

**MXH SERIES**

**UPGRADE**

**105°C Ultra Miniaturized, Snap-in Terminal Type**

**◆FEATURES**

- Load Life : 105°C 2000 hours.
- Smaller size than MXG series.
- RoHS compliance.



**◆SPECIFICATIONS**

| Items                                             | Characteristics                                                                                                                                                                                                                                                                                                                                                                                                                           |                   |         |                    |                                   |      |                    |                                            |  |                 |                                    |  |
|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------|--------------------|-----------------------------------|------|--------------------|--------------------------------------------|--|-----------------|------------------------------------|--|
| Category Temperature Range                        | -25~+105℃                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |         |                    |                                   |      |                    |                                            |  |                 |                                    |  |
| Rated Voltage Range                               | 400~500V.DC                                                                                                                                                                                                                                                                                                                                                                                                                               |                   |         |                    |                                   |      |                    |                                            |  |                 |                                    |  |
| Capacitance Tolerance                             | ±20%(20℃,120Hz)                                                                                                                                                                                                                                                                                                                                                                                                                           |                   |         |                    |                                   |      |                    |                                            |  |                 |                                    |  |
| Leakage Current(MAX)                              | I=3√CV (After 5 minutes application of rated voltage)<br>I=Leakage Current(μA)                      C=Capacitance(μF)                      V=Rated Voltage(V)                                                                                                                                                                                                                                                                             |                   |         |                    |                                   |      |                    |                                            |  |                 |                                    |  |
| (tanδ)<br>Dissipation Factor(MAX)                 | <table><tr><td>Rated Voltage (V)</td><td>400~450</td><td>500</td></tr><tr><td>tanδ</td><td>0.20</td><td>0.25</td></tr></table>                                                                                                                                                                                                                                                                                                            | Rated Voltage (V) | 400~450 | 500                | tanδ                              | 0.20 | 0.25               | (20℃,120Hz)                                |  |                 |                                    |  |
| Rated Voltage (V)                                 | 400~450                                                                                                                                                                                                                                                                                                                                                                                                                                   | 500               |         |                    |                                   |      |                    |                                            |  |                 |                                    |  |
| tanδ                                              | 0.20                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0.25              |         |                    |                                   |      |                    |                                            |  |                 |                                    |  |
| Endurance                                         | After applying rated voltage with rated ripple current for 2000 hours at 105℃, the capacitors shall meet the following requirements. <table><tr><td>Capacitance Change</td><td colspan="2">Within ±20% of the initial value.</td></tr><tr><td>Dissipation Factor</td><td colspan="2">Not more than 200% of the specified value.</td></tr><tr><td>Leakage Current</td><td colspan="2">Not more than the specified value.</td></tr></table> |                   |         | 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. |  |
| 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 (V)</td><td>400~450</td><td>500</td></tr><tr><td>Z(-25℃)/Z(20℃)</td><td>8</td><td>12</td></tr></table>                                                                                                                                                                                                                                                                                                       | Rated Voltage (V) | 400~450 | 500                | Z(-25℃)/Z(20℃)                    | 8    | 12                 | (120Hz)                                    |  |                 |                                    |  |
| Rated Voltage (V)                                 | 400~450                                                                                                                                                                                                                                                                                                                                                                                                                                   | 500               |         |                    |                                   |      |                    |                                            |  |                 |                                    |  |
| Z(-25℃)/Z(20℃)                                    | 8                                                                                                                                                                                                                                                                                                                                                                                                                                         | 12                |         |                    |                                   |      |                    |                                            |  |                 |                                    |  |

**◆MULTIPLIER FOR RIPPLE CURRENT**

Frequency Coefficient

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

**◆PART NUMBER**

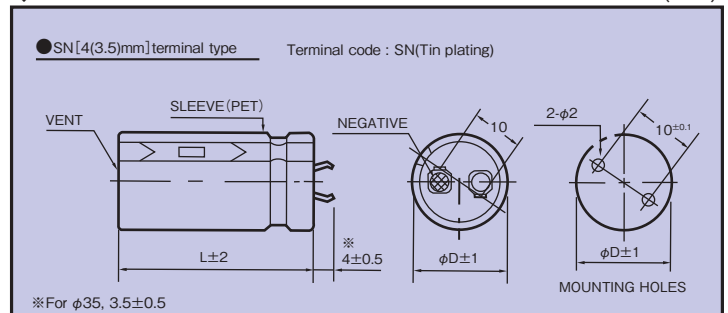
□□□    MXH    □□□□□    M    □□□    SN    D×L  
 Rated Voltage    Series    Capacitance    Capacitance Tolerance    Option    Terminal Code    Case Size

**◆OPTION**

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

**◆DIMENSIONS**

(mm)



**◆STANDARD SIZE**

| Cap<br>( $\mu$ F) | WV<br>$\phi$ D | 400       |      |           |      |           |      |           |      |
|-------------------|----------------|-----------|------|-----------|------|-----------|------|-----------|------|
|                   |                | $\phi$ 22 |      | $\phi$ 25 |      | $\phi$ 30 |      | $\phi$ 35 |      |
| 120               |                | 22×25     | 0.75 |           |      |           |      |           |      |
| 150               |                | 22×30     | 0.88 |           |      |           |      |           |      |
| 180               |                | 22×30     | 0.95 | 25×25     | 0.95 |           |      |           |      |
| 220               |                | 22×35     | 1.10 | 25×30     | 1.10 |           |      |           |      |
| 270               |                | 22×40     | 1.22 | 25×35     | 1.22 | 30×25     | 1.22 |           |      |
| 330               |                | 22×50     | 1.44 | 25×40     | 1.44 | 30×30     | 1.44 | 35×25     | 1.44 |
| 390               |                |           |      | 25×45     | 1.55 | 30×35     | 1.55 | 35×30     | 1.55 |
| 470               |                |           |      | 25×50     | 1.68 | 30×40     | 1.68 | 35×30     | 1.68 |
| 560               |                |           |      |           |      | 30×45     | 1.90 | 35×35     | 1.90 |
| 680               |                |           |      |           |      | 30×50     | 2.12 | 35×40     | 2.12 |
| 820               |                |           |      |           |      |           |      | 35×45     | 2.30 |

| Cap<br>( $\mu$ F) | WV<br>$\phi$ D | 420       |      |           |      |           |      |           |      |
|-------------------|----------------|-----------|------|-----------|------|-----------|------|-----------|------|
|                   |                | $\phi$ 22 |      | $\phi$ 25 |      | $\phi$ 30 |      | $\phi$ 35 |      |
| 100               |                | 22×25     | 0.66 |           |      |           |      |           |      |
| 120               |                | 22×30     | 0.81 |           |      |           |      |           |      |
| 150               |                | 22×30     | 0.84 | 25×25     | 0.84 |           |      |           |      |
| 180               |                | 22×35     | 0.91 | 25×30     | 0.91 |           |      |           |      |
| 220               |                | 22×40     | 1.05 | 25×30     | 1.05 | 30×25     | 1.05 |           |      |
| 270               |                | 22×50     | 1.25 | 25×35     | 1.25 | 30×30     | 1.25 | 35×25     | 1.25 |
| 330               |                |           |      | 25×45     | 1.42 | 30×35     | 1.42 | 35×30     | 1.42 |
| 390               |                |           |      | 25×50     | 1.61 | 30×40     | 1.61 | 35×30     | 1.61 |
| 470               |                |           |      |           |      | 30×45     | 1.86 | 35×35     | 1.86 |
| 560               |                |           |      |           |      | 30×50     | 2.10 | 35×40     | 2.10 |
| 680               |                |           |      |           |      |           |      | 35×45     | 2.20 |

| Cap<br>( $\mu$ F) | WV<br>$\phi$ D | 450       |      |           |      |           |      |           |      |
|-------------------|----------------|-----------|------|-----------|------|-----------|------|-----------|------|
|                   |                | $\phi$ 22 |      | $\phi$ 25 |      | $\phi$ 30 |      | $\phi$ 35 |      |
| 100               |                | 22×25     | 0.69 |           |      |           |      |           |      |
| 120               |                | 22×30     | 0.72 | 25×25     | 0.72 |           |      |           |      |
| 150               |                | 22×35     | 0.79 | 25×30     | 0.79 |           |      |           |      |
| 180               |                | 22×40     | 0.87 | 25×30     | 0.87 | 30×25     | 0.87 |           |      |
| 220               |                | 22×45     | 1.05 | 25×35     | 1.05 | 30×30     | 1.05 |           |      |
| 270               |                | 22×50     | 1.23 | 25×40     | 1.23 | 30×30     | 1.23 | 35×25     | 1.23 |
| 330               |                |           |      | 25×50     | 1.38 | 30×35     | 1.38 | 35×30     | 1.38 |
| 390               |                |           |      |           |      | 30×40     | 1.61 | 35×35     | 1.61 |
| 470               |                |           |      |           |      | 30×45     | 1.78 | 35×40     | 1.78 |
| 560               |                |           |      |           |      |           |      | 35×45     | 1.99 |
| 680               |                |           |      |           |      |           |      | 35×50     | 2.10 |

| Cap<br>( $\mu$ F) | WV<br>$\phi$ D | 500       |      |           |      |           |      |           |      |
|-------------------|----------------|-----------|------|-----------|------|-----------|------|-----------|------|
|                   |                | $\phi$ 22 |      | $\phi$ 25 |      | $\phi$ 30 |      | $\phi$ 35 |      |
| 56                |                | 22×25     | 0.53 |           |      |           |      |           |      |
| 68                |                | 22×30     | 0.63 |           |      |           |      |           |      |
| 82                |                | 22×30     | 0.72 | 25×25     | 0.61 |           |      |           |      |
| 100               |                | 22×35     | 0.82 | 25×30     | 0.73 |           |      |           |      |
| 120               |                | 22×40     | 0.92 | 25×35     | 0.85 | 30×25     | 0.85 |           |      |
| 150               |                | 22×45     | 1.03 | 25×40     | 0.98 | 30×30     | 1.00 | 35×25     | 0.99 |
| 180               |                |           |      | 25×45     | 1.11 | 30×35     | 1.14 | 35×30     | 1.15 |
| 220               |                |           |      | 25×50     | 1.24 | 30×40     | 1.30 | 35×35     | 1.32 |
| 270               |                |           |      |           |      | 30×45     | 1.45 | 35×35     | 1.46 |
| 330               |                |           |      |           |      | 30×50     | 1.62 | 35×40     | 1.64 |
| 390               |                |           |      |           |      |           |      | 35×50     | 1.85 |

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