

# PHE448

• Pulse capacitor, polypropylene film/foil

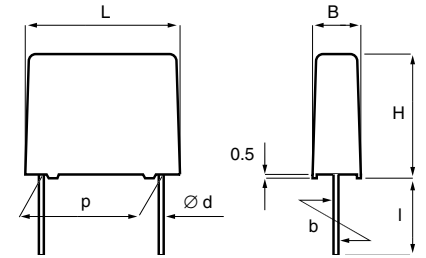
**RoHS**  
Compliant

## TYPICAL APPLICATIONS

High frequency and high voltage applications, requiring capacitors with extremely high current handling capability, i.e. high  $dU/dt$  values.

## CONSTRUCTION

Polypropylene film dielectric with aluminum foil and metallized film as electrodes, encapsulated in self-extinguishing material meeting the requirements of UL94V-0.



## TECHNICAL DATA

Rated voltage  $U_R$ , VDC

Rated voltage  $U_R$ , VAC

|      |      |
|------|------|
| 1600 | 2000 |
| 650  | 700  |

Capacitance range, nF

|      |      |
|------|------|
| 1.5– | 0.1– |
| 22   | 3.3  |

Capacitance values

In accordance with E12 series

Capacitance tolerance

±5% standard.  
Other tolerances on request

Category temperature range

-55 °C to +105 °C

Rated temperature

+85 °C

Voltage derating

The rated voltage is decreased with 1.3%/°C from +85 °C.

Climatic category

55/105/56

Voltage proof

2 x  $U_R$ , 2s

Insulation resistance

Measured at +23 °C, 100 VDC, 60s  
Between terminals:  
≥ 100 000 MΩ  
Between terminals and case:  
≥ 100 000 MΩ

Dissipation factor  $\tan\delta$

Max values at +23°C  
1 kHz: 0.03%  
10 kHz: 0.05%  
100 kHz: 0.1%

Pulse rise time

The capacitors can withstand an unlimited number of pulses with a  $dU/dt$  according to the article table.

| p          | d   | std l           | max l | b    |
|------------|-----|-----------------|-------|------|
| 15.0 ± 0.4 | 0.8 | 6 <sup>-1</sup> | 30    | ±0.4 |

Larger lead spacings, sizes and voltages on request. Ask for quotation.

## ORDERING INFORMATION

The article code for the standard part is given in the article table.  
For other options, see page 11.

## MARKING

- RIFA
- Article code
- Rated capacitance according to IEC 60062
- Capacitance tolerance code
- Rated voltage
- Manufacturing date code (year, month)

## ENVIRONMENTAL TEST DATA

See page 95.

ARTICLE TABLE

| Capacitance<br>nF | Box<br>code | Max dimensions<br>in mm |   |   | Max<br>dU/dt<br>V/μs | Rthha<br>°C/W | Article code |
|-------------------|-------------|-------------------------|---|---|----------------------|---------------|--------------|
|                   |             | B                       | H | L |                      |               |              |

| Capacitance<br>nF | Box<br>code | Max dimensions<br>in mm |   |   | Max<br>dU/dt<br>V/μs | Rthha<br>°C/W | Article code |
|-------------------|-------------|-------------------------|---|---|----------------------|---------------|--------------|
|                   |             | B                       | H | L |                      |               |              |

1600 VDC/650 VAC

2000 VDC/700 VAC

LEAD SPACING 15 MM

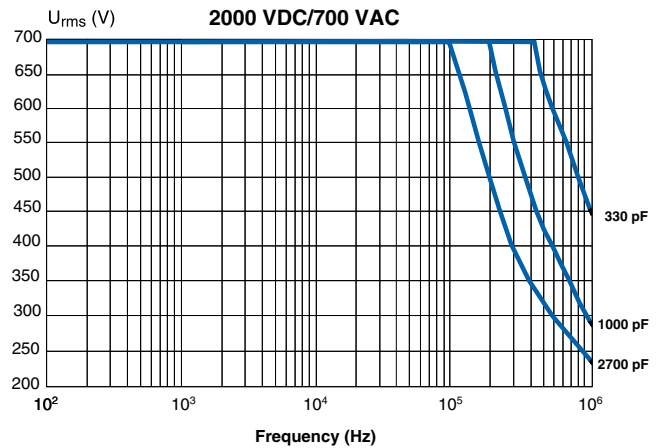
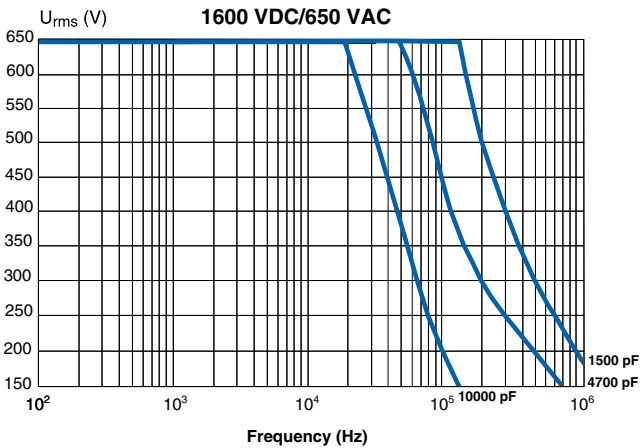
LEAD SPACING 15 MM

|      |     |      |      |      |       |    |                  |
|------|-----|------|------|------|-------|----|------------------|
| 1.5  | B04 | 5.5  | 10.5 | 18.0 | 15000 | 87 | PHE448RB4150JR06 |
| 1.8  | B04 | 5.5  | 10.5 | 18.0 | 15000 | 86 | PHE448RB4180JR06 |
| 2.2  | B04 | 5.5  | 10.5 | 18.0 | 15000 | 84 | PHE448RB4220JR06 |
| 2.7  | B10 | 6.5  | 12.5 | 18.0 | 15000 | 82 | PHE448RB4270JR06 |
| 3.3  | B10 | 6.5  | 12.5 | 18.0 | 15000 | 82 | PHE448RB4330JR06 |
| 3.9  | B10 | 6.5  | 12.5 | 18.0 | 15000 | 82 | PHE448RB4390JR06 |
| 4.7  | B10 | 6.5  | 12.5 | 18.0 | 15000 | 82 | PHE448RB4470JR06 |
| 5.6  | B06 | 7.5  | 14.5 | 18.0 | 15000 | 78 | PHE448RB4560JR06 |
| 6.8  | B06 | 7.5  | 14.5 | 18.0 | 15000 | 78 | PHE448RB4680JR06 |
| 8.2  | B11 | 8.5  | 16.0 | 18.0 | 15000 | 70 | PHE448RB4820JR06 |
| 10.0 | B11 | 8.5  | 16.0 | 18.0 | 15000 | 70 | PHE448RB5100JR06 |
| 12.0 | B14 | 9.5  | 17.5 | 18.0 | 15000 | 60 | PHE448RB5120JR06 |
| 15.0 | B14 | 9.5  | 17.5 | 18.0 | 15000 | 60 | PHE448RB5150JR06 |
| 18.0 | B16 | 11.0 | 19.0 | 18.0 | 15000 | 55 | PHE448RB5180JR06 |
| 22.0 | B16 | 11.0 | 19.0 | 18.0 | 15000 | 55 | PHE448RB5220JR06 |

|      |     |     |      |      |       |    |                  |
|------|-----|-----|------|------|-------|----|------------------|
| 0.10 | B04 | 5.5 | 10.5 | 18.0 | 25000 | 87 | PHE448SB3100JR06 |
| 0.12 | B04 | 5.5 | 10.5 | 18.0 | 25000 | 87 | PHE448SB3120JR06 |
| 0.15 | B04 | 5.5 | 10.5 | 18.0 | 25000 | 87 | PHE448SB3150JR06 |
| 0.18 | B04 | 5.5 | 10.5 | 18.0 | 25000 | 87 | PHE448SB3180JR06 |
| 0.22 | B04 | 5.5 | 10.5 | 18.0 | 25000 | 87 | PHE448SB3220JR06 |
| 0.27 | B04 | 5.5 | 10.5 | 18.0 | 25000 | 87 | PHE448SB3270JR06 |
| 0.33 | B04 | 5.5 | 10.5 | 18.0 | 25000 | 86 | PHE448SB3330JR06 |
| 0.39 | B04 | 5.5 | 10.5 | 18.0 | 25000 | 86 | PHE448SB3390JR06 |
| 0.47 | B04 | 5.5 | 10.5 | 18.0 | 25000 | 86 | PHE448SB3470JR06 |
| 0.56 | B04 | 5.5 | 10.5 | 18.0 | 25000 | 85 | PHE448SB3560JR06 |
| 0.68 | B04 | 5.5 | 10.5 | 18.0 | 25000 | 85 | PHE448SB3680JR06 |
| 0.82 | B04 | 5.5 | 10.5 | 18.0 | 25000 | 85 | PHE448SB3820JR06 |
| 1.0  | B04 | 5.5 | 10.5 | 18.0 | 25000 | 84 | PHE448SB4100JR06 |
| 1.2  | B10 | 6.5 | 12.5 | 18.0 | 25000 | 82 | PHE448SB4120JR06 |
| 1.5  | B10 | 6.5 | 12.5 | 18.0 | 25000 | 82 | PHE448SB4150JR06 |
| 1.8  | B06 | 7.5 | 14.5 | 18.0 | 25000 | 78 | PHE448SB4180JR06 |
| 2.2  | B11 | 8.5 | 16.0 | 18.0 | 25000 | 70 | PHE448SB4220JR06 |
| 2.7  | B11 | 8.5 | 16.0 | 18.0 | 25000 | 70 | PHE448SB4270JR06 |
| 3.3  | B14 | 9.5 | 17.5 | 18.0 | 25000 | 60 | PHE448SB4330JR06 |

Updated since the latest printed catalogue

DERATING OF  $U_{RMS}$  VS FREQUENCY, +85°C AMBIENT TEMPERATURE AND 10°C INTERNAL HEATING, TYPICAL VALUES



More simulation possibilities in PCCAD. See page 94.