PHE841

RoHS Compliant

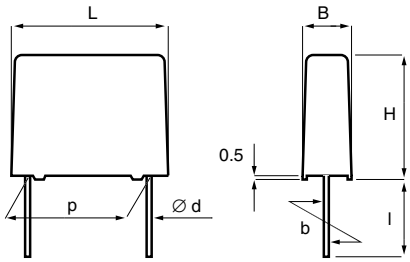
- **EMI suppressor, class X1, metallized polypropylene**
- **0.01 – 2.2 µF, 330 VAC, +100°C**

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 for more information.

CONSTRUCTION

Metallized polypropylene winding, encapsulated in self-extinguishing material meeting the requirements of UL 94 V–0.



p	d	std l	max l	b
10.0 ± 0.4	0.6	17	30	±0.4
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 $^{+0}_{-1}$ mm

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

TECHNICAL DATA

Rated voltage
330 VAC 50/60 Hz

Capacitance range
0.01 – 2.2 µF

Capacitance tolerance
± 20% standard, ± 10% option

Temperature range
–40 to +100°C

Climatic category
40/100/56/B

Approvals
ENEC, UL, cUL

Dissipation factor tanδ
Maximum values at +23°C

	C ≤ 0.1 µF	0.1µF < C ≤ 1 µF	C > 1 µF
1 kHz	0.1%	0.1%	0.1%
10 kHz	0.2%	0.4%	0.8%
100 kHz	0.6%	–	–

Test voltage between terminals
The 100% screening factory test is carried out at 3000 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 MΩ
C > 0.33 µF: ≥ 10 000 s

In DC applications
Recommended voltage: ≤ 1000 VDC

ENVIRONMENTAL TEST DATA

Endurance	EN/IEC 60384-14:2005	1.25 x U_R VAC 50 Hz, once every hour increased to 1000 VAC for 0.1 s, 1000 h at upper rated temperature	
Vibration	IEC 60068–2–6 Test Fc	3 directions at 2 hours each, 10–55 Hz at 0.75 mm or 98 m/s²	No visible damage No open or short circuit
Bump	IEC 60068–2–29 Test Eb	1000 bumps at 390 m/s²	No visible damage No open or short circuit
Change of temperature	IEC 60068–2–14 Test Na	Upper and lower rated temperature 5 cycles	No visible damage
Active flammability	EN/IEC 60384-14:2005		
Passive flammability	EN/IEC 60384-14:2005 UL1414	Enclosure material of UL94V–0 flammability class	
Humidity	IEC 60068-2-3 Test Ca	+40°C and 90 – 95% R.H.	56 days

ARTICLE TABLE

Capacitance µF	Box code	Max dimensions in mm B	H	L	f_o MHz	Max dU/dt V/µs	Article code
LEAD SPACING 10 MM							
0.010	A02	4.5	10.5	13.0	11	100	PHE841EA5100MR17
0.012	A03	5.0	11.0	13.0	10	100	PHE841EA5120MR17
0.015	A03	5.0	11.0	13.0	9.4	100	PHE841EA5150MR17
0.018	A04	6.0	12.0	13.0	8.7	100	PHE841EA5180MR17
0.022	A04	6.0	12.0	13.0	8.1	100	PHE841EA5220MR17
LEAD SPACING 15 MM							
0.010	B04	5.5	10.5	18.0	10	100	PHE841EB5100MR17
0.012	B04	5.5	10.5	18.0	9.4	100	PHE841EB5120MR17
0.015	B04	5.5	10.5	18.0	8.7	100	PHE841EB5150MR17
0.018	B04	5.5	10.5	18.0	7.9	100	PHE841EB5180MR17
0.022	B05	5.5	12.5	18.0	7.2	100	PHE841EB5220MR17
0.027	B15	6.0	12.0	18.0	6.5	100	PHE841EB5270MR17
0.033	B10	6.5	12.5	18.0	5.9	100	PHE841EB5330MR17
0.039	B06	7.5	14.5	18.0	5.4	100	PHE841EB5390MR17
0.047	B06	7.5	14.5	18.0	5.0	100	PHE841EB5470MR17
0.056	B12	8.0	15.0	18.0	4.6	100	PHE841EB5560MR17
0.068	B11	8.5	16.0	18.0	4.2	100	PHE841EB5680MR17
0.082	B14	9.5	17.5	18.0	3.8	100	PHE841EB5820MR17
0.10	B14	9.5	17.5	18.0	3.7	100	PHE841EB6100MR17
LEAD SPACING 22.5 MM							
0.068	D13	6.5	14.5	26.0	2.9	100	PHE841ED5680MR06L2
0.082	D17	7.0	16.5	26.0	2.8	100	PHE841ED5820MR06L2
0.10	D17	7.0	16.5	26.0	2.7	100	PHE841ED6100MR06L2
0.12	D14	8.0	16.0	26.0	2.6	100	PHE841ED6120MR06L2
0.15	D15	9.0	18.5	26.0	2.5	100	PHE841ED6150MR06L2
0.18	D18	10.5	19.0	26.0	2.3	100	PHE841ED6180MR06L2
0.22	D18	10.5	19.0	26.0	2.2	100	PHE841ED6220MR06L2
0.27	D16	11.0	21.5	26.0	2.0	100	PHE841ED6270MR06L2
0.33	D16	11.0	21.5	26.0	1.9	100	PHE841EY6330MR06L2 *
0.39	D19	15.5	24.5	26.0	1.6	100	PHE841ED6390MR06L2
0.47	D19	15.5	24.5	26.0	1.5	100	PHE841ED6470MR06L2
0.22	F11	10.5	20.5	31.5	2.0	100	PHE841EF6220MR06L2
0.27	F11	10.5	20.5	31.5	1.8	100	PHE841EF6270MR06L2
0.33	F12	11.5	22.5	31.5	1.6	100	PHE841EF6330MR06L2
0.39	F03	13.5	23.0	31.5	1.4	100	PHE841EF6390MR06L2
0.47	F03	13.5	23.0	31.5	1.3	100	PHE841EF6470MR06L2
0.56	F13	14.5	24.5	31.5	1.2	100	PHE841EF6560MR06L2
0.68	F14	17.5	28.0	31.5	1.1	100	PHE841EF6680MR06L2
0.82	F15	19.0	29.0	31.5	1.0	100	PHE841EF6820MR06L2
1.0	F16	21.0	30.0	31.5	1.0	100	PHE841EF7100MR06L2
LEAD SPACING 37.5 MM							
0.68	R05	13.0	24.0	41.0	1.1	100	PHE841ER6680MR06L2
0.82	R04	15.0	26.0	41.0	1.0	100	PHE841ER6720MR06L2
1.0	R04	15.0	26.0	41.0	0.92	100	PHE841ER7100MR06L2
1.2	R02	16.5	32.0	41.0	0.84	100	PHE841ER7120MR06L2
1.5	R03	19.0	36.0	41.0	0.74	100	PHE841ER7150MR06L2
1.8	R06	21.0	38.0	41.0	0.67	100	PHE841ER7180MR06L2
2.2	R06	21.0	38.0	41.0	0.60	100	PHE841ER7220MR06L2

* Only ±20 %

APPROVALS

Certification Body	Specification	
ENEC	EN/IEC 60384-14:2005	
UL	UL 1283	(U_R = 330 VAC)
	UL 1414	(U_R = 250 VAC)
cUL recognition	C 22.2 No. 8	(U_R = 330 VAC)
	C 22.2 No. 1	(U_R = 250 VAC)

MARKING

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

ORDERING INFORMATION

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