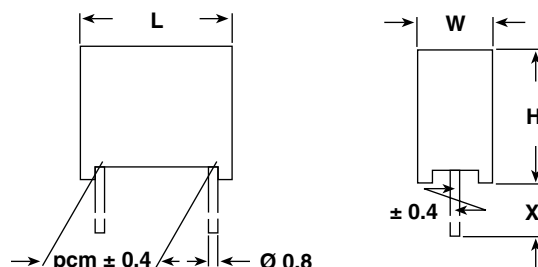
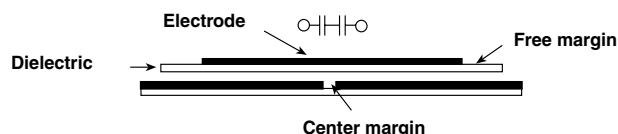


# AC-Capacitors, Suppression Capacitors Class X2 AC 300 V (MKT)

Dimensions in mm



| LEAD LENGTH<br>X (mm) | ORDERING CODE**     |
|-----------------------|---------------------|
| 4 <sup>-1</sup>       | F1772-...-3204/3264 |
| 6 <sup>-1</sup>       | F1772-...-3200/3260 |
| 15 <sup>-1</sup>      | F1772-...-3215/3265 |
| 30 <sup>+5</sup>      | F1772-...-3230/3263 |


**MAXIMUM PULSE RISE TIME:** ( $d_v/d_t$ ) in V/μs

| RATED<br>VOLTAGE | PITCH (mm) |      |      |      |
|------------------|------------|------|------|------|
|                  | 15.0       | 22.5 | 27.5 | 37.5 |
| AC 300 V         | 200        | 150  | 100  | 100  |

**RATED VOLTAGE:**

AC 300 V, 50/60 Hz

**PERMISSIBLE DC VOLTAGE:**

DC 800 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 μFX2 - 2.2 μFX2

E12 values on request

**FURTHER TECHNICAL DATA:**

See page 21 (Document No 26504)

**FEATURES:**

Product is completely lead (Pb)-free

Product is RoHS compliant

**CAPACITANCE TOLERANCE:**

Standard: ± 20 %

**DISSIPATION FACTOR TANδ:**

&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 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

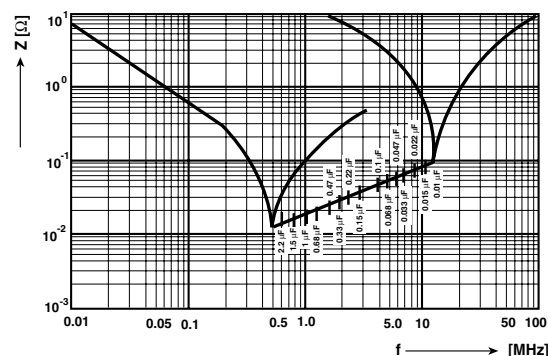
**CONSTRUCTION:**

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

# Vishay Roederstein AC-Capacitors, Suppression Capacitors Class X2 AC 300 V (MKT)

## APPROVALS

| COUNTRY                                                                                                                                                            | SPECIFICATION                                       | ELECTRICAL VALUES                           | APPROVAL REFERENCE     | APPROVAL MARK                                                                                                                                                           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|---------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| U.S.A.<br>(for AC 250 V)                                                                                                                                           | UL 1283<br>UL 1414                                  | 0.01 - 2.2 $\mu$ FX<br>0.01 - 1.0 $\mu$ FX  | E 76297<br>E 100682    |                                                                                      |
| Canada<br>(for AC 250 V)                                                                                                                                           | C 22.2 No. 8-M 1986<br>C 22.2 No. 1-M 1994          | 0.01 - 2.2 $\mu$ FX<br>0.01 - 0.82 $\mu$ FX | LR 64546<br>LR 64546-8 |                                                                                      |
| <b>CB TEST-CERTIFICATE (for AC 300 V)</b>                                                                                                                          |                                                     | 0.01 - 2.2 $\mu$ FX2                        | DE 1-8791              |                                                                                                                                                                         |
| Germany                                                                                                                                                            | EN 132 400; 1999<br>IEC 60384-14, 2nd edition, 1995 | 0.01 - 2.2 $\mu$ FX2                        | 40005120               |   |
| This approval mark together with the CB-Certificate replace all national approval marks of the following countries<br>(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.<br>(%) | PITCH<br>(mm) | BOX<br>NO. | DIMENSIONS<br>W x H x L (mm)<br>(+ 0.2/- 0.4 mm) | WEIGHT<br>LEAD LENGTH<br>6 <sup>-1</sup> mm<br>(g) | QUANTITY<br>PACKAGE<br>LEAD LENGTH<br>< = 6 <sup>-1</sup> mm<br>(pcs)* | ORDERING CODE** |
|-----------------|-------------|---------------|------------|--------------------------------------------------|----------------------------------------------------|------------------------------------------------------------------------|-----------------|
| 0.01 $\mu$ FX2  | ± 20        | 15.0          | 05         | 5.3 x 10.3 x 17.8                                | 1.4                                                | 750                                                                    | F1772-310-32 .. |
| 0.015 $\mu$ FX2 | ± 20        | 15.0          | 05         | 5.3 x 10.3 x 17.8                                | 1.4                                                | 750                                                                    | F1772-315-32 .. |
| 0.022 $\mu$ FX2 | ± 20        | 15.0          | 05         | 5.3 x 10.3 x 17.8                                | 1.4                                                | 750                                                                    | F1772-322-32 .. |
| 0.033 $\mu$ FX2 | ± 20        | 15.0          | 49         | 6.0 x 12.0 x 17.9                                | 2.0                                                | 600                                                                    | F1772-333-32 .. |
| 0.047 $\mu$ FX2 | ± 20        | 15.0          | 49         | 6.0 x 12.0 x 17.9                                | 2.1                                                | 600                                                                    | F1772-347-32 .. |
| 0.068 $\mu$ FX2 | ± 20        | 15.0          | 07         | 7.3 x 13.3 x 17.8                                | 2.7                                                | 450                                                                    | F1772-368-32 .. |
| 0.1 $\mu$ FX2   | ± 20        | 15.0          | 08         | 8.3 x 14.3 x 17.8                                | 4.1                                                | 325                                                                    | F1772-410-32 .. |
| 0.15 $\mu$ FX2  | ± 20        | 22.5          | 11         | 7.3 x 15.3 x 26.3                                | 4.3                                                | 235                                                                    | F1772-415-32 .. |
| 0.15 $\mu$ FX2  | ± 20        | 15.0          | 35         | 10.3 x 17.3 x 17.8                               | 4.3                                                | 225                                                                    | F1772-415-326 . |
| 0.22 $\mu$ FX2  | ± 20        | 22.5          | 12         | 8.3 x 16.3 x 26.3                                | 6.8                                                | 200                                                                    | F1772-422-32 .. |
| 0.22 $\mu$ FX2  | ± 20        | 15.0          | 36         | 13.3 x 22.3 x 17.8                               | 7.1                                                | 185                                                                    | F1772-422-326 . |
| 0.33 $\mu$ FX2  | ± 20        | 27.5          | 29         | 8.8 x 18.3 x 31.3                                | 8.0                                                | 160                                                                    | F1772-433-32 .. |
| 0.33 $\mu$ FX2  | ± 20        | 22.5          | 13         | 10.3 x 18.3 x 26.3                               | 6.7                                                | 170                                                                    | F1772-433-326 . |
| 0.47 $\mu$ FX2  | ± 20        | 27.5          | 14         | 11.0 x 20.3 x 31.3                               | 10.0                                               | 125                                                                    | F1772-447-32 .. |
| 0.47 $\mu$ FX2  | ± 20        | 22.5          | 27         | 12.3 x 19.8 x 26.3                               | 8.7                                                | 125                                                                    | F1772-447-326 . |
| 0.68 $\mu$ FX2  | ± 20        | 27.5          | 15         | 13.0 x 23.3 x 31.3                               | 14.2                                               | 110                                                                    | F1772-468-32 .. |
| 0.68 $\mu$ FX2  | ± 20        | 22.5          | 38         | 15.3 x 26.3 x 26.3                               | 14.3                                               | 110                                                                    | F1772-468-326 . |
| 1.0 $\mu$ FX2   | ± 20        | 27.5          | 17         | 16.3 x 29.3 x 31.3                               | 22.5                                               | 85                                                                     | F1772-510-32 .. |
| 1.0 $\mu$ FX2   | ± 20        | 22.5          | 20         | 17.8 x 29.3 x 26.3                               | 18.3                                               | 90                                                                     | F1772-510-326 . |
| 1.5 $\mu$ FX2   | ± 20        | 37.5          | 70         | 15.5 x 28.3 x 41.3                               | 26.1                                               | 70                                                                     | F1772-515-32 .. |
| 1.5 $\mu$ FX2   | ± 20        | 27.5          | 40         | 17.8 x 32.8 x 31.3                               | 24.4                                               | 80                                                                     | F1772-515-326 . |
| 2.2 $\mu$ FX2   | ± 20        | 37.5          | 20         | 17.8 x 32.3 x 41.3                               | 33.4                                               | 60                                                                     | F1772-522-32 .. |

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

\* 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-...-3290 at H = 16.5 mm

F1772-...-3291 at H = 18.5 mm

F1772-...-3960 at H = 16.5 mm

F1772-...-3961 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 300 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 420 V (DC) and divided by the applied voltage.



### Disclaimer

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