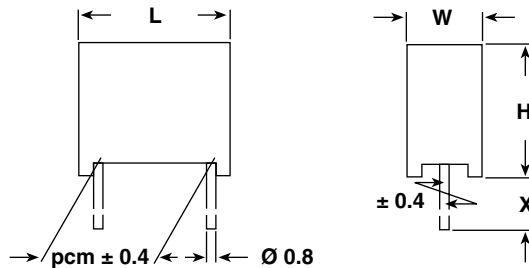
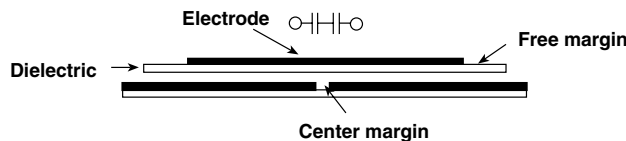


## AC-Capacitors, Suppression Capacitors Class X2 AC440 V (MKT)

Dimensions in mm



LEAD LENGTH X (mm)	ORDERING CODE***
4 <sup>-1</sup>	F1772-...-4004
6 <sup>-1</sup>	F1772-...-4000
15 <sup>-1</sup>	F1772-...-4015
30 <sup>+5</sup>	F1772-...-4030


**MAXIMUM PULSE RISE TIME: ( $d_v/d_t$ ) in V/ $\mu$ s**

RATED VOLTAGE	PITCH (mm)			
	15.0	22.5	27.5	37.5
AC 440 V	200	150	100	100

**RATED VOLTAGE:**

AC 440 V, 50/60 Hz

**PERMISSIBLE DC VOLTAGE:**

DC 1000 V

**TERMINALS:**

Radial tinned copper wire

**COATING:**

Plastic case, epoxy resin sealed, flame retardant UL 94V-0

**CLIMATIC TESTING CLASS ACC.TO EN 60068-1:**  
40/100/56

**CAPACITANCE RANGE:**

 E12 series 0.01  $\mu$ FX2 - 1.0  $\mu$ FX2  
preferred values acc. to E6

**FURTHER TECHNICAL DATA:**

See page 21 (Document No 26504)

**FEATURES:**

 Product is completely lead (Pb)-free  
Product is RoHS compliant

**CAPACITANCE TOLERANCE:**

 Standard:  $\pm 10\%$ 
**DISSIPATION FACTOR  $TAN\delta$ :**
 $< 1\%$  measured at 1 kHz

**INSULATION RESISTANCE: FOR  $C \leq 0.33 \mu F$ :**

 30 G $\Omega$  average value  
15 G $\Omega$  minimum value

**TIME CONSTANT FOR  $C > 0.33 \mu F$ :**

 10 000 sec. average value  
5000 sec. minimum value

**TEST VOLTAGE:**

(Electrode/electrode): DC 2150 V/2 sec.

**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:**

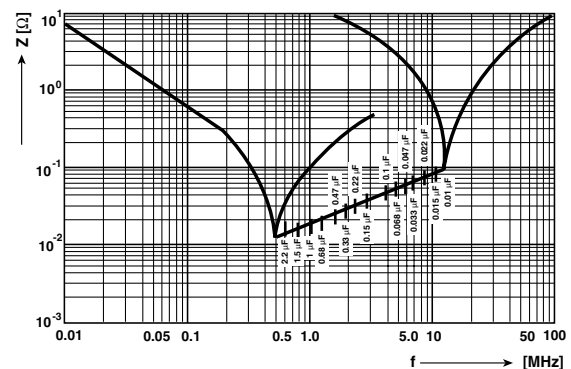
Polyester film

**ELECTRODES:**

Metal evaporated



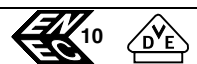
**CONSTRUCTION:**

 Metallized film capacitor  
Internal series connection

 Between interconnected terminations and case (foil method):  
AC 2500 V for 2 sec. at 25 °C.

 Impedance (Z) as a function of frequency (f) at  $T_a = 20\text{ °C}$  (average). Measurement with lead length 6 mm.

**RoHS**  
COMPLIANT

### APPROVALS

COUNTRY	SPECIFICATION	ELECTRICAL VALUES	APPROVAL REFERENCE	APPROVAL MARK
U.S.A. (for AC 250 V)	UL 1283 UL 1414	0.01 - 1.0 $\mu$ FX 0.01 - 1.0 $\mu$ FX	E 76297 E 100682	
Canada (for AC 250 V)	C 22.2 No. 8-M 1986 C 22.2 No. 1-M 1994	0.01 - 1.0 $\mu$ FX 0.01 - 0.82 $\mu$ FX	LR 64546 LR 64546-8	
<b>CB TEST-CERTIFICATE (for AC 440 V)</b>		0.01 - 1.0 $\mu$ FX2	DE 1-8221	
Germany	EN 132 400; 1999 IEC 60384-14, 2nd edition, 1995	0.01 - 1.0 $\mu$ FX2	40005095	
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

CAPACITANCE	TOL. (%)	PITCH (mm)	BOX NO.	DIMENSIONS W x H x L (+ 0.2/- 0.4 mm)	WEIGHT LEAD LENGTH 6 <sup>-1</sup> mm (g)	QUANTITY PACKAGE LEAD LENGTH 6 <sup>-1</sup> mm (pcs)**	ORDERING CODE***
<b>0.01 <math>\mu</math>FX2</b>	$\pm 10$	<b>15.0</b>	<b>06</b>	<b>6.3 x 12.3 x 17.8</b>	<b>2.0</b>	<b>500</b>	<b>F1772-310-4 ...</b>
0.012 $\mu$ FX2	$\pm 10$	15.0	06	6.3 x 12.3 x 17.8	2.0	500	F1772-312-4 ...
<b>0.015 <math>\mu</math>FX2</b>	$\pm 10$	<b>15.0</b>	<b>07</b>	<b>7.3 x 13.3 x 17.8</b>	<b>2.4</b>	<b>450</b>	<b>F1772-315-4 ...</b>
0.018 $\mu$ FX2	$\pm 10$	15.0	07	7.3 x 13.3 x 17.8	2.4	450	F1772-318-4 ...
<b>0.022 <math>\mu</math>FX2</b>	$\pm 10$	<b>15.0</b>	<b>08</b>	<b>8.3 x 14.3 x 17.8</b>	<b>2.7</b>	<b>325</b>	<b>F1772-322-4 ...</b>
0.027 $\mu$ FX2	$\pm 10$	15.0	08	8.3 x 14.3 x 17.8	2.7	325	F1772-327-4 ...
<b>0.033 <math>\mu</math>FX2</b>	$\pm 10$	<b>15.0</b>	<b>28</b>	<b>8.3 x 17.3 x 17.8</b>	<b>2.7</b>	<b>300</b>	<b>F1772-333-4 ...</b>
0.039 $\mu$ FX2	$\pm 10$	22.5*	09	6.3 x 14.3 x 26.3	3.3	260	F1772-339-4 ...
<b>0.047 <math>\mu</math>FX2</b>	$\pm 10$	<b>22.5*</b>	<b>11</b>	<b>7.3 x 15.3 x 26.3</b>	<b>4.1</b>	<b>235</b>	<b>F1772-347-4 ...</b>
0.056 $\mu$ FX2	$\pm 10$	22.5*	12	8.3 x 16.3 x 26.3	4.6	200	F1772-356-4 ...
<b>0.068 <math>\mu</math>FX2</b>	$\pm 10$	<b>22.5*</b>	<b>12</b>	<b>8.3 x 16.3 x 26.3</b>	<b>4.6</b>	<b>200</b>	<b>F1772-368-4 ...</b>
0.082 $\mu$ FX2	$\pm 10$	22.5*	12	8.3 x 16.3 x 26.3	4.6	200	F1772-382-4 ...
<b>0.1 <math>\mu</math>FX2</b>	$\pm 10$	<b>22.5*</b>	<b>13</b>	<b>10.3 x 18.3 x 26.3</b>	<b>6.7</b>	<b>170</b>	<b>F1772-410-4 ...</b>
0.12 $\mu$ FX2	$\pm 10$	22.5*	13	10.3 x 18.3 x 26.3	6.7	170	F1772-412-4 ...
<b>0.15 <math>\mu</math>FX2</b>	$\pm 10$	<b>27.5*</b>	<b>14</b>	<b>11.0 x 20.3 x 31.3</b>	<b>9.1</b>	<b>125</b>	<b>F1772-415-4 ...</b>
0.18 $\mu$ FX2	$\pm 10$	27.5*	14	11.0 x 20.3 x 31.3	9.1	125	F1772-418-4 ...
<b>0.22 <math>\mu</math>FX2</b>	$\pm 10$	<b>27.5*</b>	<b>15</b>	<b>13.0 x 23.3 x 31.3</b>	<b>12.9</b>	<b>110</b>	<b>F1772-422-4 ...</b>
0.27 $\mu$ FX2	$\pm 10$	27.5*	15	13.0 x 23.3 x 31.3	12.9	110	F1772-427-4 ...
<b>0.33 <math>\mu</math>FX2</b>	$\pm 10$	<b>27.5*</b>	<b>18</b>	<b>14.5 x 24.3 x 31.3</b>	<b>15.0</b>	<b>100</b>	<b>F1772-433-4 ...</b>
0.39 $\mu$ FX2	$\pm 10$	37.5*	14	12.0 x 22.3 x 41.3	15.2	90	F1772-439-4 ...
<b>0.47 <math>\mu</math>FX2</b>	$\pm 10$	<b>37.5*</b>	<b>16</b>	<b>14.0 x 24.3 x 41.3</b>	<b>18.9</b>	<b>80</b>	<b>F1772-447-4 ...</b>
0.56 $\mu$ FX2	$\pm 10$	37.5*	19	15.5 x 28.3 x 41.3	24.0	70	F1772-456-4 ...
<b>0.68 <math>\mu</math>FX2</b>	$\pm 10$	<b>37.5*</b>	<b>19</b>	<b>15.5 x 28.3 x 41.3</b>	<b>24.0</b>	<b>70</b>	<b>F1772-468-4 ...</b>
0.82 $\mu$ FX2	$\pm 10$	37.5*	20	17.9 x 32.4 x 41.3	31.6	60	F1772-482-4 ...
<b>1.0 <math>\mu</math>FX2</b>	$\pm 10$	<b>37.5*</b>	<b>42</b>	<b>19.8 x 39.9 x 42.3</b>	<b>44.2</b>	<b>55</b>	<b>F1772-510-4 ...</b>

Preferred values in bold print.

Inbuilt discharging resistor on request (with larger case dimensions).

\* Different pitch on request.

\*\* Further information about packaging quantities with different lead length and/or taped versions.

See page 16 (Document No 27608 Packing Quantities). Use Box No. as reference

\*\*\* These capacitors can be delivered on continuous tape and reel - see page 14/15 (Document Number 27622).

The ordering code is F1772-...-4900 at H = 16.5 mm, F1772-...-4901 at H = 18.5 mm.

**APPLICATION NOTES**

- For X2 electromagnetic interference suppression in **across the line applications** (50/60 Hz) with a maximum mains voltage of 440 V (AC).
- These capacitors are not intended for continuous pulse applications. For these situations, capacitors of the AC and pulse programs must be used.
- These capacitors can be used for series impedance application in case safety approvals are requested.
- The maximum ambient temperature must not exceed 100 °C.
- Rated voltage pulse slope:  
If the pulse voltage is lower than the rated voltage, the values of the specific reference data can be multiplied by 620 V (DC) and divided by the applied voltage.



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