

PHE830

- EMI suppressor, class X2, metallized polyester
- 0.01 – 2.2 μF , 275 VAC, +100°C

TYPICAL APPLICATIONS

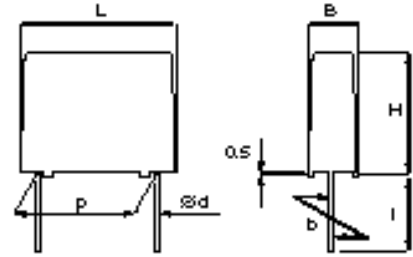
For worldwide use as electromagnetic interference suppressor in all X2 and across-the-line applications.

CONSTRUCTION

Series winding of metallized polyester, encapsulated in self-extinguishing material meeting the requirements of UL 94 V-0

TECHNICAL DATA

| | |
|---------------------------------------|--|
| Rated voltage | 275 VAC 50/60 Hz |
| Capacitance range | 0.01 – 2.2 μF |
| Capacitance tolerance | $\pm 20\%$ standard, $\pm 10\%$ option |
| Temperature range | -40 to +100°C |
| Climatic category | 40/100/56/C |
| Approvals | S, VDE, UL, CSA |
| Dissipation factor | 1.0% at 1 kHz |
| Test voltage between terminals | The 100% screening factory test is carried out at 2150 VDC. The voltage level is selected to meet the requirements in applicable equipment standards. All electrical characteristics are checked after the test. |
| Resonance frequency | Tabulated self-resonance frequencies f_0 refer to 5 mm lead length. |
| Insulation resistance | C 0.33 μF : 30 000 M C > 0.33 μF : 10 000 s |



| p | d | std l | max l | b |
|----------------|-----|-------|-------|-----------|
| 15.0 ± 0.4 | 0.8 | 17 | 30 | ± 0.4 |
| 22.5 ± 0.4 | 0.8 | 6 | 30 | ± 0.4 |
| 27.5 ± 0.4 | 0.8 | 6 | 30 | ± 0.4 |
| 37.5 ± 0.5 | 1.0 | 6 | 30 | ± 0.7 |

Tolerance in lead length

< 30 mm ± 1 mm
 ≥ 30 mm ± 1 mm

ENVIRONMENTAL TEST DATA

| | | | |
|------------------------------|---|--|---|
| Endurance | IEC384-14 | 1.25 x U_R VAC 50 Hz, once every hour increased to 1000 VAC for 0.1 s, 1000 h at upper rated temp. | |
| Vibration | IEC68-2-6 Test Fc | 3 directions at 2 hours each, 10-55 Hz at 0.75 mm or 98 m/s ² | No visible damage No open or short circuit |
| Bump | IEC68-2-29 Test Eb | 1000 bumps at 390 m/s ² | No visible damage No open or short circuit |
| Change of temperature | IEC68-2-14 Test Na | Upper and lower rated temperature 5 cycles | No visible damage |
| Active flammability | EN 132400 | | |
| Passive flammability | IEC384-14 (1993) EN 132400 UL1414 | Enclosure material of UL94V-0 flammability class | |
| Humidity | IEC 68-2-3 Test Ca | +40°C and 90 – 95% R.H. | 56 days |

ARTICLE TABLE

| Capacitance* µF | Max dimensions in mm | | | | Quantity per package reel | | | Weight g | f _o MHz | Max dU/dt V/µs | Approvals | | | Article code 1 st block |
|--------------------|-------------------------|------|------|------|------------------------------|-------------|--------------|-------------|-----------------------|----------------------|-----------|----|-----|----------------------------|
| | B | H | L | p | Bulk pcs | Tray pcs | taped pcs | | | | VDE | UL | CSA | |
| 0.010 | 5.5 | 10.5 | 18.0 | 15.0 | 500 | | 600 | 1.5 | 13 | 100 | | | | PHE830MB5100M |
| 0.015 | 5.5 | 10.5 | 18.0 | 15.0 | 500 | | 600 | 1.5 | 11 | 100 | | | | PHE830MB5150M |
| 0.022 | 5.5 | 10.5 | 18.0 | 15.0 | 500 | | 600 | 1.5 | 9.0 | 100 | | | | PHE830MB5220M |
| 0.033 | 5.5 | 10.5 | 18.0 | 15.0 | 500 | | 600 | 1.5 | 7.5 | 100 | | | | PHE830MB5330M |
| 0.047 | 5.5 | 10.5 | 18.0 | 15.0 | 500 | | 600 | 1.5 | 6.5 | 100 | | | | PHE830MX5470M** |
| 0.047 | 5.5 | 12.5 | 18.0 | 15.0 | 500 | | 600 | 1.7 | 6.5 | 100 | | | | PHE830MB5470M |
| 0.068 | 5.5 | 12.5 | 18.0 | 15.0 | 500 | | 600 | 1.7 | 5.5 | 100 | | | | PHE830MX5680M** |
| 0.068 | 6.5 | 12.5 | 18.0 | 15.0 | 500 | | 500 | 2.0 | 5.5 | 100 | | | | PHE830MB5680M |
| 0.10 | 6.5 | 12.5 | 18.0 | 15.0 | 500 | | 500 | 2.0 | 4.5 | 100 | | | | PHE830MX6100M** |
| 0.10 | 7.5 | 14.5 | 18.0 | 15.0 | 500 | | 400 | 2.7 | 4.5 | 100 | | | | PHE830MB6100M |
| 0.15 | 8.5 | 16.0 | 18.0 | 15.0 | 250 | | 250 | 4.3 | 3.9 | 100 | | | | PHE830MB6150M |
| 0.22 | 9.5 | 17.5 | 18.0 | 15.0 | 250 | | 250 | 4.3 | 2.7 | 100 | | | | PHE830MB6220M |
| 0.10 | 6.5 | 14.5 | 26.0 | 22.5 | | 440 | | 3.3 | 4.5 | 100 | | | | PHE830MD6100M |
| 0.15 | 6.5 | 14.5 | 26.0 | 22.5 | | 440 | | 3.3 | 3.9 | 100 | | | | PHE830MD6150M |
| 0.22 | 8.0 | 16.0 | 26.0 | 22.5 | | 352 | | 4.5 | 2.7 | 100 | | | | PHE830MD6220M |
| 0.33 | 9.0 | 18.5 | 26.0 | 22.5 | | 308 | | 5.5 | 2.5 | 100 | | | | PHE830MD6330M |
| 0.47 | 11.0 | 21.5 | 26.0 | 22.5 | | 253 | | 8.0 | 2.0 | 100 | | | | PHE830MD6470M |
| 0.47 | 10.5 | 20.5 | 31.5 | 27.5 | | 216 | | 9.0 | 1.9 | 100 | | | | PHE830MF6470M |
| 0.68 | 11.5 | 22.5 | 31.5 | 27.5 | | 198 | | 10.5 | 1.6 | 100 | | | | PHE830MF6680M |
| 1.0 | 14.5 | 24.5 | 31.5 | 27.5 | | 153 | | 14.5 | 1.3 | 100 | | | | PHE830MF7100M |
| 1.5 | 17.5 | 28.0 | 31.5 | 27.5 | | 126 | | 20.0 | 0.8 | 100 | | | | PHE830MF7150M |
| 2.2 | 21.0 | 30.0 | 31.5 | 27.5 | | 108 | | 26.0 | 0.6 | 100 | | | | PHE830MF7220M |
| 1.5 | 15.0 | 26.0 | 41.0 | 37.5 | | 119 | | 21.0 | 0.7 | 100 | | | | PHE830MR7150M |
| 2.2 | 16.5 | 32.0 | 41.0 | 37.5 | | 105 | | 28.0 | 0.6 | 100 | | | | PHE830MR7220M |

* The complete serie includes C values according to the E12 series. Details on request. ** Only ±20% tolerance

APPROVALS/REFERENCE DOCUMENTS

| Country | Specification | Approval reference |
|---------------|---|---------------------------|
| S = Sweden | EN 132400 | 9707087-01, 9713122-01 |
| VDE = Germany | EN 132400 | 101315, 101316 |
| UL = USA | UL 1283 (U _R =250 VAC) UL 1414 (U _R = 125 VAC) | E 100117 E 73869 |
| CSA = Canada | C 22.2 No. 8-M1986 (UR=250 VAC) | 53108 |

MARKING

- RIFA
- RIFA article code
- Rated capacitance
- Capacitance tolerance code
- Rated voltage
- X2
- Approval marks
- Manufacturing code (year, month)
- IEC climatic category
- Passive flammability class

ORDERING INFORMATION

Article code

| 1st block | 2nd block |
|--|--|
| See article table Pos. 13 Capacitance tolerance code: M = ± 20% standard K = ± 10% option | If not standard lead length, add R06 – R50 in pos. 14–16) For reel taped, add 17T0 or 17T1 in pos. 15-18. For packing on trays (6 mm lead length), add L2 in pos. 17–18. |
| P H E 8 3 0 M B 5 3 3 0 M | R 0 6 |
| 1 2 3 4 5 6 7 8 9 10 11 12 13 | 14 15 16 17 18 19 20 |

PACKING

The box dimensions for bulk packaging are 245 x 145 x 78 mm. Quantity/package as per article table.

Reels with taped capacitors are packed 10 in a box with dimension 370 x 370 x 560 mm. Quantity/reel according to article table. The standard quantity/reel is for 360 mm reel. If 500 mm reel is required, it must be specified when ordering and the quantity is 2 x the given quantity.