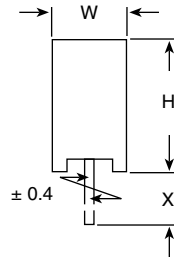
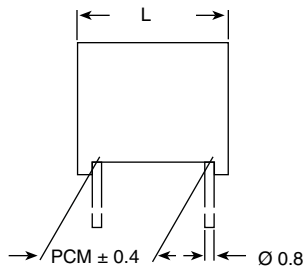
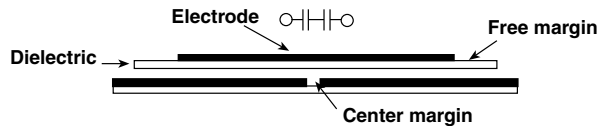


## AC-Capacitors, Suppression Capacitors Class X2 AC 440 V (MKT)

Dimensions in mm



LEAD LENGTH X (mm)	ORDERING CODE**
4 <sup>-1</sup>	F1772-...-4204/4264
6 <sup>-1</sup>	F1772-...-4200/4260
15 <sup>-1</sup>	F1772-...-4215/4265
30 <sup>+5</sup>	F1772-...-4230/4263


**MAXIMUM PULSE RISE TIME: (dU/dt) in V/μs**

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 Hz/60 Hz

**PERMISSIBLE DC VOLTAGE**

DC 1000 V

**TERMINALS**

Radial tinned wire

**COATING**

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

**CLIMATIC TESTING CLASS ACC.TO EN 60068-1**

40/100/56

**CAPACITANCE RANGE**

E6 series 0.01 μF X2 to 1.0 μF X2

E12 values on request

**FURTHER TECHNICAL DATA**

See page 21 (Document No. 26504)

**FEATURES**

- Compliant to RoHS directive 2002/95/EC

**CAPACITANCE TOLERANCE**

Standard: ± 20 %

**DISSIPATION FACTOR TAN δ**

&lt; 1 % measured at 1 kHz

**INSULATION RESISTANCE**
**FOR C ≤ 0.33 μF**

30 GΩ average value

15 GΩ minimum value

**TIME CONSTANT**
**FOR C > 0.33 μF**

10 000 s average value

5000 s minimum value

**TEST VOLTAGE**

(Electrode/electrode): DC 2150 V/2 s

**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

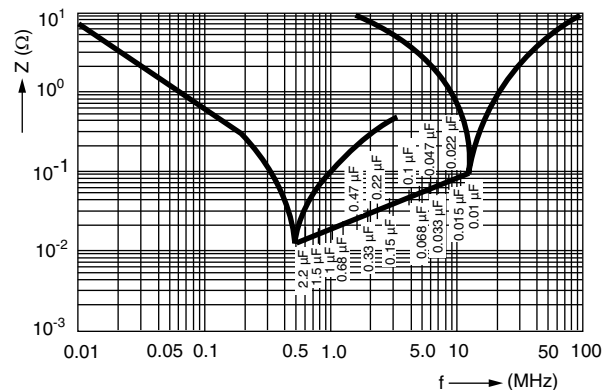
**ELECTRODES**

Metal evaporated

**CONSTRUCTION**




Metallized film capacitor

Internal series connection

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

 Impedance (Z) as a function of frequency (f) at T<sub>a</sub> = 20 °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 to 1.0 µF X 0.01 to 1.0 µF X	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 to 1.0 µF X 0.01 to 0.82 µF X	LR 64546 LR 64546-8	
<b>CB TEST-CERTIFICATE (for AC 440 V)</b>		0.01 to 1.0 µF X2	DE 1-8221	
Germany	EN 132 400; 1999 IEC 60384-14, 2nd edition, 1995	0.01 to 1.0 µF X2	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 (mm) (+ 0.2/- 0.4 mm)	WEIGHT LEAD LENGTH 6 <sup>-1</sup> mm (g)	QUANTITY PACKAGE LEAD LENGTH ≤ 6 <sup>-1</sup> mm (pcs) <sup>(1)</sup>	ORDERING CODE <sup>(2)</sup>
0.01 µF X2	± 20	15.0	05	5.3 x 10.3 x 17.8	1.4	750	F1772-310-42 ..
0.015 µF X2	± 20	15.0	49	6.0 x 12.0 x 17.9	2.0	600	F1772-315-42 ..
0.022 µF X2	± 20	15.0	07	7.3 x 13.3 x 17.8	2.0	450	F1772-322-42 ..
0.033 µF X2	± 20	15.0	08	8.3 x 14.3 x 17.8	2.7	325	F1772-333-42 ..
0.047 µF X2	± 20	22.5	09	6.3 x 14.3 x 26.3	3.3	260	F1772-347-42 ..
0.047 µF X2	± 20	15.0	28	8.3 x 17.3 x 17.8	3.5	300	F1772-347-426 .
0.068 µF X2	± 20	22.5	11	7.3 x 15.3 x 26.3	4.1	235	F1772-368-42 ..
0.068 µF X2	± 20	15.0	35	10.3 x 17.3 x 17.8	4.3	225	F1772-368-426 .
0.1 µF X2	± 20	22.5	12	8.3 x 16.3 x 26.3	4.6	200	F1772-410-42 ..
0.1 µF X2	± 20	15.0	36	13.3 x 22.3 x 17.8	4.2	185	F1772-410-426 .
0.15 µF X2	± 20	27.5	29	8.8 x 18.3 x 31.3	6.8	160	F1772-415-42 ..
0.15 µF X2	± 20	22.5	13	10.3 x 18.3 x 26.3	6.7	170	F1772-415-426 .
0.22 µF X2	± 20	27.5	14	11.0 x 21.0 x 31.0	9.1	125	F1772-422-42 ..
0.22 µF X2	± 20	22.5	27	12.3 x 19.8 x 26.3	8.7	125	F1772-422-426 .
0.33 µF X2	± 20	27.5	15	13.0 x 23.3 x 31.3	12.9	110	F1772-433-42 ..
0.33 µF X2	± 20	22.5	38	15.3 x 26.3 x 26.3	14.3	110	F1772-433-426 .
0.47 µF X2	± 20	37.5	44	12.0 x 22.3 x 41.3	15.2	90	F1772-447-42 ..
0.47 µF X2	± 20	27.5	17	16.0 x 29.3 x 31.3	20.0	85	F1772-447-426 .
0.68 µF X2	± 20	37.5	19	15.5 x 28.3 x 41.3	24.0	70	F1772-468-42 ..
0.68 µF X2	± 20	27.5	40	17.8 x 32.8 x 31.3	24.4	80	F1772-468-426 .
1.0 µF X2	± 20	37.5	20	17.8 x 32.3 x 41.3	31.6	60	F1772-510-42 ..
1.0 µF X2	± 20	27.5	41	19.5 x 34.8 x 31.3	29.5	70	F1772-510-426 .

**Notes**

- Inbuilt discharging resistor on request (with larger case dimensions).
- (1) Further information about packaging quantities with different lead length and/or taped versions.  
See page 16 (Document No. 27608 Packaging Quantities). Use Box No. as reference
- (2) These capacitors can be delivered on continuous tape and reel - see page 14/15 (Document Number 27622).  
The ordering code is: F1772-...-4290 at H = 16.5 mm  
F1772-...-4291 at H = 18.5 mm  
F1772-...-4960 at H = 16.5 mm  
F1772-...-4961 at H = 18.5 mm

**APPLICATION NOTES**

- For X2 electromagnetic interference suppression in **across the line applications** (50 Hz/60 Hz) with a maximum mains voltage of 440 V<sub>AC</sub>.
- 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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