

PHE840E

RoHS
Compliant

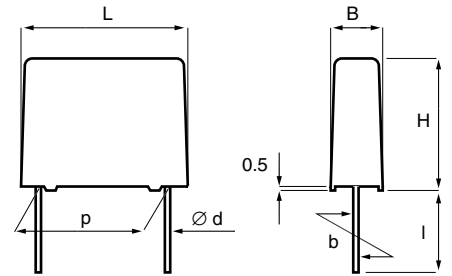
- EMI suppressor, class X2, metallized polypropylene
- 0.01 – 10 μF , 300 VAC, +105°C
- New improved design: small dimensions including low profile capacitors

TYPICAL APPLICATIONS

For worldwide use as electromagnetic interference suppressor in all X2 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.



TECHNICAL DATA

Rated voltage	300 VAC 50/60 Hz		
Capacitance range	0.01 – 10 μF		
Capacitance tolerance	$\pm 20\%$ standard, $\pm 10\%$ option		
Temperature range	-55 to +105°C		
Climatic category	55/105/56/B		
Approvals	ENEC, UL, cUL		
Dissipation factor tan	Maximum values at +23°C		
	C	0.1 μF	0.1 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 2200 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 \leq 0.33 μF : $\geq 30\,000\ \text{M}\Omega$ C > 0.33 μF : $\geq 10\,000\ \text{s}$		
In DC applications	Recommended voltage	760 VDC	

P	d	std l	max l	b
10.0 \pm 0.4	0.6	17	30	± 0.4
15.0 \pm 0.4	0.8	17	30	± 0.4
22.5 \pm 0.4	0.8	6	30	± 0.4
27.5 \pm 0.4	0.8	6	30	± 0.4
37.5 \pm 0.5	1.0	6	30	± 0.7

Tolerance in lead length
< 30 mm $\begin{matrix} +0 \\ -1 \end{matrix}$ mm

30 mm $\begin{matrix} +5 \\ -0 \end{matrix}$ mm

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/s ²	No visible damage No open or short circuit
Bump	IEC 60068-2-29 Test Eb	1000 bumps at 390 m/s ²	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	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			f_o MHz	Max dU/dt V/ μs	Article code		Capacitance μF	Box code	Max dimensions in mm			f_o MHz	Max dU/dt V/ μs	Article code
		B	H	L							B	H	L			

LEAD SPACING 10 MM

0.010	A01	4.0	9.0	13.0	11	100	PHE840EA5100MA01R17	
0.012	A01	4.0	9.0	13.0	10	100	PHE840EA5120MA01R17	
0.015	A01	4.0	9.0	13.0	9.4	100	PHE840EA5150MA01R17	
0.018	A01	4.0	9.0	13.0	8.9	100	PHE840EA5180MA01R17	
0.022	A01	4.0	9.0	13.0	8.6	100	PHE840EA5220MA01R17	
0.027	A02	4.5	10.5	13.0	8.1	100	PHE840EA5270MA02R17	
0.033	A02	4.5	10.5	13.0	7.6	100	PHE840EA5330MA02R17	
0.039	A03	5.0	11.0	13.0	6.6	100	PHE840EA5390MA03R17	
0.047	A03	5.0	11.0	13.0	6.1	100	PHE840EA5470MA03R17	
0.056	A04	6.0	12.0	13.0	5.6	100	PHE840EA5560MA04R17	
0.068	A04	6.0	12.0	13.0	5.0	100	PHE840EA5680MA04R17	

LEAD SPACING 15 MM

0.033	B04	5.5	10.5	18.0	5.9	100	PHE840EB5330MB04R17	
0.039	B04	5.5	10.5	18.0	5.4	100	PHE840EB5390MB04R17	
0.047	B04	5.5	10.5	18.0	5.0	100	PHE840EB5470MB04R17	
0.056	B04	5.5	10.5	18.0	4.6	100	PHE840EB5560MB04R17	
0.068	B04	5.5	10.5	18.0	4.2	100	PHE840EB5680MB04R17	
0.082	B05	5.5	12.5	18.0	3.9	100	PHE840EB5820MB05R17	
0.10	B05	5.5	12.5	18.0	3.7	100	PHE840EB6100MB05R17	
0.12	B10	6.5	12.5	18.0	3.3	100	PHE840EB6120MB10R17	
0.15	B10	6.5	12.5	18.0	2.8	100	PHE840EB6150MB10R17	
0.18	B06	7.5	14.5	18.0	2.7	100	PHE840EB6180MB06R17	
0.22	B06	7.5	14.5	18.0	2.6	100	PHE840EX6220MB06R17 *	
0.22	B17	13.0	12.5	18.0	2.5	100	PHE840EQ6220MB17R17	
0.22	B12	8.0	15.0	18.0	2.5	100	PHE840EB6220MB12R17	
0.27	B11	8.5	16.5	18.0	2.3	100	PHE840EB6270MB11R17	
0.33	B11	8.5	16.5	18.0	2.2	100	PHE840EX6330MB11R17*	
0.33	B17	13.0	12.5	18.0	2.2	100	PHE840EH6330MB17R17	
0.33	B14	9.5	17.5	18.0	2.0	100	PHE840EB6330MB14R17	
0.39	B16	11.0	19.0	18.0	1.9	100	PHE840EB6390MB16R17	
0.47	B16	11.0	19.0	18.0	1.8	100	PHE840EB6470MB16R17	

LEAD SPACING 22.5 MM

0.22	D13	6.5	14.5	26.0	2.1	100		
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APPROVALS

Certification Body	Specification
ENEC	EN/IEC 60384-14:2005
UL	UL 60384-14 CAN/CSA-E60384-14:09

MARKING

- RIFA
- RIFA article code
- Rated capacitance
- Capacitance tolerance code
- Rated voltage
- X2
- 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.