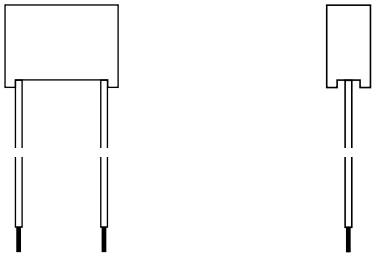
Interference Suppression Film Capacitors
MKT Radial Potted Type, Class X2



FEATURES

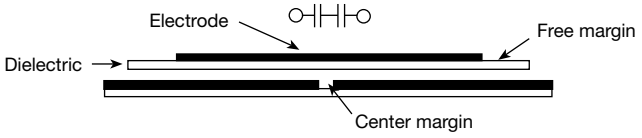
- Material categorization:
  For definitions of compliance please see www.vishay.com/doc?99912

Pb-free

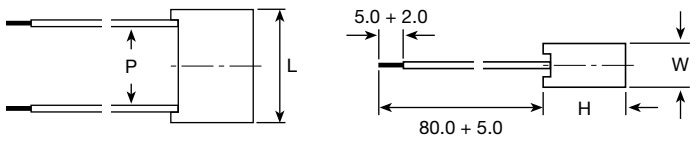
e3

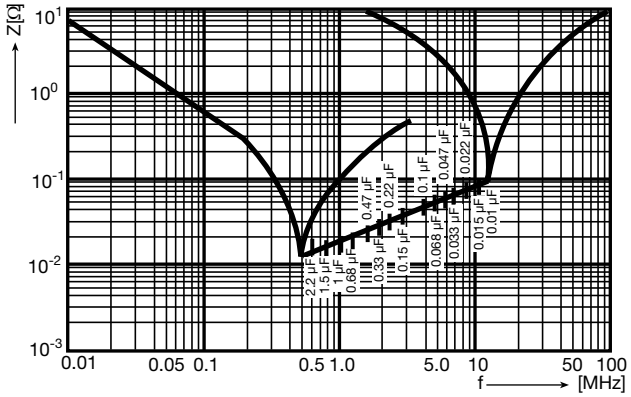
RoHS COMPLIANT

MAXIMUM PULSE RISE TIME: (dU/dt) IN V/µs				
RATED VOLTAGE	PITCH P (mm)			
	≤ 15.0	≤ 22.5	≤ 27.5	≤ 37.5
310 V_{AC}	200	150	100	100

QUICK REFERENCE DATA	
Capacitance range	E12 series 0.01 µF X2 to 2.2 µF X2 preferred values acc. to E6
Capacitance tolerance	Standard: ± 10 %
Rated AC voltage	310 V_{AC}, 50 Hz/60 Hz
Permissible DC voltage	630 V_{DC}
Climatic testing class acc. to EN 60068-1	40/100/56
Reference standards	EN 132 400, 1994 EN 60068-1 IEC 60384-14/2, 1993 UL 1283 UL 1414 CSA 22.2 No. 8-M 86 CSA 22.2 No. 1-M 90
Dielectric	Polyester film
Electrodes	Metal evaporated
Construction	Metallized film capacitor Internal series connection 
Terminals	Insulated stranded copper wire, type LiY 0.5 mm² (or AWG 20) ends stripped
Insulation resistance for C ≤ 0.33 µF	30 GΩ average value 15 GΩ minimum value
Coating	Plastic case, epoxy resin sealed, flame retardant UL 94 V-0
Dissipation factor tan δ	< 1 % measured at 1 kHz
Time constant for C > 0.33 µF	10 000 s average value 5000 s minimum value
Test voltage	(Electrode/electrode): 2150 V_{DC}/2 s Between interconnected terminations and case (foil method): 2500 V_{AC} for 2 s at 25 °C

DIMENSIONS in millimeters





Impedance (Z) as a function of frequency (f) at T_a = 20 °C (average).
Measurement with lead length 80 mm.

APPROVALS

COUNTRY	SPECIFICATION	ELECTRICAL VALUES	APPROVAL REFERENCE	APPROVAL MARK
U.S.A. (for 250 V_{AC})	UL 1283 UL 1414	0.01 µF to 2.2 µF X 0.01 µF to 1.0 µF X	E 76297 E 100682	
CB TEST-CERTIFICATE (for 310 V_{AC})		0.01 µF to 2.2 µF X2	DE1-40110/A1	
Germany	EN 132 400; 1999 IEC 60384-14, 2nd edition, 1995	0.01 µF to 2.2 µF X2	40005079	
This approval mark together with the CB-certificate replace all national approval marks of the following countries (they have already signed the CB-agreement):				
Austria	Belgium	Denmark	Finland	Sweden
France	Germany	Ireland	Italy	Switzerland
Netherlands	Israel	Portugal	Spain	Great Britain
Japan	Norway	China	Poland	Czech. Republic
Singapore	Rep. of Korea	Hungary	Iceland	Slovenia

ELECTRICAL DATA

U_{RAC} (V)	CAP. (µF)	TOL. (%)	PITCH P (mm)	BOX NO.	DIMENSIONS W x H x L (+ 0.2 mm/- 0.4 mm) (mm)	WEIGHT (g)	QUANTITY PACKAGE (pcs)	ORDERING CODE [2]
310	**0.010**	**± 10**	**15.0**	**05**	**5.3 x 10.3 x 17.8**	**2.6**	**1000**	**F1774-310-2 . . .-E3**
	0.012	± 10	15.0	05	5.3 x 10.3 x 17.8	2.6	1000	F1774-312-2 . . .-E3
	0.015	**± 10**	**15.0**	**05**	**5.3 x 10.3 x 17.8**	**2.6**	**1000**	**F1774-315-2 . . .-E3**
	0.018	± 10	15.0	05	5.3 x 10.3 x 17.8	2.6	1000	F1774-318-2 . . .-E3
	0.022	**± 10**	**15.0**	**05**	**5.3 x 10.3 x 17.8**	**2.6**	**1000**	**F1774-322-2 . . .-E3**
	0.027	± 10	15.0	05	5.3 x 10.3 x 17.8	2.6	1000	F1774-327-2 . . .-E3
	0.033	**± 10**	**15.0**	**05**	**5.3 x 10.3 x 17.8**	**2.6**	**1000**	**F1774-333-2 . . .-E3**
	0.039	± 10	15.0	06	6.3 x 12.3 x 17.8	3.2	850	F1774-339-2 . . .-E3
	0.047	**± 10**	**15.0**	**06**	**6.3 x 12.3 x 17.8**	**3.2**	**850**	**F1774-347-2 . . .-E3**
	0.056	± 10	15.0	06	6.3 x 12.3 x 17.8	3.2	850	F1774-356-2 . . .-E3
	0.068	**± 10**	**15.0**	**07**	**7.3 x 13.3 x 17.8**	**3.6**	**800**	**F1774-368-2 . . .-E3**
	0.082	± 10	15.0	08	8.3 x 14.3 x 17.8	3.9	800	F1774-382-2 . . .-E3

ELECTRICAL DATA

U_{RAC} (V)	CAP. (µF)	TOL. (%)	PITCH P (mm)	BOX NO.	DIMENSIONS W x H x L (+ 0.2 mm/- 0.4 mm) (mm)	WEIGHT (g)	QUANTITY PACKAGE (pcs)	ORDERING CODE [2]
310	**0.10**	**± 10**	**15.0 [1]**	**08**	**8.3 x 14.3 x 17.8**	**3.9**	**800**	**F1774-410-2 . . .-E3**
	0.12	± 10	15.0 [1]	08	8.3 x 14.3 x 17.8	3.9	800	F1774-412-2 . . .-E3
	0.15	**± 10**	**22.5 [1]**	**11**	**7.3 x 15.3 x 26.3**	**5.3**	**500**	**F1774-415-2 . . .-E3**
	0.18	± 10	22.5 [1]	11	7.3 x 15.3 x 26.3	5.3	500	F1774-418-2 . . .-E3
	0.22	**± 10**	**22.5 [1]**	**12**	**8.3 x 16.3 x 26.3**	**5.8**	**500**	**F1774-422-2 . . .-E3**
	0.27	± 10	22.5 [1]	13	10.3 x 18.3 x 26.3	7.9	500	F1774-427-2 . . .-E3
	0.33	**± 10**	**22.5 [1]**	**13**	**10.3 x 18.3 x 26.3**	**7.9**	**500**	**F1774-433-2 . . .-E3**
	0.39	± 10	27.5 [1]	14	11.0 x 21.0 x 31.0	10.3	350	F1774-439-2 . . .-E3
	0.47	± 10	27.5 [1]	14	11.0 x 21.0 x 31.0	10.3	350	F1774-447-2 . . .-E3
	0.56	± 10	27.5 [1]	14	11.0 x 20.3 x 31.3	10.3	350	F1774-456-2 . . .-E3
	0.68	**± 10**	**27.5 [1]**	**15**	**13.3 x 23.3 x 31.3**	**14.1**	**300**	**F1774-468-2 . . .-E3**
	0.82	± 10	27.5 [1]	15	13.0 x 23.3 x 31.3	16.2	250	F1774-482-2 . . .-E3
	1.0	**± 10**	**27.5 [1]**	**18**	**14.5 x 24.3 x 31.3**	**16.2**	**250**	**F1774-510-2 . . .-E3**
	1.2	± 10	37.5 [1]	16	14.0 x 24.3 x 41.3	20.1	200	F1774-512-2 . . .-E3
	1.5	**± 10**	**37.5 [1]**	**19**	**15.5 x 28.3 x 41.3**	**20.1**	**200**	**F1774-515-2 . . .-E3**
	1.8	± 10	37.5 [1]	19	15.5 x 28.3 x 41.3	25.2	150	F1774-518-2 . . .-E3
	2.2	**± 10**	**37.5 [1]**	**20**	**17.8 x 32.3 x 41.3**	**32.8**	**200**	**F1774-522-2 . . .-E3**

Notes

- Preferred values in bold print.
- Inbuilt discharging resistor on request (with larger case dimensions).
- The suffix “E3” is used for the RoHS-compliant version, although in most cases this is the only available version.

[1] Different pitch on request.

[2] With mark, the ordering code is F1774-. . .-2400-E3.

Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, “Vishay”), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay’s knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer’s responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and/or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer’s technical experts. Product specifications do not expand or otherwise modify Vishay’s terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.

Material Category Policy

Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as RoHS-Compliant fulfill the definitions and restrictions defined under Directive 2011/65/EU of The European Parliament and of the Council of June 8, 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (EEE) - recast, unless otherwise specified as non-compliant.

Please note that some Vishay documentation may still make reference to RoHS Directive 2002/95/EC. We confirm that all the products identified as being compliant to Directive 2002/95/EC conform to Directive 2011/65/EU.

Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as Halogen-Free follow Halogen-Free requirements as per JEDEC JS709A standards. Please note that some Vishay documentation may still make reference to the IEC 61249-2-21 definition. We confirm that all the products identified as being compliant to IEC 61249-2-21 conform to JEDEC JS709A standards.