

## **Metallized Film Capacitor**

## **Interference Suppression Capacitors**

**Series/Type:** MKP X2

**Ordering code:** X200A\*

**Date:** September 2023

**Version:** 01

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|  |               |
|--|---------------|
| <b>Metallized Film Capacitor</b>           | <b>X200A*</b> |
| <b>Interference Suppression Capacitors</b> | <b>MKP X2</b> |

#### ■ Features





- High temperature metallized polypropylene structure:125°C
- With standing overvoltage stressing

- Plastics case(UL94 V-0), filled with resin
- Used in across-the-line,interference suppression circuit
- The capacitors are designed for mounting on printed-circuit boards (PCB)

#### ■ Reference Standards

- IEC60384-14
- AEC Q-200
- RoHS
- UL 810

#### ■ Safety Approvals

|   |   |                                     |   |
|---|---|-------------------------------------|---|
| ● |    | <b>CQC</b><br>(CHINA)               | IEC 60384-14:2023, X2,250V/275V/280V/310V, 0.001μF ~ 15μF,40/110/56B<br>Certificate No.:CQC21001303536  |
| ● |    | <b>ENEC-VDE</b><br>(EUROPEAN UNION) | IEC 60384-14:2013+Al:2016, X2,250V/310V250V/275V/280V/310V, 0.001μF ~ 15μF,40/110/56B<br>Certificate No.:40052899                               |
| ● |    | <b>UL/CUL</b><br>(USA/CANADA)       | IEC 60384-14:2013+Al:2016, X2,250V/310V250V/275V/280V/310V, 0.001μF ~ 15μF,40/110/56B<br>File No.:E315567                                       |
| ● |  | <b>KC</b><br>(KOREA)                | IEC 60384-14:2015 KC 60384-14:2015 X2,250V/310V250V/275V/280V/310V, 0.001μF ~ 15μF,40/110/56B<br>Certificate No.:SU03094-17002A; SU03094-17003A |

#### ■ Specifications

- Capacitance range **0.001μF~15μF**
- Capacitance tolerance **10%(K)**
- Capacitance tolerance **250V.ac/275V.ac/280V.ac/310V.ac**
- Rated RMS Voltage **20**
- Dielectric dissipation factor(tanδ<sub>o</sub>) **20 × 10<sup>-4</sup>**
- Loss factor(tanδ)at 1KHz **≤1.0 × 10<sup>-3</sup>**
- Operating temperature range **-40℃...110℃**
- Storage temperature Range **-40℃...110℃**

#### ■ Test data

- Capacitance measurement **C<sub>N</sub>±10%(K);**
  - Test voltage between terminals **4.3U<sub>N</sub> @2S**
  - Test voltage between terminals to case **2100 V.ac @60S**
  - Insulation resistance **R ≥ 15,000MΩ, C<sub>N</sub> ≤ 0.33μF(20℃, 100V, 60S)**
  - Loss factor(tanδ)at 1KHz **R • C<sub>N</sub> ≥ 5,000S, C<sub>N</sub> > 0.33μF (20℃, 100V, 60S)**
- 20 × 10<sup>-4</sup>**

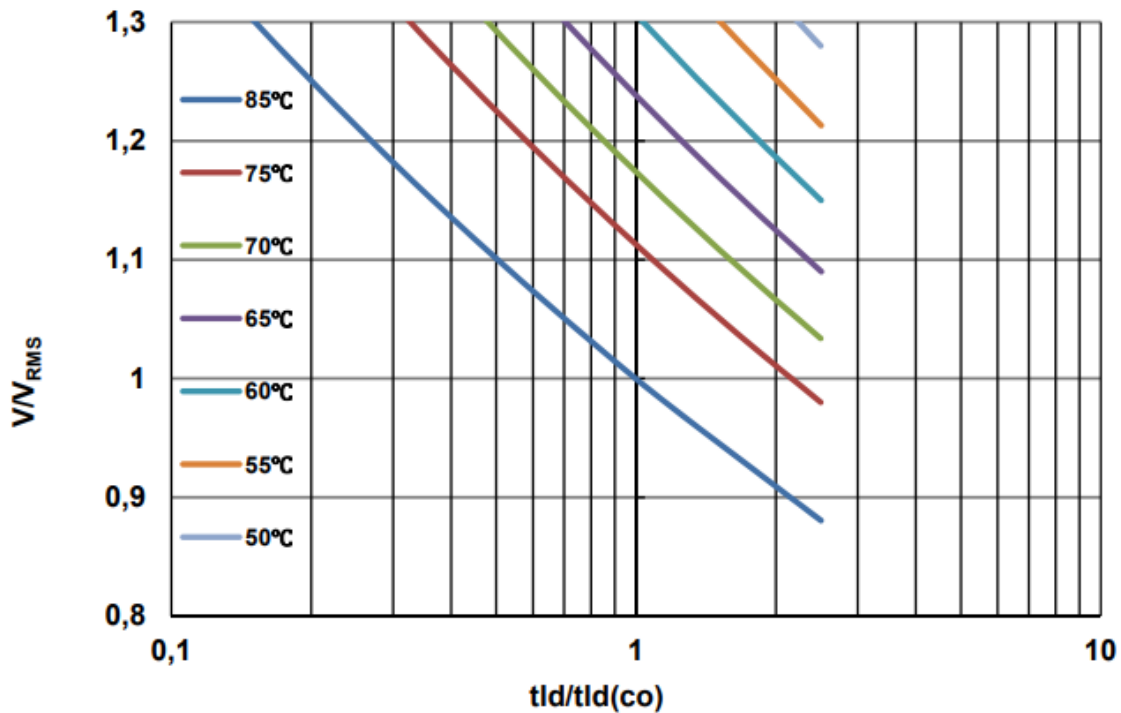
**■ Installation**

- **Mounting and grounding** M8/M10/M12 threaded bolt on bottom of the aluminum case
- **Terminal form** Tab or Male terminals
- **Max. torque(case)** M8:5N.m; M10:7N.m; M12:10N.m
- **Max. torque terminal** M6:3N.m; M8:6N.m; M10:8N.m

**■ Expected lifetime curve**

The lifetime estimations below show the standard expected lifetime of 100,000 hours(at +85°C hotspot) are only theoretical calculations based on endurance test results performed according to IEC61071 standard.

**Expected life time at  $T_{hs}$**



Services life  $t_{LD}$  at different hot-spot temperature( $T_{hs}$ )and rated voltage

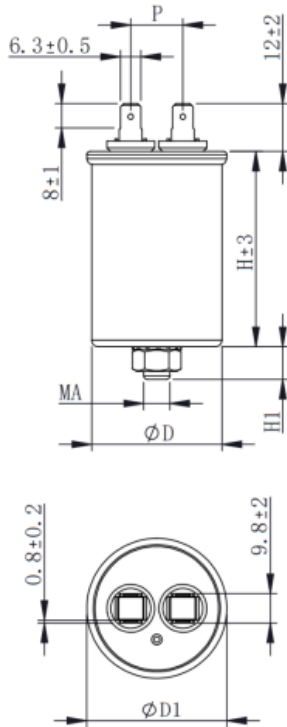
**■ Structure of ordering code**

|                  |          |          |          |          |                   |          |                   |          |          |                       |          |              |          |          |          |
|------------------|----------|----------|----------|----------|-------------------|----------|-------------------|----------|----------|-----------------------|----------|--------------|----------|----------|----------|
| 1                | 2        | 3        | 4        | 5        | 6                 | 7        | 8                 | 9        | 10       | 11                    | 12       | 13           | 14       | 15       | 16       |
| <b>C</b>         | <b>5</b> | <b>0</b> | <b>0</b> | <b>A</b> | <b>4</b>          | <b>4</b> | <b>1</b>          | <b>1</b> | <b>5</b> | <b>6</b>              | <b>J</b> | <b>0</b>     | <b>0</b> | <b>1</b> | <b>1</b> |
| Capacitor series |          |          |          |          | Rated RMS voltage |          | Rated Capacitance |          |          | Capacitance tolerance |          | Internal use |          |          |          |

C500A—Capacitor series  
 441—Rated RMS voltage 440V  
 156J0—Rated capacitance 15μF  
 J—Capacitance tolerance ±5%  
 011—Internal use

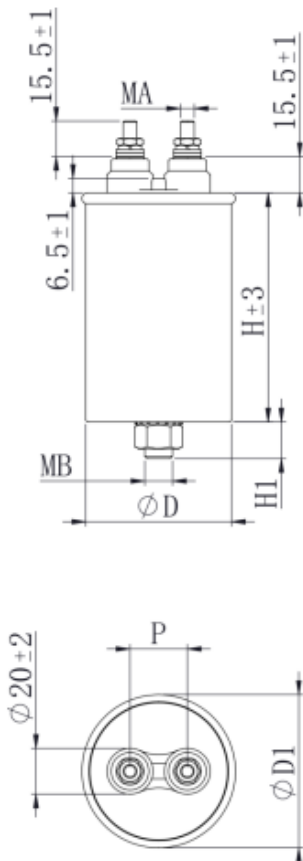
■ Outline Drawing(Specific according to customer requirements)

- Tab type design(Without channeling)



|              |           |              |            |            |
|--------------|-----------|--------------|------------|------------|
| <b>D±1</b>   | <b>40</b> | <b>45/50</b> | <b>55</b>  | <b>60</b>  |
| <b>H1±1</b>  | <b>10</b> | <b>10</b>    | <b>12</b>  | <b>16</b>  |
| <b>P±1.5</b> | <b>16</b> | <b>18</b>    | <b>20</b>  | <b>20</b>  |
| <b>MA</b>    | <b>M8</b> | <b>M8</b>    | <b>M10</b> | <b>M12</b> |

- Bolt type design(Without channeling)



|             |                |                 |                |
|-------------|----------------|-----------------|----------------|
| <b>D±1</b>  | <b>63.5/65</b> | <b>76/86/96</b> | <b>106/116</b> |
| <b>H1±1</b> | <b>16</b>      | <b>16</b>       | <b>16</b>      |
| <b>P±1</b>  | <b>25</b>      | <b>30</b>       | <b>35</b>      |
| <b>MA</b>   | <b>M6</b>      | <b>M8</b>       | <b>M10</b>     |
| <b>MB</b>   | <b>M12</b>     | <b>M12</b>      | <b>M12</b>     |

|                                     |                     |
|-------------------------------------|---------------------|
| Metallized Film Capacitor           | X200A*              |
| Interference Suppression Capacitors | MKP AC Filter – Box |

**Technical data(Tab type)**

| $C_N$<br>( $\mu F$ )           | $D$<br>(mm) | $D_1$<br>(mm) | $H$<br>(mm) | $P$<br>(mm) | $\hat{I}$<br>(KA) | $I_{MA}$<br>x<br>(A) | ESR<br>(m $\Omega$ ) | ESL<br>(nH) | $R_{th}$<br>(K/W) | $W$<br>(kg) | Part number    |
|--------------------------------|-------------|---------------|-------------|-------------|-------------------|----------------------|----------------------|-------------|-------------------|-------------|----------------|
| $U_N$ AC350V, $U_{RMS}$ AC250V |             |               |             |             |                   |                      |                      |             |                   |             |                |
| 15                             | 40          | 44            | 65          | 16          | 0.2               | 10                   | 7.1                  | 80          | 21.4              | 0.1         | C500A251156*** |
|                                |             |               |             |             |                   |                      |                      |             |                   | 0           | **             |
| 25                             | 45          | 49            | 75          | 18          | 0.3               | 12                   | 6.6                  | 10          | 17.1              | 0.1         | C500A251256*** |
|                                |             |               |             |             |                   |                      |                      | 0           |                   | 4           | **             |
| 35                             | 50          | 54            | 75          | 20          | 0.4               | 14                   | 5.1                  | 10          | 15.1              | 0.1         | C500A251356*** |
|                                |             |               |             |             |                   |                      |                      | 0           |                   | 7           | **             |
| 50                             | 55          | 59            | 80          | 20          | 0.6               | 16                   | 4.0                  | 10          | 12.9              | 0.2         | C500A251506*** |
|                                |             |               |             |             |                   |                      |                      | 0           |                   | 2           | **             |
| 60                             | 60          | 64            | 80          | 20          | 0.7               | 16                   | 3.5                  | 10          | 11.4              | 0.2         | C500A251606*** |
|                                |             |               |             |             |                   |                      |                      | 0           |                   | 6           | **             |
| 80                             | 60          | 64            | 90          | 20          | 0.8               | 16                   | 3.7                  | 12          | 10.6              | 0.2         | C500A251806*** |
|                                |             |               |             |             |                   |                      |                      | 0           |                   | 9           | **             |
| 10                             | 60          | 64            | 105         | 20          | 0.7               | 16                   | 4.3                  | 15          | 9.4               | 0.3         | C500A251107*** |
| 0                              |             |               |             |             |                   |                      |                      | 0           |                   | 4           | **             |
| 12                             | 60          | 64            | 115         | 20          | 0.8               | 16                   | 4.6                  | 17          | 8.6               | 0.3         | C500A251127*** |
| 0                              |             |               |             |             |                   |                      |                      | 0           |                   | 8           | **             |
| 14                             | 60          | 64            | 130         | 20          | 0.8               | 16                   | 5.1                  | 21          | 7.8               | 0.4         | C500A251147*** |
| 0                              |             |               |             |             |                   |                      |                      | 0           |                   | 3           | **             |
| 15                             | 60          | 64            | 130         | 20          | 0.8               | 16                   | 4.9                  | 21          | 7.8               | 0.4         | C500A251157*** |
| 0                              |             |               |             |             |                   |                      |                      | 0           |                   | 3           | **             |
| $U_N$ AC460V, $U_{RMS}$ AC330V |             |               |             |             |                   |                      |                      |             |                   |             |                |
| 15                             | 45          | 49            | 65          | 18          | 0.3               | 11                   | 5.8                  | 80          | 18.7              | 0.1         | C500A331156*** |
|                                |             |               |             |             |                   |                      |                      |             |                   | 2           | **             |
| 20                             | 45          | 49            | 75          | 18          | 0.3               | 12                   | 6.5                  | 10          | 16.5              | 0.1         | C500A331206*** |
|                                |             |               |             |             |                   |                      |                      | 0           |                   | 4           | **             |
| 25                             | 50          | 54            | 75          | 18          | 0.4               | 13                   | 5.5                  | 10          | 15.0              | 0.1         | C500A331256*** |
|                                |             |               |             |             |                   |                      |                      | 0           |                   | 7           | **             |
| 30                             | 55          | 59            | 75          | 18          | 0.5               | 14                   | 4.8                  | 10          | 14.3              | 0.1         | C500A331306*** |
|                                |             |               |             |             |                   |                      |                      | 0           |                   | 7           | **             |
| 35                             | 60          | 64            | 80          | 20          | 0.6               | 16                   | 4.3                  | 10          | 12.9              | 0.2         | C500A331356*** |
|                                |             |               |             |             |                   |                      |                      | 0           |                   | 2           | **             |
| 40                             | 60          | 64            | 80          | 20          | 0.6               | 16                   | 3.9                  | 10          | 12.1              | 0.2         | C500A331406*** |
|                                |             |               |             |             |                   |                      |                      | 0           |                   | 6           | **             |
| 50                             | 60          | 64            | 90          | 20          | 0.7               | 16                   | 4.3                  | 12          | 10.9              | 0.2         | C500A331506*** |

|    |    |    |     |    |     |    |     |    |      |     |                |
|----|----|----|-----|----|-----|----|-----|----|------|-----|----------------|
|    |    |    |     |    |     |    |     | 0  | 9    | **  |                |
| 60 | 60 | 64 | 09  | 20 | 0.8 | 16 | 3.8 | 12 | 10.3 | 0.2 | C500A331606*** |
|    |    |    |     |    |     |    |     | 0  | 9    | **  |                |
| 80 | 60 | 64 | 115 | 20 | 0.7 | 16 | 5.2 | 17 | 8.7  | 0.3 | C500A331806*** |
|    |    |    |     |    |     |    |     | 0  | 8    | **  |                |
| 10 | 60 | 64 | 130 | 20 | 0.8 | 16 | 5.5 | 21 | 7.7  | 0.4 | C500A331107*** |
| 0  |    |    |     |    |     |    |     | 0  | 3    | **  |                |

$U_N$  AC700V,  $U_{RMS}$  AC500V

|    |    |    |     |    |     |    |     |    |      |     |                |
|----|----|----|-----|----|-----|----|-----|----|------|-----|----------------|
| 10 | 45 | 49 | 75  | 18 | 0.3 | 11 | 5.3 | 10 | 16.7 | 0.1 | C500A501106*** |
|    |    |    |     |    |     |    |     | 0  | 4    | **  |                |
| 12 | 45 | 49 | 75  | 18 | 0.4 | 12 | 4.6 | 10 | 15.9 | 0.1 | C500A501126*** |
|    |    |    |     |    |     |    |     | 0  | 4    | **  |                |
| 15 | 50 | 54 | 75  | 20 | 0.5 | 14 | 4.0 | 10 | 14.5 | 0.1 | C500A501156*** |
|    |    |    |     |    |     |    |     | 0  | 7    | **  |                |
| 20 | 55 | 59 | 80  | 20 | 0.7 | 16 | 3.3 | 10 | 12.5 | 0.2 | C500A501206*** |
|    |    |    |     |    |     |    |     | 0  | 2    | **  |                |
| 25 | 60 | 64 | 80  | 20 | 0.9 | 16 | 2.9 | 10 | 11.4 | 0.2 | C500A501256*** |
|    |    |    |     |    |     |    |     | 0  | 6    | **  |                |
| 30 | 60 | 64 | 90  | 20 | 0.8 | 16 | 3.3 | 12 | 10.5 | 0.2 | C500A501306*** |
|    |    |    |     |    |     |    |     | 0  | 9    | **  |                |
| 35 | 60 | 64 | 105 | 20 | 0.7 | 16 | 3.9 | 15 | 9.6  | 0.3 | C500A501356*** |
|    |    |    |     |    |     |    |     | 0  | 4    | **  |                |
| 40 | 60 | 64 | 105 | 20 | 0.9 | 16 | 3.6 | 15 | 9.1  | 0.3 | C500A501406*** |
|    |    |    |     |    |     |    |     | 0  | 4    | **  |                |
| 45 | 60 | 64 | 115 | 20 | 0.8 | 16 | 4.0 | 17 | 8.5  | 0.3 | C500A501456*** |
|    |    |    |     |    |     |    |     | 0  | 8    | **  |                |
| 50 | 60 | 64 | 130 | 20 | 0.8 | 16 | 4.6 | 21 | 7.9  | 0.4 | C500A501506*** |
|    |    |    |     |    |     |    |     | 0  | 3    | **  |                |

**Interference Suppression Capacitors**
**MKP AC Filter – Box**
**Technical data(Bolt type)**

| $C_N$<br>( $\mu F$ )           | $D$<br>(mm) | $D1$<br>(mm) | $H$<br>(mm) | $P$<br>(mm) | $\hat{I}$<br>(KA) | $I_{MA}$<br>x<br>(A) | $ESR$<br>( $m\Omega$ ) | $ESL$<br>(nH) | $R_{th}$<br>(K/W) | $W$<br>(kg) | Part number          |
|--------------------------------|-------------|--------------|-------------|-------------|-------------------|----------------------|------------------------|---------------|-------------------|-------------|----------------------|
| $U_N$ AC350V, $U_{RMS}$ AC250V |             |              |             |             |                   |                      |                        |               |                   |             |                      |
| 15<br>0                        | 76          | 80           | 120         | 30          | 2.4               | 35                   | 2.8                    | 14<br>0       | 7.3               | 0.6<br>0    | C500A251157***<br>** |
| 16<br>0                        | 76          | 80           | 120         | 30          | 2.6               | 36                   | 2.6                    | 14<br>0       | 7.1               | 0.6<br>0    | C500A251167***<br>** |
| 18<br>0                        | 76          | 80           | 130         | 30          | 2.4               | 35                   | 2.9                    | 16<br>0       | 6.7               | 0.6<br>0    | C500A251187***<br>** |
| 20<br>0                        | 76          | 80           | 130         | 30          | 2.7               | 37                   | 2.7                    | 16<br>0       | 6.5               | 0.6<br>0    | C500A251207***<br>** |
| 23<br>0                        | 76          | 80           | 145         | 30          | 2.4               | 36                   | 3.0                    | 19<br>0       | 6.0               | 0.7<br>0    | C500A251237***<br>** |
| 25<br>0                        | 76          | 80           | 170         | 30          | 2.6               | 47                   | 2.0                    | 11<br>0       | 5.3               | 0.8<br>0    | C500A251257***<br>** |
| 30<br>0                        | 76          | 80           | 200         | 30          | 4.8               | 51                   | 1.9                    | 14<br>0       | 4.7               | 1.0<br>0    | C500A251307***<br>** |
| 35<br>0                        | 76          | 80           | 200         | 30          | 5.6               | 54                   | 1.8                    | 14<br>0       | 4.4               | 1.0<br>0    | C500A251357***<br>** |
| 40<br>0                        | 86          | 90           | 200         | 30          | 6.4               | 57                   | 1.6                    | 14<br>0       | 4.3               | 1.3<br>0    | C500A251407***<br>** |
| 50<br>0                        | 86          | 90           | 220         | 30          | 6.6               | 59                   | 1.7                    | 16<br>0       | 3.8               | 1.4<br>0    | C500A251507***<br>** |
| 60<br>0                        | 86          | 90           | 250         | 30          | 6.2               | 59                   | 1.8                    | 19<br>0       | 3.4               | 1.6<br>0    | C500A251607***<br>** |
| $U_N$ AC460V, $U_{RMS}$ AC330V |             |              |             |             |                   |                      |                        |               |                   |             |                      |
| 80<br>0                        | 63.5        | 57.5         | 110         | 25          | 1.2               | 25                   | 3.7                    | 14<br>0       | 8.7               | 0.4<br>0    | C500A331806***<br>** |
| 10<br>0                        | 76          | 80           | 120         | 30          | 1.6               | 31                   | 3.1                    | 14<br>0       | 7.4               | 0.6<br>0    | C500A331107***<br>** |
| 12<br>0                        | 76          | 80           | 120         | 30          | 1.9               | 34                   | 2.8                    | 14<br>0       | 6.9               | 0.6<br>0    | C500A331127***<br>** |
| 14<br>0                        | 76          | 80           | 145         | 30          | 1.4               | 31                   | 3.7                    | 19<br>0       | 6.3               | 0.7<br>0    | C500A331147***<br>** |
| 15<br>0                        | 76          | 80           | 145         | 30          | 1.6               | 32                   | 3.5                    | 19<br>0       | 6.1               | 0.7<br>0    | C500A331157***<br>** |
| 16<br>0                        | 76          | 80           | 145         | 30          | 1.7               | 33                   | 3.4                    | 19<br>0       | 6.0               | 0.7<br>0    | C500A331167***<br>** |



|         |    |    |     |    |     |    |     |         |     |     |                      |
|---------|----|----|-----|----|-----|----|-----|---------|-----|-----|----------------------|
| 18<br>0 | 76 | 80 | 170 | 30 | 1.9 | 49 | 1.7 | 11<br>0 | 5.2 | 0.8 | C500A331187***<br>** |
| 20<br>0 | 76 | 80 | 200 | 30 | 3.2 | 51 | 2.0 | 14<br>0 | 4.8 | 1.0 | C500A331207***<br>** |
| 23<br>0 | 76 | 80 | 200 | 30 | 3.7 | 54 | 2.0 | 14<br>0 | 4.6 | 1.0 | C500A331237***<br>** |
| 25<br>0 | 76 | 80 | 200 | 30 | 4.0 | 55 | 1.9 | 14<br>0 | 4.4 | 1.0 | C500A331257***<br>** |
| 30<br>0 | 86 | 90 | 200 | 30 | 4.8 | 54 | 1.7 | 14<br>0 | 4.1 | 1.3 | C500A331307***<br>** |
| 35<br>0 | 86 | 90 | 220 | 30 | 4.6 | 55 | 1.7 | 16<br>0 | 4.8 | 1.4 | C500A331357***<br>** |
| 40<br>0 | 86 | 90 | 250 | 30 | 4.1 | 54 | 2.0 | 19<br>0 | 4.5 | 1.6 | C500A331407***<br>** |

$U_N$  AC700V,  $U_{RMS}$  AC500V

|         |    |    |     |    |     |    |     |         |     |     |                      |
|---------|----|----|-----|----|-----|----|-----|---------|-----|-----|----------------------|
| 20      | 76 | 80 | 75  | 30 | 1.2 | 22 | 1.9 | 80      | 9.8 | 0.4 | C500A501206***<br>** |
| 50      | 76 | 80 | 120 | 30 | 1.2 | 32 | 2.6 | 14<br>0 | 7.5 | 0.6 | C500A501506***<br>** |
| 60      | 76 | 80 | 120 | 30 | 1.4 | 34 | 2.3 | 14<br>0 | 7.1 | 0.6 | C500A501606***<br>** |
| 70      | 76 | 80 | 145 | 30 | 1.1 | 32 | 3.1 | 19<br>0 | 6.4 | 0.8 | C500A501706***<br>** |
| 80      | 76 | 80 | 145 | 30 | 1.2 | 34 | 2.8 | 19<br>0 | 6.1 | 0.8 | C500A501806***<br>** |
| 90      | 76 | 80 | 145 | 30 | 1.4 | 36 | 2.6 | 19<br>0 | 5.8 | 0.8 | C500A501906***<br>** |
| 10<br>0 | 76 | 80 | 200 | 30 | 2.3 | 48 | 1.7 | 14<br>0 | 4.9 | 1.1 | C500A501107***<br>** |
| 13<br>3 | 86 | 90 | 200 | 30 | 3.1 | 53 | 1.5 | 14<br>0 | 4.4 | 1.1 | C500A501137*3*<br>** |
| 15<br>0 | 86 | 90 | 200 | 30 | 3.5 | 55 | 1.4 | 14<br>0 | 4.2 | 1.1 | C500A501157***<br>** |
| 20<br>0 | 86 | 90 | 220 | 30 | 3.9 | 58 | 1.4 | 16<br>0 | 3.7 | 1.2 | C500A501207***<br>** |
| 25<br>0 | 86 | 90 | 250 | 30 | 3.8 | 59 | 1.5 | 19<br>0 | 3.2 | 1.4 | C500A501257***<br>** |

$U_N$  AC760V,  $U_{RMS}$  AC540V

|    |    |    |     |    |     |    |     |         |     |     |                      |
|----|----|----|-----|----|-----|----|-----|---------|-----|-----|----------------------|
| 22 | 76 | 80 | 85  | 30 | 1.4 | 29 | 1.8 | 80      | 9.6 | 0.4 | C500A541226***<br>** |
| 33 | 76 | 80 | 105 | 30 | 1.4 | 33 | 1.8 | 12<br>0 | 8.3 | 0.5 | C500A541336***<br>** |

|    |     |     |     |    |     |    |     |    |     |     |                |
|----|-----|-----|-----|----|-----|----|-----|----|-----|-----|----------------|
| 47 | 76  | 80  | 120 | 30 | 1.1 | 33 | 2.4 | 14 | 7.1 | 0.6 | C500A541476*** |
|    |     |     |     |    |     |    |     | 0  |     |     | **             |
| 60 | 76  | 80  | 145 | 30 | 0.9 | 33 | 3.1 | 19 | 6.2 | 0.7 | C500A541606*** |
|    |     |     |     |    |     |    |     | 0  |     |     | **             |
| 68 | 76  | 80  | 145 | 30 | 1.0 | 35 | 2.8 | 19 | 5.9 | 0.7 | C500A541686*** |
|    |     |     |     |    |     |    |     | 0  |     |     | **             |
| 82 | 76  | 80  | 170 | 30 | 2.7 | 50 | 1.4 | 11 | 4.9 | 0.8 | C500A541826*** |
|    |     |     |     |    |     |    |     | 0  |     |     | **             |
| 10 | 86  | 90  | 170 | 30 | 3.3 | 54 | 1.3 | 11 | 4.6 | 1.0 | C500A541107*** |
| 0  |     |     |     |    |     |    |     | 0  |     |     | **             |
| 12 | 86  | 90  | 250 | 30 | 1.8 | 49 | 2.1 | 19 | 3.8 | 1.2 | C500A541127*** |
| 0  |     |     |     |    |     |    |     | 0  |     |     | **             |
| 15 | 86  | 90  | 250 | 30 | 2.3 | 53 | 1.9 | 19 | 3.6 | 1.5 | C500A541157*** |
| 0  |     |     |     |    |     |    |     | 0  |     |     | **             |
| 20 | 96  | 101 | 250 | 30 | 3.0 | 58 | 1.6 | 19 | 3.2 | 1.9 | C500A541207*** |
| 0  |     |     |     |    |     |    |     | 0  |     |     | **             |
| 25 | 106 | 111 | 250 | 35 | 3.8 | 62 | 1.4 | 19 | 2.9 | 2.3 | C500A541257*** |
| 0  |     |     |     |    |     |    |     | 0  |     |     | **             |
| 30 | 106 | 111 | 250 | 35 | 4.5 | 64 | 1.3 | 19 | 2.7 | 2.3 | C500A541307*** |
| 0  |     |     |     |    |     |    |     | 0  |     |     | **             |

**Metallized Film Capacitor** **X200A\***

**Interference Suppression Capacitors** **MKP AC Filter – Box**

**Technical data(Bolt type)**

| $C_N$<br>( $\mu F$ ) | D<br>(mm) | D1<br>(mm) | H<br>(mm) | P<br>(mm) | $\hat{I}$<br>(KA) | $I_{MA}$<br>x<br>(A) | ESR<br>(m $\Omega$ ) | ESL<br>(nH) | $R_{th}$<br>(K/W) | W<br>(kg) | Part number |
|----------------------|-----------|------------|-----------|-----------|-------------------|----------------------|----------------------|-------------|-------------------|-----------|-------------|
|----------------------|-----------|------------|-----------|-----------|-------------------|----------------------|----------------------|-------------|-------------------|-----------|-------------|

$U_N$  AC850V,  $U_{RMS}$  AC600V

|    |    |    |     |    |     |    |     |     |     |     |                |
|----|----|----|-----|----|-----|----|-----|-----|-----|-----|----------------|
| 22 | 76 | 80 | 105 | 30 | 0.8 | 28 | 2.6 | 120 | 8.2 | 0.5 | C500A601226*** |
|    |    |    |     |    |     |    |     |     |     |     | **             |
| 33 | 76 | 80 | 120 | 30 | 0.8 | 31 | 2.7 | 140 | 7.1 | 0.6 | C500A601336*** |
|    |    |    |     |    |     |    |     |     |     |     | **             |
| 47 | 76 | 80 | 170 | 30 | 1.7 | 41 | 2.1 | 120 | 5.3 | 0.8 | C500A601476*** |
|    |    |    |     |    |     |    |     |     |     |     | **             |
| 50 | 76 | 80 | 170 | 30 | 1.8 | 42 | 2.1 | 120 | 5.2 | 0.8 | C500A601506*** |
|    |    |    |     |    |     |    |     |     |     |     | **             |
| 60 | 86 | 90 | 170 | 30 | 2.2 | 45 | 1.9 | 110 | 4.8 | 1.0 | C500A601606*** |
|    |    |    |     |    |     |    |     |     |     |     | **             |
| 68 | 86 | 90 | 170 | 30 | 2.4 | 51 | 1.4 | 110 | 4.7 | 1.0 | C500A601686*** |
|    |    |    |     |    |     |    |     |     |     |     | **             |
| 82 | 86 | 90 | 170 | 30 | 2.1 | 52 | 1.7 | 140 | 4.1 | 1.2 | C500A601826*** |
|    |    |    |     |    |     |    |     |     |     |     | **             |
| 10 | 76 | 80 | 200 | 30 | 1.6 | 51 | 2.2 | 190 | 3.5 | 1.2 | C500A601107*** |

|    |     |     |     |    |     |    |     |     |     |     |                |    |
|----|-----|-----|-----|----|-----|----|-----|-----|-----|-----|----------------|----|
| 0  |     |     |     |    |     |    |     |     |     |     |                | ** |
| 12 | 86  | 90  | 250 | 30 | 2.0 | 54 | 1.9 | 190 | 3.4 | 1.5 | C500A601127*** | ** |
| 0  |     |     |     |    |     |    |     |     |     |     |                | ** |
| 15 | 96  | 101 | 250 | 30 | 2.4 | 57 | 1.7 | 190 | 3.1 | 1.9 | C500A601157*** | ** |
| 0  |     |     |     |    |     |    |     |     |     |     |                | ** |
| 18 | 106 | 111 | 250 | 35 | 2.9 | 62 | 1.6 | 190 | 2.8 | 2.3 | C500A601187*** | ** |
| 0  |     |     |     |    |     |    |     |     |     |     |                | ** |
| 20 | 116 | 121 | 250 | 35 | 3.3 | 64 | 1.4 | 190 | 2.8 | 2.8 | C500A601207*** | ** |
| 0  |     |     |     |    |     |    |     |     |     |     |                | ** |

$U_N$  AC980V,  $U_{RMS}$  AC690V

|    |     |     |     |    |     |    |     |     |     |     |                |    |
|----|-----|-----|-----|----|-----|----|-----|-----|-----|-----|----------------|----|
| 15 | 76  | 80  | 95  | 30 | 0.8 | 25 | 2.4 | 100 | 9.4 | 0.5 | C500A691156*** | ** |
| 22 | 76  | 80  | 105 | 30 | 0.9 | 28 | 2.4 | 120 | 8.2 | 0.5 | C500A691226*** | ** |
| 33 | 76  | 80  | 170 | 30 | 1.3 | 36 | 2.1 | 120 | 6.1 | 0.8 | C500A691336*** | ** |
| 47 | 86  | 90  | 170 | 30 | 1.9 | 42 | 2.1 | 110 | 5.3 | 1.0 | C500A691476*** | ** |
| 60 | 86  | 90  | 200 | 30 | 1.7 | 43 | 1.8 | 140 | 4.6 | 1.2 | C500A691606*** | ** |
| 68 | 86  | 90  | 200 | 30 | 1.9 | 49 | 2.0 | 140 | 4.4 | 1.2 | C500A691686*** | ** |
| 82 | 86  | 90  | 250 | 30 | 1.5 | 48 | 1.6 | 190 | 3.8 | 1.5 | C500A691826*** | ** |
| 10 | 86  | 90  | 250 | 30 | 1.8 | 52 | 2.0 | 190 | 3.5 | 1.5 | C500A691107*** | ** |
| 0  |     |     |     |    |     |    |     |     |     |     |                | ** |
| 12 | 96  | 101 | 250 | 30 | 2.2 | 55 | 1.9 | 190 | 3.4 | 1.9 | C500A691127*** | ** |
| 0  |     |     |     |    |     |    |     |     |     |     |                | ** |
| 15 | 106 | 111 | 250 | 35 | 2.7 | 59 | 1.7 | 190 | 3.1 | 2.3 | C500A691157*** | ** |
| 0  |     |     |     |    |     |    |     |     |     |     |                | ** |
| 20 | 116 | 121 | 250 | 35 | 3.3 | 64 | 1.4 | 190 | 2.8 | 2.8 | C500A691207*** | ** |
| 0  |     |     |     |    |     |    |     |     |     |     |                | ** |

$U_N$  AC1070V/AC1200V,  $U_{RMS}$  AC760V/AC850V

|    |    |    |     |    |     |    |     |     |     |     |                 |   |
|----|----|----|-----|----|-----|----|-----|-----|-----|-----|-----------------|---|
| 10 | 76 | 80 | 95  | 30 | 0.6 | 22 | 2.7 | 100 | 8.8 | 0.5 | X200A***106**** | * |
| 15 | 76 | 80 | 105 | 30 | 0.7 | 26 | 2.7 | 120 | 7.6 | 0.5 | X200A***156**** | * |
| 22 | 76 | 80 | 145 | 30 | 0.5 | 25 | 4.4 | 190 | 6.3 | 0.7 | X200A***226**** | * |
| 33 | 76 | 80 | 170 | 30 | 1.5 | 40 | 1.9 | 110 | 4.9 | 0.8 | X200A***336**** | * |
| 47 | 86 | 90 | 200 | 30 | 1.7 | 43 | 2.1 | 140 | 4.2 | 1.2 | X200A***476**** | * |

|    |     |     |     |    |     |    |     |     |     |     |                 |
|----|-----|-----|-----|----|-----|----|-----|-----|-----|-----|-----------------|
| *  |     |     |     |    |     |    |     |     |     |     |                 |
| 68 | 86  | 90  | 250 | 30 | 1.4 | 49 | 2.0 | 190 | 3.4 | 1.5 | X200A***686**** |
| *  |     |     |     |    |     |    |     |     |     |     |                 |
| 82 | 96  | 111 | 250 | 30 | 1.7 | 52 | 1.8 | 190 | 3.2 | 1.9 | X200A***826**** |
| *  |     |     |     |    |     |    |     |     |     |     |                 |
| 10 | 96  | 111 | 250 | 30 | 2.1 | 56 | 1.6 | 190 | 2.9 | 1.9 | X200A***107**** |
| 0  | *   |     |     |    |     |    |     |     |     |     |                 |
| 15 | 116 | 121 | 250 | 35 | 2.9 | 62 | 1.5 | 190 | 2.6 | 2.8 | X200A***157**** |
| 0  | *   |     |     |    |     |    |     |     |     |     |                 |

|                                     |                     |
|-------------------------------------|---------------------|
| Metallized Film Capacitor           | X200A*              |
| Interference Suppression Capacitors | MKP AC Filter – Box |

### ■ Term and characteristics

| Term           | Characteristics                        |
|----------------|--|
| $C_N$          | Rated capacitance                      |
| $U_N$          | Rated AC voltage                       |
| $U_{NDC}$      | Rated DC voltage                       |
| $U_r$          | Ripple voltage                         |
| $U_s$          | Non- recurrent surge voltage           |
| $U_{T-T}$      | Test voltage between terminals         |
| $U_{T-C}$      | Test voltage between terminals to case |
| $\hat{I}$      | Maximum peak current                   |
| $I_{max}$      | Maximum current                        |
| $\hat{I}_s$    | Maximum surge current                  |
| $\tan\delta_0$ | Dielectric dissipation factor          |

|                                  |  |
|----------------------------------|--|
| <b><math>\tan\delta</math></b>   | Loss factor  |
| <b><math>ESL</math></b>          | Self inductance                                    |
| <b><math>ESR</math></b>          | Equivalent series inductance of a capacitor        |
| <b><math>R_{ins}</math></b>      | Insulation resistance                              |
| <b><math>f_r</math></b>          | Resonance frequency                                |
| <b><math>W_R</math></b>          | Rated power  |
| <b><math>\theta_{min}</math></b> | Lowest operating temperature                       |
| <b><math>\theta_{max}</math></b> | Maximum operating temperature                      |
| <b><math>\theta_{amb}</math></b> | Cooling-air temperature                            |
| <b><math>\theta_{HS}</math></b>  | Hotspot temperature                                |
| <b><math>\theta_{ST}</math></b>  | Storage temperature                                |
| <b><math>F_T</math></b>          | Derating factor                                    |
| <b><math>t_{LD}</math></b>       | Inverter and charge hybrid operating load duration |
| <b><math>\lambda</math></b>      | Failure rate (FIT)                                 |