

## RF Power Plate Capacitors for Higher Voltages, Class 1 Ceramic



### FEATURES

- Low losses
- High reliability
- High voltage ratings

### APPLICATIONS

These high quality power plate capacitors are designed for usage in high frequency heating, welding equipment, and working environments with effects of moisture, dust and other impurities where high voltage ratings are required.

QUICK REFERENCE DATA								
DESCRIPTION	VALUE							
Ceramic Class	1							
Ceramic Dielectric	R7, R16, R42, R85, R230							
Type	PEF 220							
Voltage ( $V_p$ )	12 000	13 000	14 000	15 000	16 000	17 000	18 000	20 000
Min. Capacitance (pF)	400	4000	300	7000	250	3000	500	160
Max. Capacitance (pF)	6000	10 000	1600	8000	1200	3000	500	6000
Mounting	Screw terminal							

### MATERIAL

Capacitor elements made from class 1 ceramic dielectric with noble metal electrodes.

Flexible connection terminals copper / brass, silver plated, to allow for series and parallel interconnection.

### MARKING

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

### FINISH

Noble metal electrodes and terminals are protective lacquered.

The PEF 220 type features an insulating rim made from silicone elastomer to minimize the adverse effects of moisture, dust, and other impurities in the working environment and to improve the characteristics of the electrical field.

### CAPACITANCE RANGE

160 pF to 10 nF

### CAPACITANCE TOLERANCE

± 20 %, ± 10 %

### CERAMIC DIELECTRIC

- 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

- 12 kV<sub>p</sub>
- 13 kV<sub>p</sub>
- 14 kV<sub>p</sub>
- 15 kV<sub>p</sub>
- 16 kV<sub>p</sub>
- 17 kV<sub>p</sub>
- 18 kV<sub>p</sub>
- 20 kV<sub>p</sub>

### DIELECTRIC STRENGTH TEST

200 % of rated voltage, 50 Hz

### 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. 100 000 MΩ (at 25 °C)

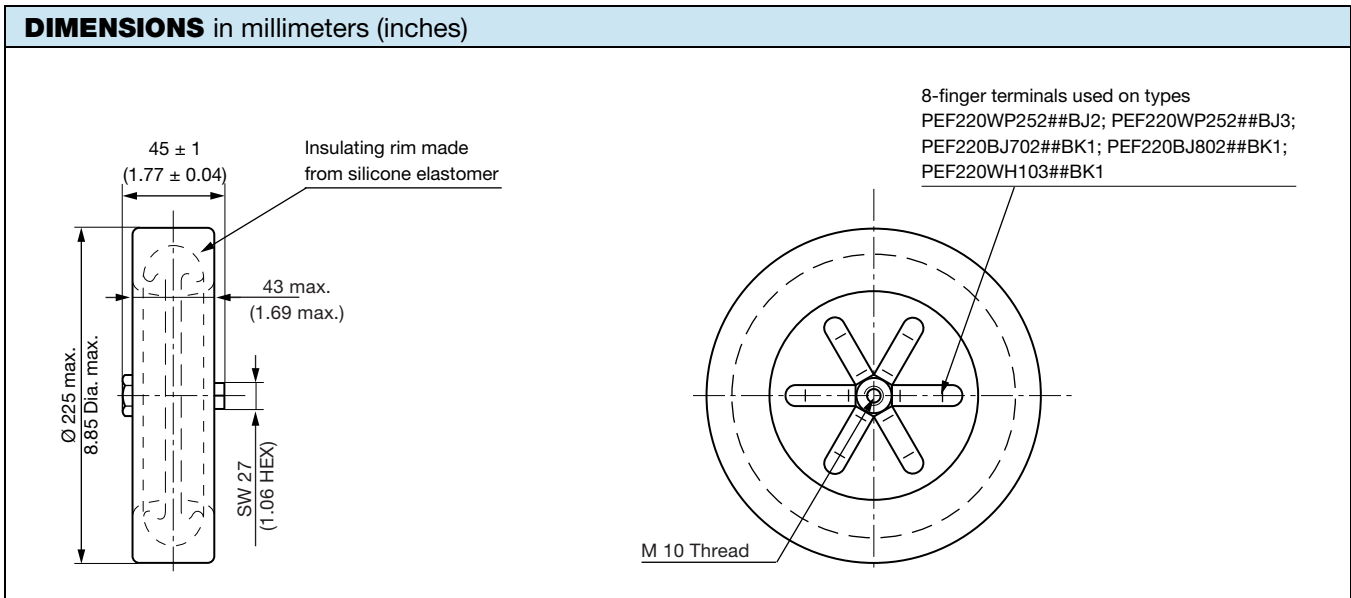
### OPERATING TEMPERATURE RANGE

-55 °C to +100 °C

SAP PART NUMBER AND ELECTRICAL DATA					
PART NUMBER	CERAMIC	CAP. VALUE (pF)	RATED VOLTAGE (kV <sub>p</sub> )	RATED POWER <sup>(1)</sup> (kvar)	RATED CURRENT (A <sub>RMS</sub> )
PEF220WP161##BF1	R 7	160	20	110	60
PEF220WP201##BF1		200			
PEF220WL251##BF1		250	16		
PEF220WJ301##BF1		300	14		
PEF220WF401##BF1		400	12		
PEF220WN501##BG1	R 16	500	18	140	60
PEF220WL601##BG1		600	16		
PEF220WP801##BH1	R 42	800	20	140	60
PEF220WP102##BH1		1000			
PEF220WL122##BH1		1200	16		
PEF220WJ162##BH1		1600	14		
PEF220WP202##BJ1	R85	2000	20	140	60
PEF220WP252##BJ1		2500			100
PEF220WP252##BJ3		2500			125
PEF220WP252##BJ2		2500	17		60
PEF220WM302##BJ1		3000			
PEF220WH402##BJ1		4000			
PEF220WH502##BJ1		5000	13		140
PEF220WF602##BJ1		6000	12		
PEF220WP602##BK1		6000	20		
PEF220BJ702##BK1	R 230	7000	15	140	60
PEF220BJ802##BK1		8000			100
PEF220WH103##BK1		10 000	13		

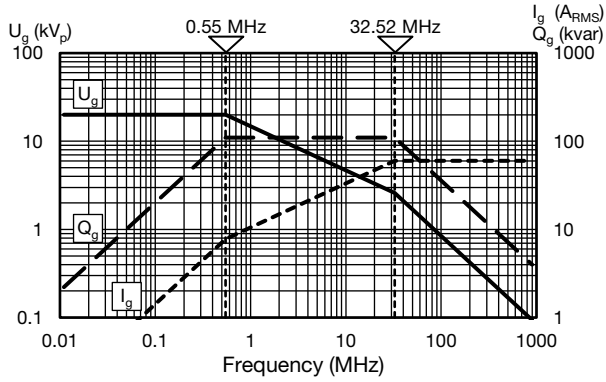
**Notes**

- ## 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 °C

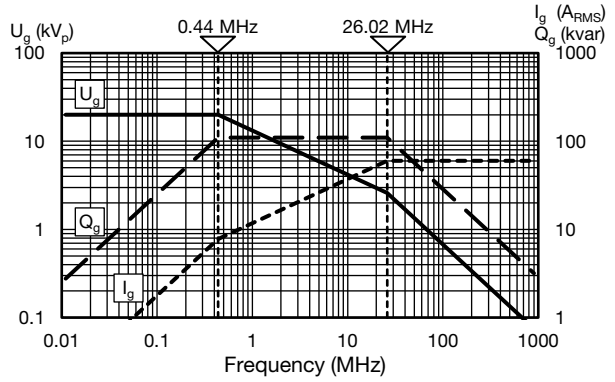


**DERATING DIAGRAMS**

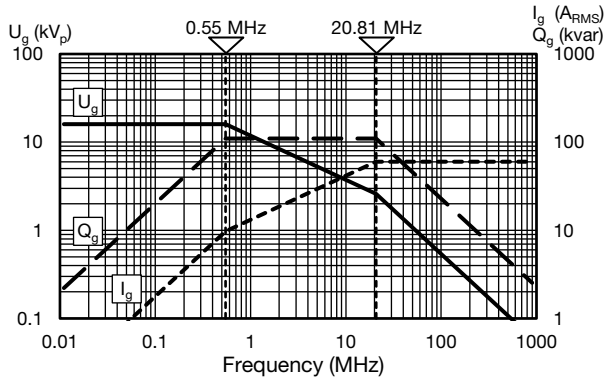
**PEF220WP161##BF1**



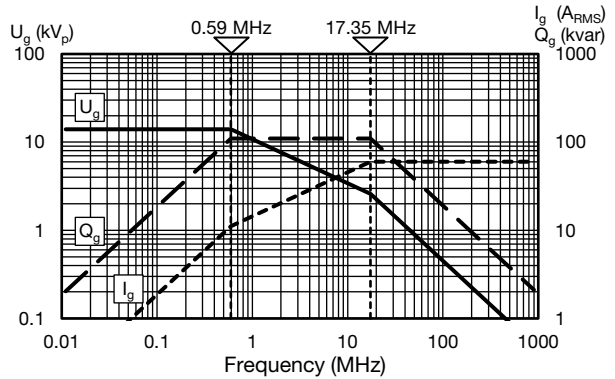
**PEF220WP201##BF1**



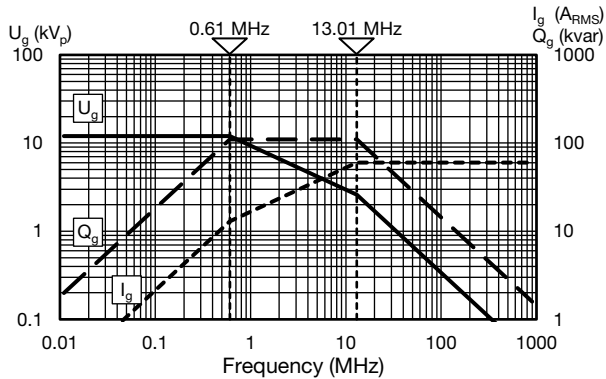
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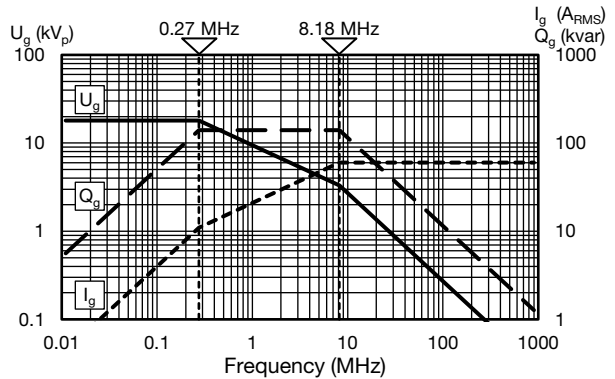
**PEF220WJ301##BF1**



**PEF220WF401##BF1**

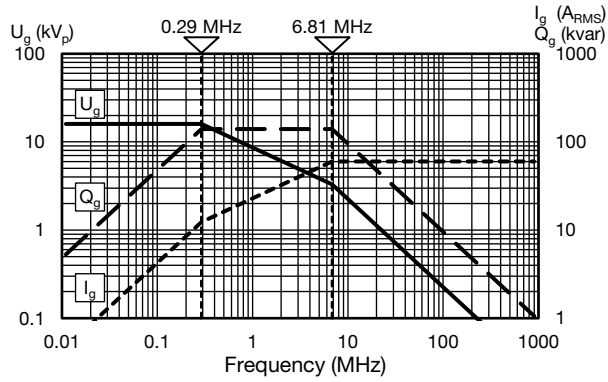


**PEF220WN501##BG1**

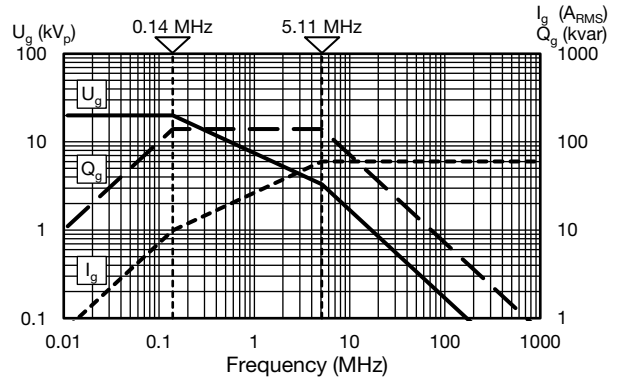


**DERATING DIAGRAMS**

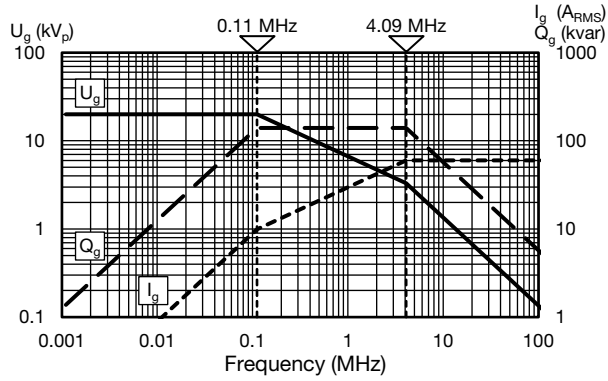
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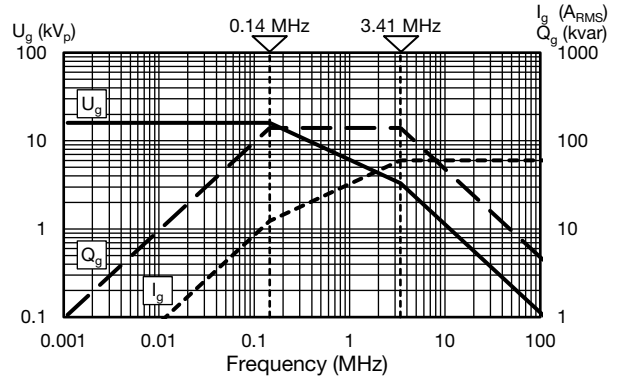
PEF220WP801##BH1



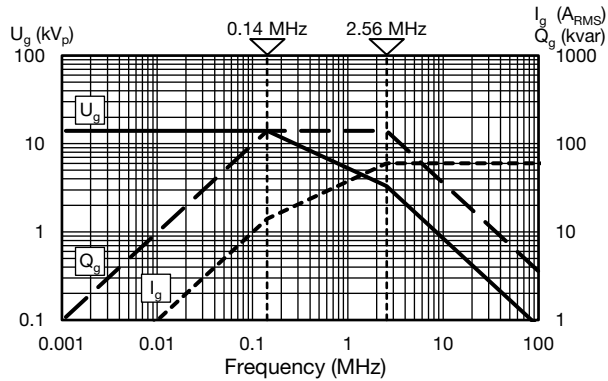
PEF220WP102##BH1



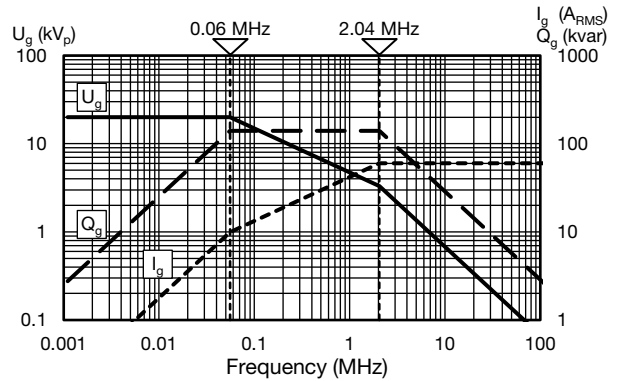
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PEF220WJ162##BH1

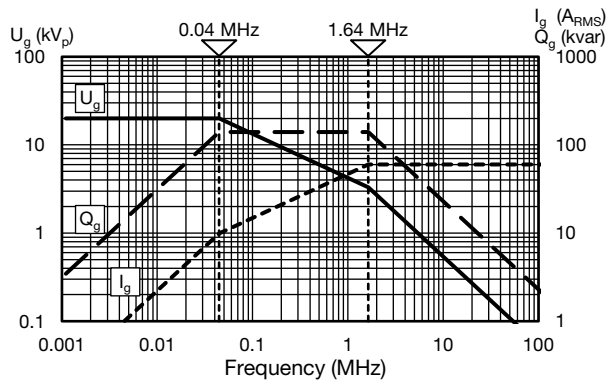


PEF220WP202##BJ1

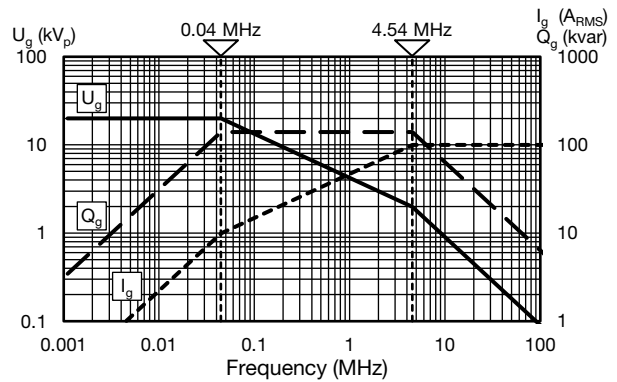


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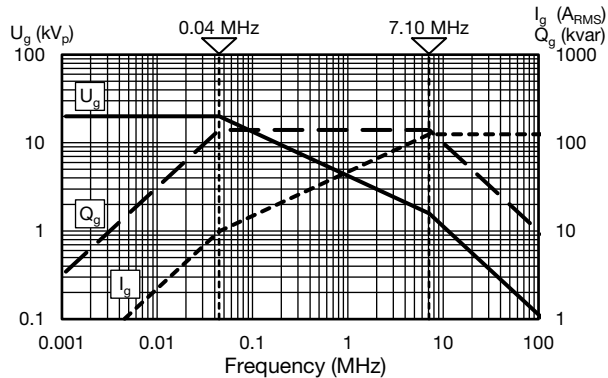
PEF220WP252##BJ1



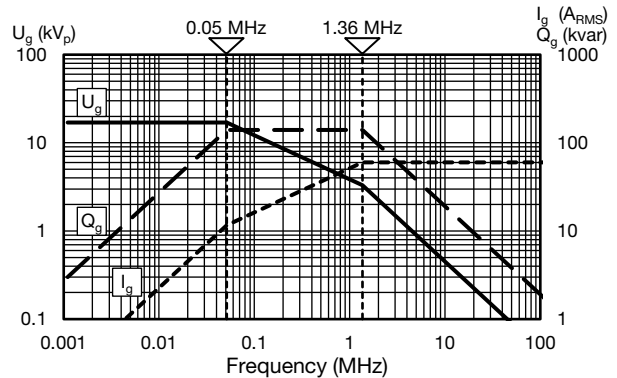
PEF220WP252##BJ3



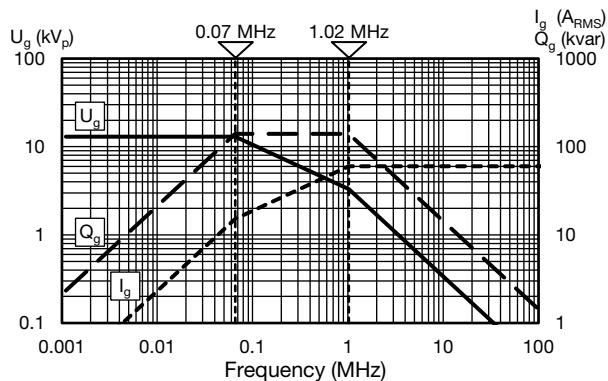
PEF220WP252##BJ2



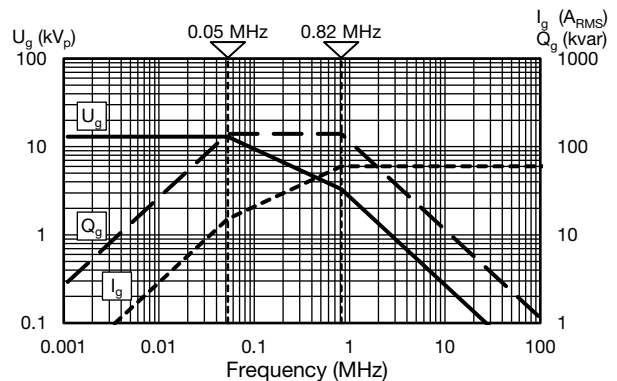
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PEF220WH402##BJ1

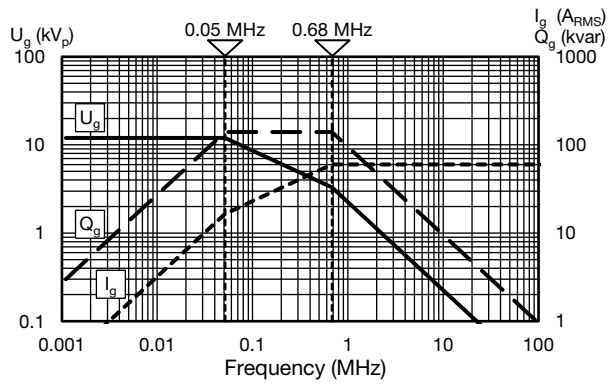


PEF220WH502##BJ1

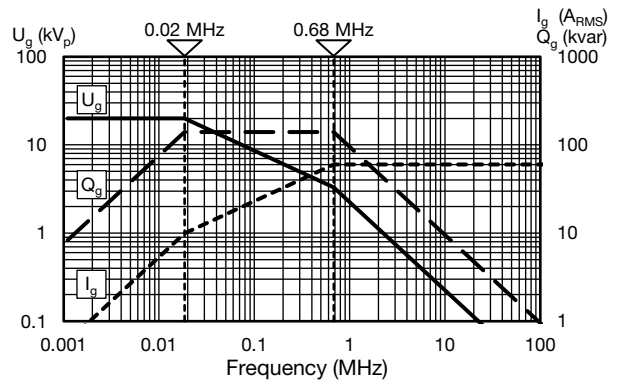


**DERATING DIAGRAMS**

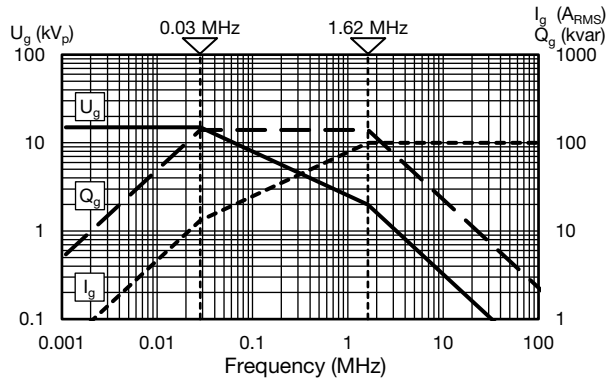
PEF220WF602##BJ1



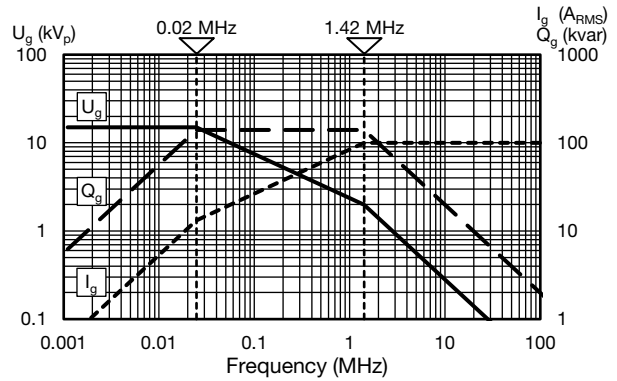
PEF220WP602##BK1



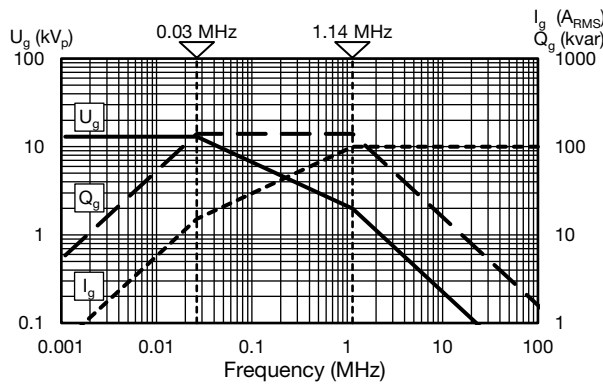
PEF220BJ702##BK1



PEF220BJ802##BK1



PEF220WH103##BK1



**RELATED DOCUMENTS**

General Information

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



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