

# PHE845

**RoHS**  
Compliant

- EMI suppressor, class X1, metallized polypropylene
- 0.01 – 1.0  $\mu\text{F}$ , 760 VAC/600 VAC, +105°C

## TYPICAL APPLICATIONS

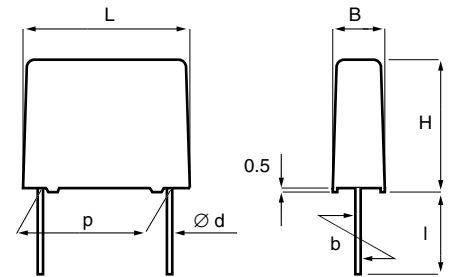
For worldwide use as electromagnetic interference suppressor in all X1 and across-the-line applications.  
Not for use in series with the mains.  
See [www.kemet.com](http://www.kemet.com) for more information.

## CONSTRUCTION

Triple winding of metallized polypropylene.  
Encapsulated in self-extinguishing material meeting the requirements of UL 94 V-0.

## TECHNICAL DATA

|                                       |  |  |
|---------------------------------------|--|--|
| <b>Rated voltage</b>                  | 760 VAC 50/60 Hz (ENEC)<br>600 VAC 50/60 Hz (UL, CSA)  |  |
| <b>Capacitance range</b>              | 0.01 – 1.0 $\mu\text{F}$   |  |
| <b>Capacitance tolerance</b>          | $\pm 20\%$ standard, $\pm 10\%$ option   |  |
| <b>Temperature range</b>              | –40 to +105°C  |  |
| <b>Climatic category</b>              | 40/105/56/B  |  |
| <b>Approvals</b>                      | ENEC, UL, cUL  |  |
| <b>Dissipation factor</b>             | Maximum values at +23°C  |  |
|                                       | $C \leq 0.1 \mu\text{F}$   | $0.1 \mu\text{F} < C \leq 1 \mu\text{F}$ |
|                                       | 1 kHz 0.1%   | 0.1%                                     |
|                                       | 10 kHz 0.2%  | 0.4%                                     |
|                                       | 100 kHz 0.6%   | –  |
| <b>Test voltage between terminals</b> | The 100% screening factory test is carried out at 4250 VDC. The voltage level is selected to meet the requirements in applicable equipment standards. All electrical characteristics are checked after the test. |  |
| <b>Resonance frequency</b>            | Tabulated self-resonance frequencies $f_0$ refer to 5 mm lead length.  |  |
| <b>Insulation resistance</b>          | $C \leq 0.33 \mu\text{F}$ : $\geq 30\,000 \text{ M}\Omega$<br>$C > 0.33 \mu\text{F}$ : $\geq 10\,000 \text{ s}$  |  |
| <b>In DC application</b>              | Recommended voltage: $\leq 1500\text{VDC}$   |  |



| p              | d   | std l | max l | b         |
|----------------|-----|-------|-------|-----------|
| 22.5 $\pm$ 0.4 | 0.8 | 6     | 30    | $\pm 0.4$ |
| 27.5 $\pm$ 0.4 | 0.8 | 6     | 30    | $\pm 0.4$ |
| 37.5 $\pm$ 0.5 | 1.0 | 6     | 30    | $\pm 0.7$ |

Tolerance in lead length  
< 30 mm  $^{+0}_{-1}$  mm

30 mm  $^{+5}_{-0}$  mm

## ENVIRONMENTAL TEST DATA

|                              |                                |   |   |
|------------------------------|--------------------------------|---|---|
| <b>Endurance</b>             | EN/IEC 60384-14:2005           | 1.25 x $U_R$ VAC 50 Hz,<br>once every hour increased<br>to 1000 VAC for 0.1 s,<br>1000 h at upper rated temperature |   |
| <b>Vibration</b>             | IEC 60068-2-6<br>Test Fc       | 3 directions at 2 hours each,<br>10–55 Hz at 0.75 mm or 98 m/s <sup>2</sup>   | No visible damage<br>No open or short circuit |
| <b>Bump</b>                  | IEC 60068-2-29<br>Test Eb      | 1000 bumps at<br>390 m/s <sup>2</sup>   | No visible damage<br>No open or short circuit |
| <b>Change of temperature</b> | IEC 60068-2-14<br>Test Na      | Upper and lower rated<br>temperature 5 cycles   | No visible damage                             |
| <b>Active flammability</b>   | EN/IEC 60384-14:2005           |   |   |
| <b>Passive flammability</b>  | EN/IEC 60384-14:2005<br>UL1414 | Enclosure material of<br>UL94V-0 flammability class   |   |
| <b>Humidity</b>              | IEC 60068-2-3<br>Test Ca       | +40°C and<br>90 – 95% R.H.  | 56 days                                       |

## ARTICLE TABLE

| Capacitance<br>$\mu\text{F}$ | Box code | Max dimensions<br>in mm |   |   | Max<br>$f_o$<br>MHz |  | Max<br>$dU/dt$<br>V/ $\mu\text{s}$ | Article code |
|------------------------------|----------|-------------------------|---|---|---------------------|--|------------------------------------|--------------|
|                              |          | B                       | H | L |                     |  |                                    |              |

## LEAD SPACING 22.5 MM

|       |     |      |      |      |     |     |                     |
|-------|-----|------|------|------|-----|-----|---------------------|
| 0.010 | D13 | 6.5  | 14.5 | 26.0 | 11  | 100 | PHE845VD5100MR06L2  |
| 0.015 | D13 | 6.5  | 14.5 | 26.0 | 9.2 | 100 | PHE845VD5150MR06L2  |
| 0.022 | D13 | 6.5  | 14.5 | 26.0 | 7.6 | 100 | PHE845VD5220MR06L2  |
| 0.033 | D17 | 7.0  | 16.5 | 26.0 | 6.4 | 100 | PHE845VD5330MR06L2  |
| 0.047 | D15 | 9.0  | 18.5 | 26.0 | 5.3 | 100 | PHE845VD5470MR06L2  |
| 0.068 | D18 | 10.5 | 19.0 | 26.0 | 4.4 | 100 | PHE845VD5680MR06L2  |
| 0.10  | D16 | 11.0 | 21.5 | 26.0 | 3.5 | 100 | PHE845VD6100MR06L2  |
| 0.15  | D20 | 13.5 | 23.0 | 26.0 | 3.1 | 100 | PHE845VD6150MR06L2  |
| 0.22  | D19 | 15.5 | 24.5 | 26.0 | 2.7 | 100 | PHE845VY6220MR06L2* |

## LEAD SPACING 27.5 MM

|      |     |      |      |      |     |     |                     |
|------|-----|------|------|------|-----|-----|---------------------|
| 0.10 | F11 | 10.5 | 20.5 | 31.5 | 3.4 | 100 | PHE845VF6100MR06L2  |
| 0.15 | F12 | 11.5 | 22.5 | 31.5 | 3.0 | 100 | PHE845VF6150MR06L2  |
| 0.22 | F03 | 13.5 | 23.0 | 31.5 | 2.4 | 100 | PHE845VF6220MR06L2  |
| 0.33 | F15 | 19.0 | 29.0 | 31.5 | 2.0 | 100 | PHE845VF6330MR06L2  |
| 0.47 | F16 | 21.0 | 30.0 | 31.5 | 1.6 | 100 | PHE845VZ6470MR06L2* |

## LEAD SPACING 37.5 MM

|      |     |      |      |      |     |     |                     |
|------|-----|------|------|------|-----|-----|---------------------|
| 0.47 | R04 | 15.0 | 26.0 | 41.0 | 1.6 | 100 | PHE845VW6470MR06L2* |
| 0.47 | R02 | 16.5 | 32.0 | 41.0 | 1.6 | 100 | PHE845VR6470MR06L2  |
| 0.68 | R03 | 19.0 | 36.0 | 41.0 | 1.2 | 100 | PHE845VR6680MR06L2  |
| 1.0  | R06 | 21.0 | 38.0 | 41.0 | 1.0 | 100 | PHE845VW7100MR06L2* |

\* Only  $\pm 20\%$ 

## APPROVALS

| Certification Body | Specification        |                  |
|--------------------|----------------------|------------------|
| ENEC               | EN/IEC 60384-14:2005 |                  |
| UL                 | UL 1283              | ( $U_R=600$ VAC) |
| cUL recognition    | C 22.2 No. 8         | ( $U_R=600$ VAC) |

## ORDERING INFORMATION

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

## MARKING

- RIFA
- RIFA article code
- Rated capacitance
- Capacitance tolerance code
- Rated voltage
- X1
- Approval marks
- Manufacturing date code
- IEC climatic category
- Passive flammability class

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