

**MXK SERIES**

**UPGRADE**

**105°C Ultra Miniaturized**

•Load Life : 105°C 3000 hours.

RoHS  
compliance



**◆SPECIFICATIONS**

| Items                                             | Characteristics                                                                                                                                                                              |                                            |         |                |   |         |
|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|---------|----------------|---|---------|
| Category Temperature Range                        | -25~+105℃                                                                                                                                                                                    |                                            |         |                |   |         |
| Rated Voltage Range                               | 400~450Vdc                                                                                                                                                                                   |                                            |         |                |   |         |
| Capacitance Tolerance                             | ±20% (20℃, 120Hz)                                                                                                                                                                            |                                            |         |                |   |         |
| Leakage Current(MAX)                              | I=3 √CV or 5mA whichever is smaller (After 5 minutes application of rated voltage)<br>I=Leakage Current(μA)                      C=Capacitance(μF)                      V=Rated Voltage(Vdc) |                                            |         |                |   |         |
| Dissipation Factor(MAX)<br>(tanδ)                 | 0.2 (20℃, 120Hz)                                                                                                                                                                             |                                            |         |                |   |         |
| Endurance                                         | After applying rated voltage with rated ripple current for 3000 hours at 105℃, the capacitors shall meet the following requirements.                                                         |                                            |         |                |   |         |
|                                                   | Capacitance Change                                                                                                                                                                           | Within ±20% of the initial value.          |         |                |   |         |
|                                                   | Dissipation Factor                                                                                                                                                                           | Not more than 200% of the specified value. |         |                |   |         |
|                                                   | Leakage Current                                                                                                                                                                              | Not more than the specified value.         |         |                |   |         |
| Low Temperature Stability<br>Impedance Ratio(MAX) | <table><tr><td>Rated Voltage<br/>(Vdc)</td><td>400~450</td></tr><tr><td>Z(-25℃)/Z(20℃)</td><td>8</td></tr></table>                                                                           | Rated Voltage<br>(Vdc)                     | 400~450 | Z(-25℃)/Z(20℃) | 8 | (120Hz) |
| Rated Voltage<br>(Vdc)                            | 400~450                                                                                                                                                                                      |                                            |         |                |   |         |
| Z(-25℃)/Z(20℃)                                    | 8                                                                                                                                                                                            |                                            |         |                |   |         |

**◆MULTIPLIER FOR RIPPLE CURRENT**

| Frequency (Hz) | 60(50) | 120(100) | 300  | 500  | 1k   | 10k≤ |
|----------------|--------|----------|------|------|------|------|
| Coefficient    | 0.80   | 1.00     | 1.15 | 1.20 | 1.25 | 1.40 |

**◆OPTION**

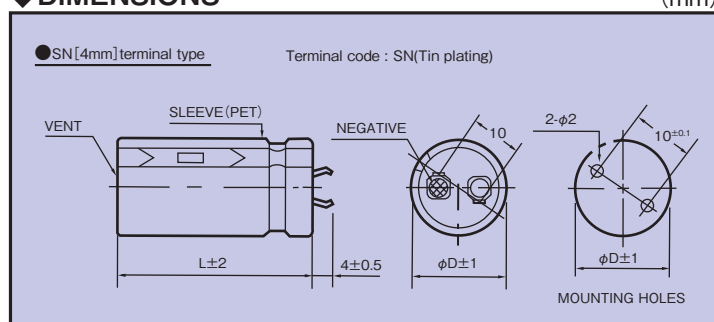
|                          | Code |
|--------------------------|------|
| PET Sleeve without plate | EFC  |

**◆PART NUMBER**

□□□ MXK □□□□ M □□□ SN D×L  
 Rated Voltage Series Capacitance Capacitance Tolerance Option Terminal Code Case Size

**◆DIMENSIONS**

(mm)



**◆STANDARD SIZE**

| Vdc<br>Cap(μF)<br>φD | 400   |      |       |      |       |      |       |      | 420   |      |       |      |       |      |       |      |
|----------------------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|
|                      | φ22   |      | φ25   |      | φ30   |      | φ35   |      | φ22   |      | φ25   |      | φ30   |      | φ35   |      |
| 120                  |       |      |       |      |       |      |       |      | 22×25 | 0.95 |       |      |       |      |       |      |
| 150                  | 22×25 | 1.03 |       |      |       |      |       |      | 22×25 | 1.02 |       |      |       |      |       |      |
|                      |       |      |       |      |       |      |       |      | 22×30 | 1.10 |       |      |       |      |       |      |
| 180                  | 22×30 | 1.19 | 25×25 | 1.15 |       |      |       |      | 22×30 | 1.20 | 25×25 | 1.16 |       |      |       |      |
| 220                  | 22×30 | 1.26 | 25×25 | 1.20 |       |      |       |      | 22×35 | 1.38 | 25×30 | 1.35 |       |      |       |      |
|                      | 22×35 | 1.37 | 25×30 | 1.32 |       |      |       |      |       |      |       |      |       |      |       |      |
| 270                  | 22×35 | 1.44 | 25×30 | 1.43 | 30×25 | 1.37 |       |      | 22×40 | 1.57 | 25×35 | 1.55 | 30×25 | 1.36 |       |      |
|                      | 22×40 | 1.56 |       |      |       |      |       |      |       |      |       |      |       |      |       |      |
| 330                  | 22×45 | 1.77 | 25×35 | 1.65 | 30×25 | 1.39 |       |      | 22×45 | 1.72 | 25×35 | 1.61 | 30×30 | 1.59 | 35×25 | 1.45 |
|                      |       |      |       |      | 30×30 | 1.56 |       |      | 22×50 | 1.85 | 25×40 | 1.76 |       |      |       |      |
| 390                  | 22×50 | 1.97 | 25×40 | 1.85 | 30×30 | 1.65 | 35×25 | 1.48 | 22×55 | 2.00 | 25×40 | 1.80 | 30×30 | 1.61 | 35×25 | 1.45 |
|                      |       |      |       |      |       |      |       |      |       |      | 25×45 | 1.96 |       |      |       |      |
| 470                  | 22×55 | 2.11 | 25×45 | 2.07 | 30×35 | 1.89 | 35×30 | 1.69 | 22×60 | 2.19 | 25×50 | 2.18 | 30×35 | 1.85 | 35×30 | 1.72 |
|                      | 22×60 | 2.20 |       |      |       |      |       |      |       |      |       |      | 30×40 | 2.04 |       |      |
| 560                  |       |      | 25×55 | 2.32 | 30×40 | 2.12 | 35×30 | 1.75 |       |      | 25×55 | 2.32 | 30×40 | 2.07 | 35×35 | 1.97 |
|                      |       |      |       |      |       |      |       |      |       |      | 25×60 | 2.43 | 30×45 | 2.27 |       |      |
| 680                  |       |      | 25×60 | 2.56 | 30×45 | 2.35 | 35×35 | 2.00 |       |      |       |      | 30×45 | 2.29 | 35×40 | 2.22 |
|                      |       |      |       |      |       |      |       |      |       |      |       |      | 30×50 | 2.50 |       |      |
| 820                  |       |      |       |      | 30×50 | 2.53 | 35×40 | 2.21 |       |      |       |      | 30×55 | 2.68 | 35×45 | 2.45 |
|                      |       |      |       |      | 30×55 | 2.66 | 35×45 | 2.48 |       |      |       |      | 30×60 | 2.79 |       |      |
| 1000                 |       |      |       |      | 30×60 | 2.91 | 35×50 | 2.70 |       |      |       |      |       |      | 35×50 | 2.64 |
|                      |       |      |       |      |       |      |       |      |       |      |       |      |       |      | 35×55 | 2.76 |
| 1200                 |       |      |       |      |       |      | 35×55 | 2.85 |       |      |       |      |       |      | 35×60 | 3.03 |
|                      |       |      |       |      |       |      | 35×60 | 2.99 |       |      |       |      |       |      |       |      |

| Vdc<br>Cap(μF)<br>φD | 450   |      |       |      |       |      |       |      |
|----------------------|-------|------|-------|------|-------|------|-------|------|
|                      | φ22   |      | φ25   |      | φ30   |      | φ35   |      |
| 120                  | 22×25 | 0.95 |       |      |       |      |       |      |
| 150                  | 22×30 | 1.12 | 25×25 | 1.08 |       |      |       |      |
| 180                  | 22×30 | 1.17 | 25×25 | 1.14 |       |      |       |      |
|                      | 22×35 | 1.27 | 25×30 | 1.24 |       |      |       |      |
| 220                  | 22×35 | 1.34 | 25×30 | 1.34 | 30×25 | 1.29 |       |      |
|                      | 22×40 | 1.45 |       |      |       |      |       |      |
| 270                  | 22×40 | 1.53 | 25×35 | 1.54 | 30×25 | 1.34 |       |      |
|                      | 22×45 | 1.65 |       |      | 30×30 | 1.49 |       |      |
| 330                  | 22×50 | 1.81 | 25×40 | 1.72 | 30×30 | 1.58 | 35×25 | 1.42 |
|                      | 22×55 | 1.88 | 25×45 | 1.85 |       |      |       |      |
| 390                  | 22×55 | 1.98 | 25×45 | 1.91 | 30×35 | 1.80 | 35×30 | 1.68 |
|                      | 22×60 | 2.07 |       |      |       |      |       |      |
| 470                  |       |      | 25×55 | 2.21 | 30×40 | 2.02 | 35×30 | 1.69 |
|                      |       |      |       |      |       |      | 35×35 | 1.92 |
| 560                  |       |      | 25×60 | 2.41 | 30×45 | 2.24 | 35×35 | 1.92 |
|                      |       |      |       |      |       |      | 35×40 | 2.15 |
| 680                  |       |      |       |      | 30×50 | 2.41 | 35×40 | 2.16 |
|                      |       |      |       |      | 30×55 | 2.54 | 35×45 | 2.38 |
| 820                  |       |      |       |      | 30×60 | 2.77 | 35×45 | 2.36 |
|                      |       |      |       |      |       |      | 35×50 | 2.59 |
| 1000                 |       |      |       |      |       |      | 35×55 | 2.78 |
|                      |       |      |       |      |       |      | 35×60 | 2.90 |

↑  
Ripple Current (A r.m.s./120Hz, 105°C)  
Case Size φD×L(mm)