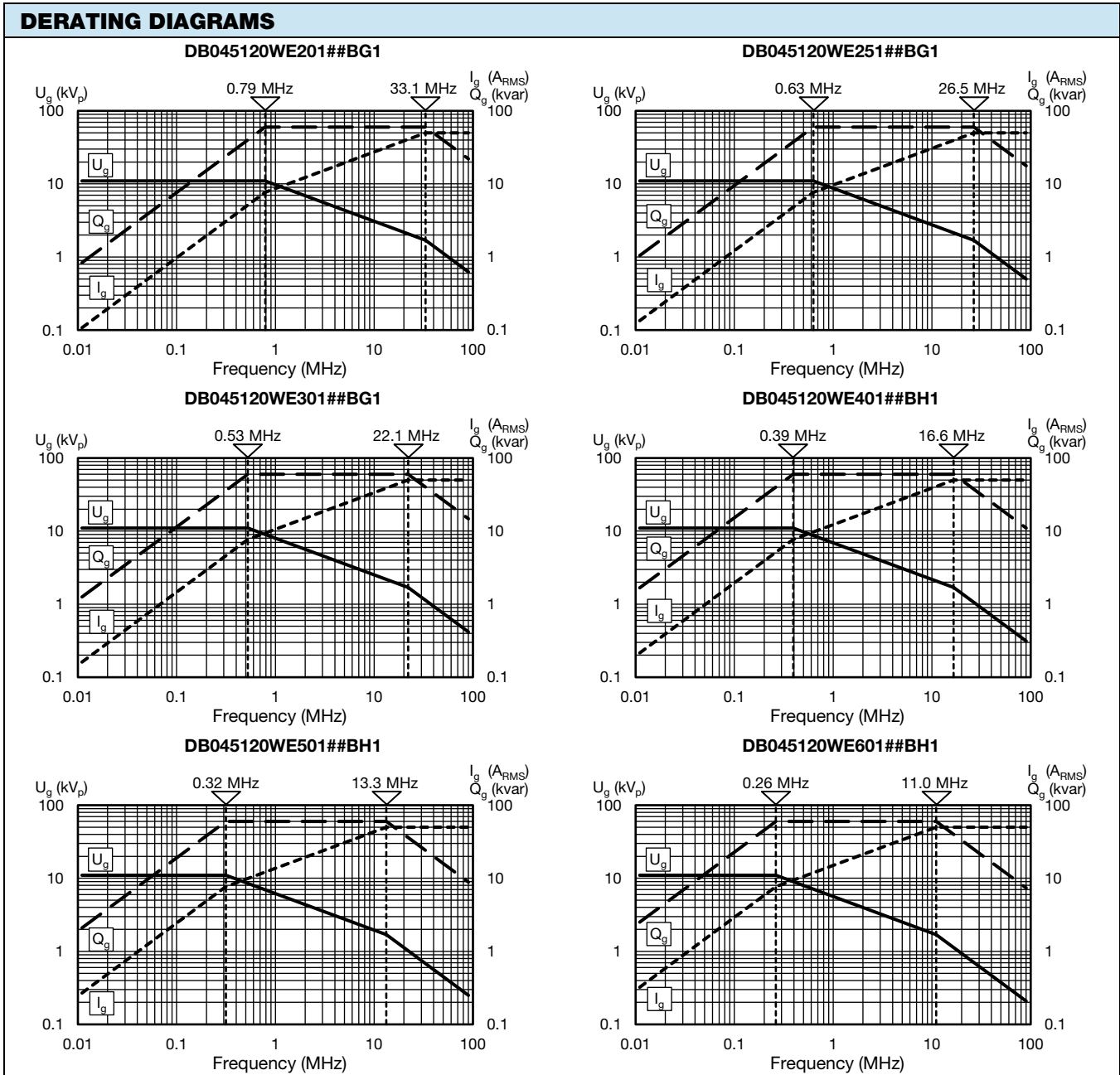
- ## 14<sup>th</sup> to 15<sup>th</sup> digit: capacitance tolerance code ± 20 % = 38, ± 10 % = 36, ± 5 % = 33
- (1) The surface temperature during operation must not exceed +100 °C
- (2) DC or low frequency RMS current (< 20 kHz)



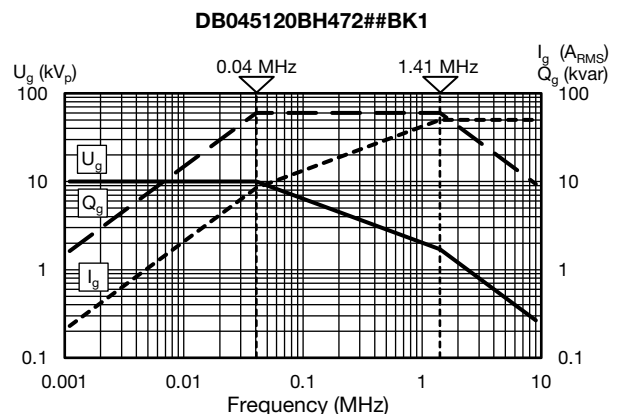
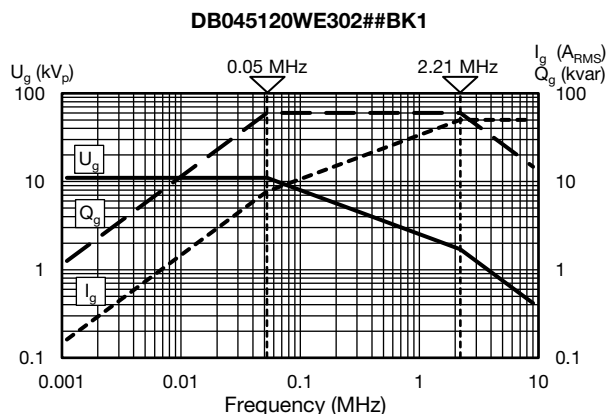
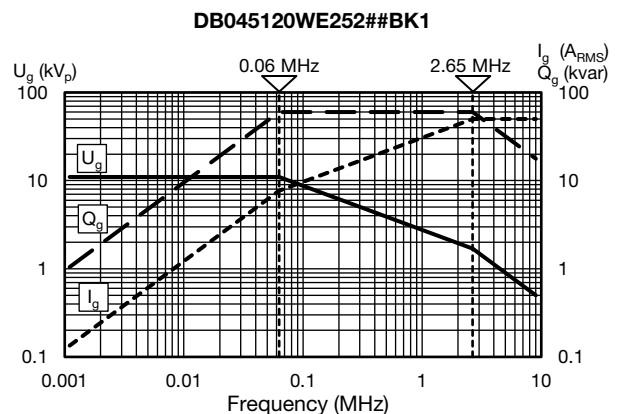
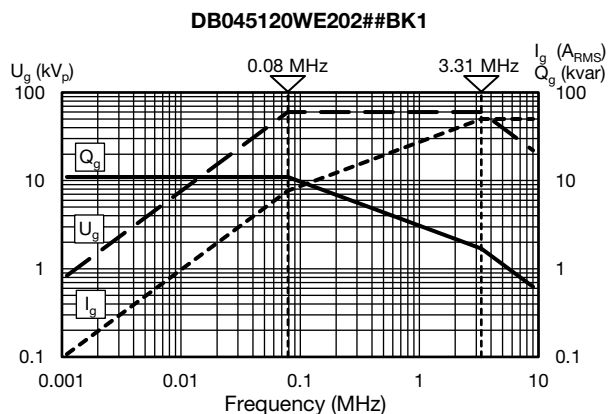
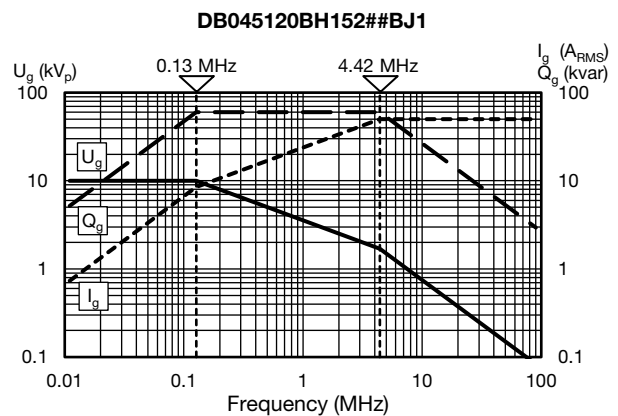
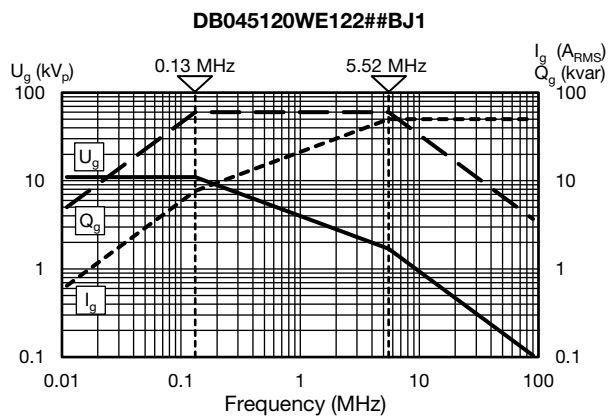
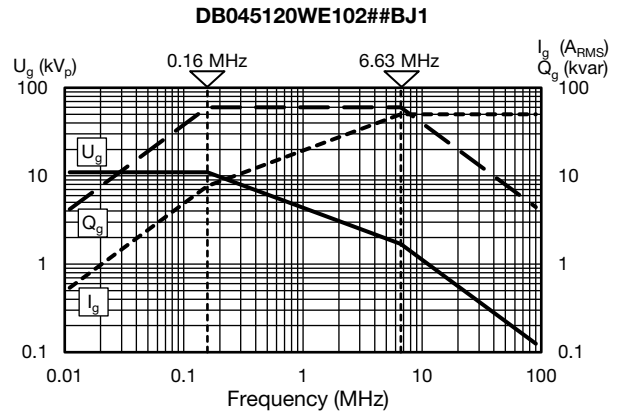
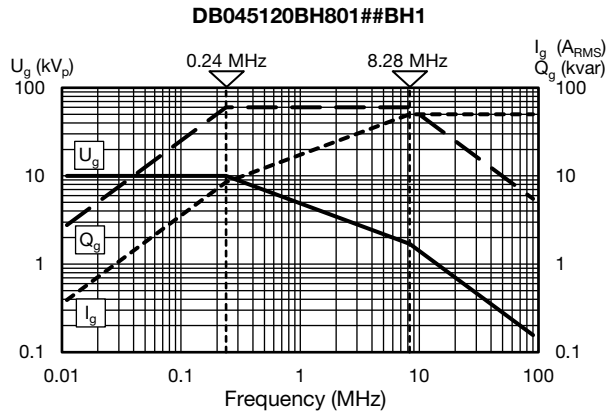


MOUNTING GUIDELINES

- 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.



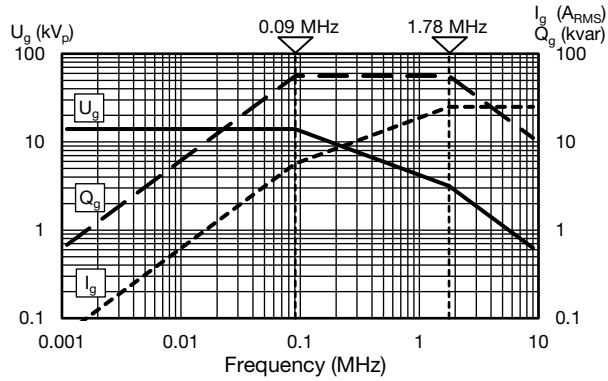
**DERATING DIAGRAMS**



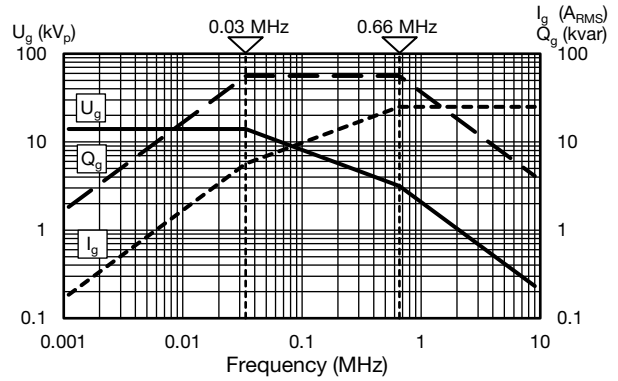


DERATING DIAGRAMS

DB045155WJ102##BJ1



DB045155WJ272##BK1



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.

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.