

## MXH series

105°C 2000 時間 小形化品  
Load Life : 105°C 2000 hours , Miniaturized



### ◆規格表／SPECIFICATIONS

| 項目 Item                                                                  | 特性 Characteristics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                               |                                                   |                              |                                                            |                         |                                             |    |    |
|--------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------|------------------------------|------------------------------------------------------------|-------------------------|---------------------------------------------|----|----|
| カテゴリ温度範囲<br>Category Temperature Range                                   | -25～+105℃                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                               |                                                   |                              |                                                            |                         |                                             |    |    |
| 定格電圧範囲<br>Rated Voltage Range                                            | 400～550Vdc                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                               |                                                   |                              |                                                            |                         |                                             |    |    |
| 静電容量許容差<br>Capacitance Tolerance                                         | ±20% (20℃, 120Hz)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                               |                                                   |                              |                                                            |                         |                                             |    |    |
| 漏れ電流<br>Leakage Current (MAX)                                            | I=3√CV (定格電圧印加5分後)<br>I=3√CV (After 5 minutes application of rated voltage)<br>I=漏れ電流 (μA) C=静電容量 (μF) V=定格電圧 (Vdc)<br>Leakage Current Capacitance Rated Voltage                                                                                                                                                                                                                                                                                                                                                             |                               |                                                   |                              |                                                            |                         |                                             |    |    |
| 損失角の正接 (tan δ)<br>Dissipation Factor (MAX)                               | <table><tr><td>定格電圧 (Vdc)<br/>Rated Voltage</td><td>400～450</td><td>475～550</td></tr><tr><td>tan δ</td><td>0.20</td><td>0.25</td></tr></table> (20℃, 120Hz)                                                                                                                                                                                                                                                                                                                                                                  | 定格電圧 (Vdc)<br>Rated Voltage   | 400～450                                           | 475～550                      | tan δ                                                      | 0.20                    | 0.25                                        |    |    |
| 定格電圧 (Vdc)<br>Rated Voltage                                              | 400～450                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 475～550                       |                                                   |                              |                                                            |                         |                                             |    |    |
| tan δ                                                                    | 0.20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 0.25                          |                                                   |                              |                                                            |                         |                                             |    |    |
| 耐久性<br>Endurance                                                         | 105℃中で2000時間定格電圧(リプル重畳)印加後、下記項目を満足すること。<br>After applying rated voltage with rated ripple current for 2000 hours at 105℃, the capacitors shall meet the following requirements. <table><tr><td>静電容量変化率<br/>Capacitance Change</td><td>初期値の ±20% 以内<br/>Within ±20% of the initial value.</td></tr><tr><td>損失角の正接<br/>Dissipation Factor</td><td>規格値の 200% 以下<br/>Not more than 200% of the specified value.</td></tr><tr><td>漏れ電流<br/>Leakage Current</td><td>規格値以下<br/>Not more than the specified value.</td></tr></table> | 静電容量変化率<br>Capacitance Change | 初期値の ±20% 以内<br>Within ±20% of the initial value. | 損失角の正接<br>Dissipation Factor | 規格値の 200% 以下<br>Not more than 200% of the specified value. | 漏れ電流<br>Leakage Current | 規格値以下<br>Not more than the specified value. |    |    |
| 静電容量変化率<br>Capacitance Change                                            | 初期値の ±20% 以内<br>Within ±20% of the initial value.                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                               |                                                   |                              |                                                            |                         |                                             |    |    |
| 損失角の正接<br>Dissipation Factor                                             | 規格値の 200% 以下<br>Not more than 200% of the specified value.                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                               |                                                   |                              |                                                            |                         |                                             |    |    |
| 漏れ電流<br>Leakage Current                                                  | 規格値以下<br>Not more than the specified value.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                               |                                                   |                              |                                                            |                         |                                             |    |    |
| 低温特性<br>Low Temperature Stability<br>(インピーダンス比)<br>Impedance Ratio (MAX) | <table><tr><td>定格電圧 (Vdc)<br/>Rated Voltage</td><td>400～450</td><td>475, 500</td><td>550</td></tr><tr><td>Z(-25℃)/Z(+20℃)</td><td>8</td><td>10</td><td>12</td></tr></table> (120Hz)                                                                                                                                                                                                                                                                                                                                          | 定格電圧 (Vdc)<br>Rated Voltage   | 400～450                                           | 475, 500                     | 550                                                        | Z(-25℃)/Z(+20℃)         | 8                                           | 10 | 12 |
| 定格電圧 (Vdc)<br>Rated Voltage                                              | 400～450                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 475, 500                      | 550                                               |                              |                                                            |                         |                                             |    |    |
| Z(-25℃)/Z(+20℃)                                                          | 8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 10                            | 12                                                |                              |                                                            |                         |                                             |    |    |

### ◆呼称方法／PART NUMBER

|                       |                 |                     |                                  |               |                       |                     |
|-----------------------|-----------------|---------------------|----------------------------------|---------------|-----------------------|---------------------|
| □□□                   | MXH             | □□□□□               | M                                | □□□           | SN                    | D x L               |
| 定格電圧<br>Rated Voltage | シリーズ名<br>Series | 静電容量<br>Capacitance | 静電容量許容差<br>Capacitance Tolerance | 副記号<br>Option | 端子記号<br>Terminal Code | ケースサイズ<br>Case Size |

### ◆リップル電流補正係数／ MULTIPLIER FOR RIPPLE CURRENT

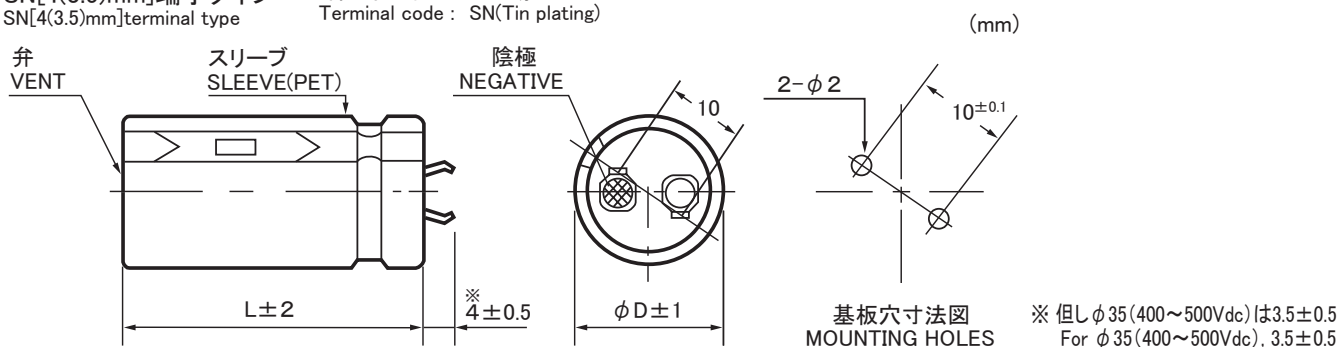
|                       |            |              |      |      |      |      |
|-----------------------|------------|--------------|------|------|------|------|
| 周波数 (Hz)<br>Frequency | 60<br>(50) | 120<br>(100) | 300  | 500  | 1k   | 10k≤ |
| 係数 Coefficient        | 0.80       | 1.00         | 1.15 | 1.20 | 1.25 | 1.40 |

### ◆副記号／OPTION

EFC : PET スリーブ、底板なし  
PET Sleeve without plate

◆寸法図／DIMENSIONS

- SN[4(3.5)mm]端子タイプ 端子記号 : SN(錫メッキ)  
SN[4(3.5)mm]terminal type Terminal code : SN(Tin plating)



◆標準品一覧表／STANDARD SIZE

| Cap.<br>(μF) | 400Vdc |      |       |      |       |      |       |      | 420Vdc |      |       |      |       |      |       |      |
|--------------|--------|------|-------|------|-------|------|-------|------|--------|------|-------|------|-------|------|-------|------|
|              | φ22    | φ25  | φ30   | φ35  | φ22   | φ25  | φ30   | φ35  | φ22    | φ25  | φ30   | φ35  | φ22   | φ25  | φ30   | φ35  |
| 100          |        |      |       |      |       |      |       |      | 22×25  | 0.85 |       |      |       |      |       |      |
| 120          | 22×25  | 0.92 |       |      |       |      |       |      | 22×30  | 0.98 |       |      |       |      |       |      |
| 150          | 22×30  | 1.08 |       |      |       |      |       |      | 22×30  | 1.06 | 25×25 | 1.04 |       |      |       |      |
| 180          | 22×30  | 1.15 | 25×25 | 1.12 |       |      |       |      | 22×35  | 1.20 | 25×30 | 1.20 |       |      |       |      |
| 220          | 22×35  | 1.32 | 25×30 | 1.30 |       |      |       |      | 22×40  | 1.37 | 25×30 | 1.28 | 30×25 | 1.24 |       |      |
| 270          | 22×40  | 1.50 | 25×35 | 1.49 | 30×25 | 1.33 |       |      | 22×50  | 1.62 | 25×35 | 1.47 | 30×30 | 1.44 | 35×25 | 1.32 |
| 330          | 22×50  | 1.76 | 25×40 | 1.68 | 30×30 | 1.55 | 35×25 | 1.44 | 22×60  | 1.87 | 25×45 | 1.75 | 30×35 | 1.65 | 35×30 | 1.56 |
| 390          | 22×55  | 1.94 | 25×45 | 1.86 | 30×35 | 1.75 | 35×30 | 1.63 |        |      | 25×50 | 1.93 | 30×40 | 1.84 | 35×30 | 1.62 |
| 470          |        |      | 25×50 | 2.07 | 30×40 | 1.97 | 35×30 | 1.68 |        |      | 25×60 | 2.21 | 30×45 | 2.05 | 35×35 | 1.86 |
| 560          |        |      | 25×60 | 2.37 | 30×45 | 2.18 | 35×35 | 1.92 |        |      |       |      | 30×50 | 2.25 | 35×40 | 2.10 |
| 680          |        |      |       |      | 30×50 | 2.41 | 35×40 | 2.15 |        |      |       |      | 30×60 | 2.59 | 35×45 | 2.29 |
| 820          |        |      |       |      | 30×60 | 2.76 | 35×45 | 2.37 |        |      |       |      |       |      | 35×50 | 2.50 |
| 1000         |        |      |       |      |       |      | 35×55 | 2.78 |        |      |       |      |       |      | 35×60 | 2.88 |
| 1200         |        |      |       |      |       |      | 35×60 | 2.95 |        |      |       |      |       |      |       |      |

| Cap.<br>(μF) | 450Vdc |      |       |      |       |      |       |      | 475Vdc |      |       |      |       |      |       |      |
|--------------|--------|------|-------|------|-------|------|-------|------|--------|------|-------|------|-------|------|-------|------|
|              | φ22    | φ25  | φ30   | φ35  | φ22   | φ25  | φ30   | φ35  | φ22    | φ25  | φ30   | φ35  | φ22   | φ25  | φ30   | φ35  |
| 68           |        |      |       |      |       |      |       |      | 22×25  | 0.67 |       |      |       |      |       |      |
| 82           |        |      |       |      |       |      |       |      | 22×30  | 0.77 |       |      |       |      |       |      |
| 100          | 22×25  | 0.85 |       |      |       |      |       |      | 22×35  | 0.88 | 25×25 | 0.83 |       |      |       |      |
| 120          | 22×30  | 0.98 | 25×25 | 0.96 |       |      |       |      | 22×40  | 0.99 | 25×30 | 0.96 |       |      |       |      |
| 150          | 22×35  | 1.13 | 25×30 | 1.12 |       |      |       |      | 22×45  | 1.14 | 25×35 | 1.10 | 30×25 | 1.04 |       |      |
| 180          | 22×40  | 1.28 | 25×30 | 1.20 | 30×25 | 1.18 |       |      | 22×50  | 1.27 | 25×40 | 1.24 | 30×30 | 1.19 | 35×25 | 1.15 |
| 220          | 22×45  | 1.44 | 25×35 | 1.37 | 30×30 | 1.36 |       |      | 22×60  | 1.47 | 25×45 | 1.40 | 30×35 | 1.36 | 35×30 | 1.33 |
| 270          | 22×50  | 1.61 | 25×40 | 1.56 | 30×30 | 1.44 | 35×25 | 1.33 |        |      | 25×55 | 1.62 | 30×40 | 1.54 | 35×35 | 1.52 |
| 330          | 22×60  | 1.86 | 25×50 | 1.82 | 30×35 | 1.64 | 35×30 | 1.54 |        |      |       |      | 30×45 | 1.73 | 35×40 | 1.71 |
| 390          |        |      | 25×55 | 2.01 | 30×40 | 1.83 | 35×35 | 1.76 |        |      |       |      | 30×55 | 1.98 | 35×40 | 1.79 |
| 470          |        |      | 25×60 | 2.21 | 30×45 | 2.05 | 35×40 | 1.97 |        |      |       |      | 30×60 | 2.18 | 35×50 | 2.09 |
| 560          |        |      |       |      | 30×50 | 2.26 | 35×45 | 2.18 |        |      |       |      |       |      | 35×55 | 2.29 |
| 680          |        |      |       |      | 30×60 | 2.59 | 35×50 | 2.38 |        |      |       |      |       |      |       |      |
| 820          |        |      |       |      |       |      | 35×60 | 2.74 |        |      |       |      |       |      |       |      |

| Cap.<br>(μF) | 500Vdc |      |       |      |       |      |       |      | 550Vdc |      |       |      |
|--------------|--------|------|-------|------|-------|------|-------|------|--------|------|-------|------|
|              | φ22    | φ25  | φ30   | φ35  | φ30   | φ35  | φ30   | φ35  | φ30    | φ35  | φ30   | φ35  |
| 56           | 22×25  | 0.63 |       |      |       |      |       |      |        |      |       |      |
| 68           | 22×30  | 0.72 |       |      |       |      |       |      |        |      |       |      |
| 82           | 22×30  | 0.80 | 25×25 | 0.78 |       |      |       |      |        |      |       |      |
| 100          | 22×35  | 0.92 | 25×30 | 0.90 |       |      |       |      | 30×25  | 0.80 |       |      |
| 120          | 22×40  | 1.03 | 25×35 | 1.02 | 30×25 | 0.97 |       |      | 30×30  | 0.93 | 35×25 | 0.92 |
| 150          | 22×50  | 1.20 | 25×40 | 1.17 | 30×30 | 1.13 | 35×25 | 1.09 | 30×35  | 1.07 | 35×30 | 1.05 |
| 180          | 22×60  | 1.37 | 25×45 | 1.31 | 30×35 | 1.28 | 35×30 | 1.26 | 30×40  | 1.21 | 35×30 | 1.14 |
| 220          |        |      | 25×50 | 1.46 | 30×40 | 1.45 | 35×35 | 1.44 | 30×45  | 1.36 | 35×35 | 1.30 |
| 270          |        |      | 25×60 | 1.70 | 30×45 | 1.63 | 35×35 | 1.52 | 30×55  | 1.57 | 35×40 | 1.47 |
| 330          |        |      |       |      | 30×50 | 1.81 | 35×40 | 1.71 |        |      | 35×50 | 1.72 |
| 390          |        |      |       |      | 30×60 | 2.06 | 35×50 | 1.99 |        |      | 35×55 | 1.88 |
| 470          |        |      |       |      |       |      | 35×55 | 2.19 |        |      |       |      |

ケースサイズ Case Size φD×L(mm) ↑  
リップル電流 Ripple Current (A.r.m.s./120Hz,105°C) →