

PHE 830 X2, Across-the-line, Antenna-coupling, Line-by-pass

0.01 – 2.2 μ F 250 VAC* +100°C

Typical applications

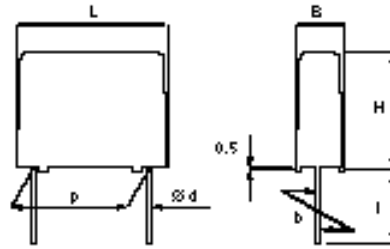
For worldwide use as electromagnetic interference suppressor in all X2 and "Across-the-line" applications.

Construction

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

General data

Capacitance range	0.01 – 2.2 μ F
Capacitance tolerance	\pm 20% standard, \pm 10% option
Rated voltage	250 VAC* 50/60 Hz
Temperature range	-40 to +100°C
Climatic category	40/100/56/C
Approvals	S, N, D, FI, VDE, SEV, ÖVE, IMQ, UL, CSA) Approvals pending for 275 VAC.



p	d	\pm dI	max I	b
15.0 \pm 0.4	0.8	17	50	\pm 0.4
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	\pm 1 mm
\geq 30 mm	\pm 5 mm

Electrical characteristics

Dissipation factor 1.0% at 1 kHz	Resonance frequency Tabulated self-resonance frequencies f_0 refer to 5 mm lead length.
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.	Insulation resistance C 0.33 μ F: 30 000 M C > 0.33 μ F: 10 000 F

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 PHE 830

C _R [*] µF	Max dimensions in mm				Quantity per package				Max dU/dt V/µs	Approvals							Article code 1st block				
	B	H	L	p	Bulk pcs	Tray pcs	reel taped pcs	Weight g		f ₀ MHz	0	Z	D	U	L	VDE		SEV	ÖVE	IMQ	UL
0.01	5.5	10.5	18.0	15.0	500		600	1.5	13.0	100											PHE 830MB5100M
0.015	5.5	10.5	18.0	15.0	500		600	1.5	11.0	100											PHE 830MB5150M
0.022	5.5	10.5	18.0	15.0	500		600	1.5	9.0	100											PHE 830MB5220M
0.033	5.5	10.5	18.0	15.0	500		600	1.5	7.5	100											PHE 830MB5330M
0.047	5.5	12.5	18.0	15.0	500		600	1.7	6.5	100											PHE 830MB5470M
0.068	6.5	12.5	18.0	15.0	500		500	2.0	5.5	100											PHE 830MB5680M
0.1	7.5	14.5	18.0	15.0	500		400	2.7	4.5	100											PHE 830MB6100M
0.1	6.5	14.5	26.0	22.5		440		3.3	4.5	100											PHE 830MD6100M
0.15	6.5	14.5	26.0	22.5		440		3.3	3.9	100											PHE 830MD6150M
0.22	8.0	16.0	26.0	22.5		352		4.5	2.7	100											PHE 830MD6220M
0.33	9.0	18.5	26.0	22.5		308		5.5	2.5	100											PHE 830MD6330M
0.47	11.0	21.5	26.0	22.5		253		8.0	2.0	100											PHE 830MD6470M
0.47	10.5	20.5	31.5	27.5		216		9.0	1.9	100											PHE 830MF6470M
0.68	11.5	22.5	31.5	27.5		198		10.5	1.6	100											PHE 830MF6680M
1.0	14.5	24.5	31.5	27.5		153		14.5	1.3	100											PHE 830MF7100M
1.5	17.5	28.0	31.5	27.5		126		20.0	0.8	100											PHE 830MF7150M
1.5	15.0	26.0	41.0	37.5		119		21.0	0.7	100											PHE 830MR7150M
2.2	16.5	32.0	41.0	37.5		105		28.0	0.6	100											PHE 830MR7220M

* The complete serie includes C values according to the E12 series. Details on request.

Approvals/Reference documents

Country	Specification	Approval reference
S = Sweden	EN 132400*	962300801
N = Norway	EN 132400*	P95101253
D = Denmark	EN 132400*	303660
FI = Finland	EN 132400*	181586-01
VDE = Germany	EN 132400*	89759
SEV= Switzerland	EN 132400*	95.7 70443.01
ÖVE = Austria	ÖVE-F22/1974	0683-038-00
IMQ= Italy	EN 132400*	V 3415
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 (U _R =250 VAC)	53108

*Approvals according to EN 132400 (IEC 384-14, 2nd edition,1993).
Old national approvals, replaced by EN 132400, still apply.
Detailed information on request.

Ordering information

Article code

1st block
See article table

Pos. 13 Capacitance tolerance code:
M = ± 20% standard
K = ± 10% option

P H E 8 3 0 M B 5 3 3 0 M

1 2 3 4 5 6 7 8 9 10 11 12 13

2nd block

If not standard lead length,
add R06 – R50 in pos. 14–16)
For reel taped, add T0 in pos. 14–15
For packing on trays (6 mm lead length),
add L2 in pos. 17–18.

R 0 6

14 15 16 17 18 19 20

Marking

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

Packing

The box dimensions for bulk packaging are 230 × 155 × 72 mm. Quantity/package as per article table.

Reels with taped capacitors are packed 10 in a box with dimension 600 × 400 × 400 mm. Quantity/reel according to article table.