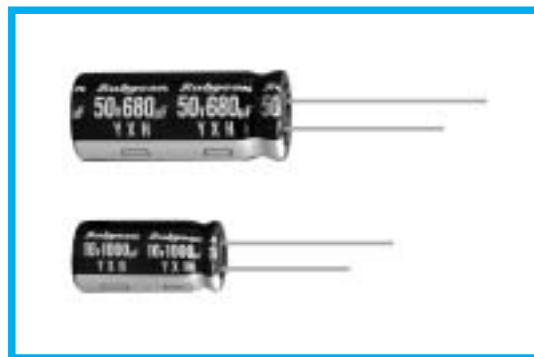


**YXH SERIES**
**105°C High ripple current. Long Life.**
**◆FEATURES**

- Low impedance at 100kHz with selected materials.
- Load Life : 105°C 4000~10000hours.
- RoHS compliance.


**◆SPECIFICATIONS**

| Items                                             | Characteristics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |          |      |      |      |      |      |      |  |  |                      |                                   |    |    |    |    |    |    |     |                  |                    |                                            |      |      |      |      |      |      |                  |   |                 |                                    |   |   |   |   |   |  |  |  |          |                    |  |          |          |         |      |      |          |      |      |          |      |       |
|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------|------|------|------|------|------|--|--|----------------------|-----------------------------------|----|----|----|----|----|----|-----|------------------|--------------------|--------------------------------------------|------|------|------|------|------|------|------------------|---|-----------------|------------------------------------|---|---|---|---|---|--|--|--|----------|--------------------|--|----------|----------|---------|------|------|----------|------|------|----------|------|-------|
| Category Temperature Range                        | -40~+105℃                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |          |      |      |      |      |      |      |  |  |                      |                                   |    |    |    |    |    |    |     |                  |                    |                                            |      |      |      |      |      |      |                  |   |                 |                                    |   |   |   |   |   |  |  |  |          |                    |  |          |          |         |      |      |          |      |      |          |      |       |
| Rated Voltage Range                               | 6.3~100V.DC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |          |      |      |      |      |      |      |  |  |                      |                                   |    |    |    |    |    |    |     |                  |                    |                                            |      |      |      |      |      |      |                  |   |                 |                                    |   |   |   |   |   |  |  |  |          |                    |  |          |          |         |      |      |          |      |      |          |      |       |
| Capacitance Tolerance                             | ±20% (20℃, 120Hz)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |      |      |      |      |      |      |  |  |                      |                                   |    |    |    |    |    |    |     |                  |                    |                                            |      |      |      |      |      |      |                  |   |                 |                                    |   |   |   |   |   |  |  |  |          |                    |  |          |          |         |      |      |          |      |      |          |      |       |
| Leakage Current(MAX)                              | I=0.01CV or 3 μ A whichever is greater. (After 2 minutes)<br><br>I=Leakage Current( μ A)                      C=Rated Capacitance( μ F)                      V=Rated Voltage(V)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |          |      |      |      |      |      |      |  |  |                      |                                   |    |    |    |    |    |    |     |                  |                    |                                            |      |      |      |      |      |      |                  |   |                 |                                    |   |   |   |   |   |  |  |  |          |                    |  |          |          |         |      |      |          |      |      |          |      |       |
| Dissipation Factor(MAX)<br>(tan δ )               | <table border="1"><tr><td>Rated Voltage<br/>(V)</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td><td>100</td></tr><tr><td>tan δ</td><td>0.22</td><td>0.19</td><td>0.16</td><td>0.14</td><td>0.12</td><td>0.10</td><td>0.09</td><td>0.08</td></tr></table> (20℃, 120Hz)<br><br>When rated capacitance is over 1000 μ F, tan δ shall be added 0.02 to the listed value with increase of every 1000 μ F.                                                                                                                                                                                                                                                                                                                                      |          |      |      |      |      |      |      |  |  | Rated Voltage<br>(V) | 6.3                               | 10 | 16 | 25 | 35 | 50 | 63 | 100 | tan δ            | 0.22               | 0.19                                       | 0.16 | 0.14 | 0.12 | 0.10 | 0.09 | 0.08 |                  |   |                 |                                    |   |   |   |   |   |  |  |  |          |                    |  |          |          |         |      |      |          |      |      |          |      |       |
| Rated Voltage<br>(V)                              | 6.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 10       | 16   | 25   | 35   | 50   | 63   | 100  |  |  |                      |                                   |    |    |    |    |    |    |     |                  |                    |                                            |      |      |      |      |      |      |                  |   |                 |                                    |   |   |   |   |   |  |  |  |          |                    |  |          |          |         |      |      |          |      |      |          |      |       |
| tan δ                                             | 0.22                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 0.19     | 0.16 | 0.14 | 0.12 | 0.10 | 0.09 | 0.08 |  |  |                      |                                   |    |    |    |    |    |    |     |                  |                    |                                            |      |      |      |      |      |      |                  |   |                 |                                    |   |   |   |   |   |  |  |  |          |                    |  |          |          |         |      |      |          |      |      |          |      |       |
| Endurance                                         | After life test with rated ripple current at conditions stated in the table below, the capacitors shall meet the following requirements.<br><table border="1"><tr><td>Capacitance Change</td><td colspan="9">Within ±25% of the initial value.</td></tr><tr><td>Dissipation Factor</td><td colspan="9">Not more than 200% of the specified value.</td></tr><tr><td>Leakage Current</td><td colspan="9">Not more than the specified value.</td></tr></table> <table border="1"><tr><td rowspan="2">Case Dia</td><td colspan="2">Life Time<br/>(hrs)</td></tr><tr><td>6.3~10WV</td><td>16~100WV</td></tr><tr><td>φ D≤6.3</td><td>4000</td><td>5000</td></tr><tr><td>φ D=8,10</td><td>6000</td><td>7000</td></tr><tr><td>φ D≥12.5</td><td>8000</td><td>10000</td></tr></table> |          |      |      |      |      |      |      |  |  | Capacitance Change   | Within ±25% of the initial value. |    |    |    |    |    |    |     |                  | Dissipation Factor | Not more than 200% of the specified value. |      |      |      |      |      |      |                  |   | Leakage Current | Not more than the specified value. |   |   |   |   |   |  |  |  | Case Dia | Life Time<br>(hrs) |  | 6.3~10WV | 16~100WV | φ D≤6.3 | 4000 | 5000 | φ D=8,10 | 6000 | 7000 | φ D≥12.5 | 8000 | 10000 |
| Capacitance Change                                | Within ±25% of the initial value.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |      |      |      |      |      |      |  |  |                      |                                   |    |    |    |    |    |    |     |                  |                    |                                            |      |      |      |      |      |      |                  |   |                 |                                    |   |   |   |   |   |  |  |  |          |                    |  |          |          |         |      |      |          |      |      |          |      |       |
| Dissipation Factor                                | Not more than 200% of the specified value.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |          |      |      |      |      |      |      |  |  |                      |                                   |    |    |    |    |    |    |     |                  |                    |                                            |      |      |      |      |      |      |                  |   |                 |                                    |   |   |   |   |   |  |  |  |          |                    |  |          |          |         |      |      |          |      |      |          |      |       |
| Leakage Current                                   | Not more than the specified value.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |          |      |      |      |      |      |      |  |  |                      |                                   |    |    |    |    |    |    |     |                  |                    |                                            |      |      |      |      |      |      |                  |   |                 |                                    |   |   |   |   |   |  |  |  |          |                    |  |          |          |         |      |      |          |      |      |          |      |       |
| Case Dia                                          | Life Time<br>(hrs)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |          |      |      |      |      |      |      |  |  |                      |                                   |    |    |    |    |    |    |     |                  |                    |                                            |      |      |      |      |      |      |                  |   |                 |                                    |   |   |   |   |   |  |  |  |          |                    |  |          |          |         |      |      |          |      |      |          |      |       |
|                                                   | 6.3~10WV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 16~100WV |      |      |      |      |      |      |  |  |                      |                                   |    |    |    |    |    |    |     |                  |                    |                                            |      |      |      |      |      |      |                  |   |                 |                                    |   |   |   |   |   |  |  |  |          |                    |  |          |          |         |      |      |          |      |      |          |      |       |
| φ D≤6.3                                           | 4000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 5000     |      |      |      |      |      |      |  |  |                      |                                   |    |    |    |    |    |    |     |                  |                    |                                            |      |      |      |      |      |      |                  |   |                 |                                    |   |   |   |   |   |  |  |  |          |                    |  |          |          |         |      |      |          |      |      |          |      |       |
| φ D=8,10                                          | 6000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 7000     |      |      |      |      |      |      |  |  |                      |                                   |    |    |    |    |    |    |     |                  |                    |                                            |      |      |      |      |      |      |                  |   |                 |                                    |   |   |   |   |   |  |  |  |          |                    |  |          |          |         |      |      |          |      |      |          |      |       |
| φ D≥12.5                                          | 8000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 10000    |      |      |      |      |      |      |  |  |                      |                                   |    |    |    |    |    |    |     |                  |                    |                                            |      |      |      |      |      |      |                  |   |                 |                                    |   |   |   |   |   |  |  |  |          |                    |  |          |          |         |      |      |          |      |      |          |      |       |
| Low Temperature Stability<br>Impedance Ratio(MAX) | <table border="1"><tr><td>Rated Voltage<br/>(V)</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td><td>100</td></tr><tr><td>Z (-25℃)/Z (20℃)</td><td>4</td><td>3</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td></tr><tr><td>Z (-40℃)/Z (20℃)</td><td>8</td><td>6</td><td>4</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td></tr></table> (120Hz)                                                                                                                                                                                                                                                                                                                                                                     |          |      |      |      |      |      |      |  |  | Rated Voltage<br>(V) | 6.3                               | 10 | 16 | 25 | 35 | 50 | 63 | 100 | Z (-25℃)/Z (20℃) | 4                  | 3                                          | 2    | 2    | 2    | 2    | 2    | 2    | Z (-40℃)/Z (20℃) | 8 | 6               | 4                                  | 3 | 3 | 3 | 3 | 3 |  |  |  |          |                    |  |          |          |         |      |      |          |      |      |          |      |       |
| Rated Voltage<br>(V)                              | 6.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 10       | 16   | 25   | 35   | 50   | 63   | 100  |  |  |                      |                                   |    |    |    |    |    |    |     |                  |                    |                                            |      |      |      |      |      |      |                  |   |                 |                                    |   |   |   |   |   |  |  |  |          |                    |  |          |          |         |      |      |          |      |      |          |      |       |
| Z (-25℃)/Z (20℃)                                  | 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 3        | 2    | 2    | 2    | 2    | 2    | 2    |  |  |                      |                                   |    |    |    |    |    |    |     |                  |                    |                                            |      |      |      |      |      |      |                  |   |                 |                                    |   |   |   |   |   |  |  |  |          |                    |  |          |          |         |      |      |          |      |      |          |      |       |
| Z (-40℃)/Z (20℃)                                  | 8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 6        | 4    | 3    | 3    | 3    | 3    | 3    |  |  |                      |                                   |    |    |    |    |    |    |     |                  |                    |                                            |      |      |      |      |      |      |                  |   |                 |                                    |   |   |   |   |   |  |  |  |          |                    |  |          |          |         |      |      |          |      |      |          |      |       |

**◆MULTIPLIER FOR RIPPLE CURRENT**

Frequency coefficient

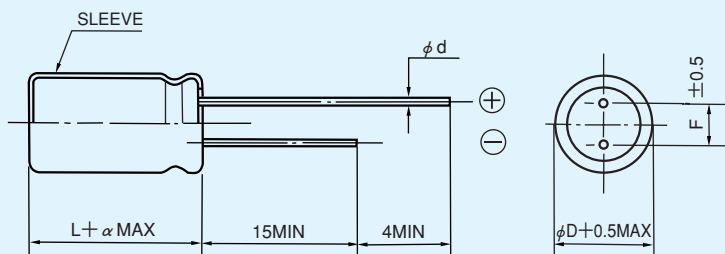
| Frequency (Hz)     | 120  | 1k   | 10k  | 100k≤ |
|--------------------|------|------|------|-------|
| 6.8~33 $\mu F$     | 0.42 | 0.70 | 0.90 | 1.00  |
| 39~270 $\mu F$     | 0.50 | 0.73 | 0.92 | 1.00  |
| 330~680 $\mu F$    | 0.55 | 0.77 | 0.94 | 1.00  |
| 820~1800 $\mu F$   | 0.60 | 0.80 | 0.96 | 1.00  |
| 2200~18000 $\mu F$ | 0.70 | 0.85 | 0.98 | 1.00  |

**◆呼称方法 PART NUMBER**

|                      |                      |                      |                       |                      |                      |                      |
|----------------------|----------------------|----------------------|-----------------------|----------------------|----------------------|----------------------|
| <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/>  | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| Rated Voltage        | Series               | Rated Capacitance    | Capacitance Tolerance | Option               | Lead Forming         | Case Size            |

**◆DIMENSIONS**

(mm)



|          |                                         |     |     |     |      |     |    |
|----------|-----------------------------------------|-----|-----|-----|------|-----|----|
| $\phi D$ | 5                                       | 6.3 | 8   | 10  | 12.5 | 16  | 18 |
| $\phi d$ | 0.5                                     |     | 0.6 |     |      | 0.8 |    |
| F        | 2.0                                     | 2.5 | 3.5 | 5.0 |      | 7.5 |    |
| $\alpha$ | L≤16 : $\alpha=1.5$ L≥20 : $\alpha=2.0$ |     |     |     |      |     |    |

**◆STANDARD SIZE**

| Rated voltage 6.3V(0J)           |                                |                                                   |                              |               |
|----------------------------------|--------------------------------|---------------------------------------------------|------------------------------|---------------|
| Rated capacitance<br>( $\mu F$ ) | Size<br>$\phi D \times L$ (mm) | Rated ripple current<br>(mA r.m.s./105°C, 100kHz) | Impedance<br>( $\Omega$ MAX) |               |
|                                  |                                |                                                   | 20°C, 100kHz                 | -10°C, 100kHz |
| 150                              | 5×11                           | 210                                               | 0.58                         | 2.3           |
| 330                              | 6.3×11                         | 340                                               | 0.22                         | 0.87          |
| 680                              | 8×11.5                         | 640                                               | 0.13                         | 0.52          |
| 820                              | 10×12.5                        | 865                                               | 0.080                        | 0.32          |
| 1000                             | 8×16                           | 840                                               | 0.087                        | 0.35          |
| 1200                             | 8×20                           | 1050                                              | 0.069                        | 0.27          |
| 1200                             | 10×16                          | 1210                                              | 0.060                        | 0.24          |
| 1500                             | 10×20                          | 1400                                              | 0.046                        | 0.18          |
| 1800                             | 12.5×16                        | 1450                                              | 0.049                        | 0.16          |
| 2200                             | 10×23                          | 1650                                              | 0.042                        | 0.17          |
| 2700                             | 10×28                          | 1910                                              | 0.031                        | 0.12          |
| 2700                             | 16×16                          | 1940                                              | 0.042                        | 0.12          |
| 3300                             | 12.5×20                        | 1900                                              | 0.035                        | 0.12          |
| 3900                             | 12.5×25                        | 2230                                              | 0.027                        | 0.089         |
| 3900                             | 18×16                          | 2210                                              | 0.043                        | 0.11          |
| 4700                             | 12.5×30                        | 2650                                              | 0.024                        | 0.078         |
| 5600                             | 12.5×35                        | 2880                                              | 0.020                        | 0.065         |
| 5600                             | 16×20                          | 2530                                              | 0.027                        | 0.078         |
| 6800                             | 12.5×40                        | 3350                                              | 0.017                        | 0.056         |
| 6800                             | 16×25                          | 2930                                              | 0.021                        | 0.060         |
| 6800                             | 18×20                          | 2860                                              | 0.026                        | 0.067         |
| 8200                             | 16×31.5                        | 3450                                              | 0.017                        | 0.050         |
| 10000                            | 16×35.5                        | 3610                                              | 0.015                        | 0.044         |
| 10000                            | 18×25                          | 3140                                              | 0.019                        | 0.049         |
| 12000                            | 16×40                          | 4080                                              | 0.013                        | 0.038         |
| 12000                            | 18×31.5                        | 4170                                              | 0.015                        | 0.040         |
| 15000                            | 18×35.5                        | 4220                                              | 0.014                        | 0.038         |
| 18000                            | 18×40                          | 4280                                              | 0.012                        | 0.032         |

| Rated voltage 10V(1A)           |                        |                                                   |                           |               |
|---------------------------------|------------------------|---------------------------------------------------|---------------------------|---------------|
| Rated capacitance<br>( $\mu$ F) | Size<br>$\phi$ D×L(mm) | Rated ripple current<br>(mA r.m.s./105°C, 100kHz) | Impedance ( $\Omega$ MAX) |               |
|                                 |                        |                                                   | 20°C, 100kHz              | −10°C, 100kHz |
| 100                             | 5×11                   | 210                                               | 0.58                      | 2.3           |
| 220                             | 6.3×11                 | 340                                               | 0.22                      | 0.87          |
| 470                             | 8×11.5                 | 640                                               | 0.13                      | 0.52          |
| 680                             | 8×16                   | 840                                               | 0.087                     | 0.35          |
| 680                             | 10×12.5                | 865                                               | 0.080                     | 0.32          |
| 1000                            | 8×20                   | 1050                                              | 0.069                     | 0.27          |
| 1000                            | 10×16                  | 1210                                              | 0.060                     | 0.24          |
| 1200                            | 10×20                  | 1400                                              | 0.046                     | 0.18          |
| 1500                            | 10×23                  | 1650                                              | 0.042                     | 0.17          |
| 1500                            | 12.5×16                | 1450                                              | 0.049                     | 0.16          |
| 2200                            | 10×28                  | 1910                                              | 0.031                     | 0.12          |
| 2200                            | 12.5×20                | 1900                                              | 0.035                     | 0.12          |
| 2200                            | 16×16                  | 1940                                              | 0.042                     | 0.12          |
| 2700                            | 18×16                  | 2210                                              | 0.043                     | 0.11          |
| 3300                            | 12.5×25                | 2230                                              | 0.027                     | 0.089         |
| 3900                            | 12.5×30                | 2650                                              | 0.024                     | 0.078         |
| 3900                            | 16×20                  | 2530                                              | 0.027                     | 0.078         |
| 4700                            | 12.5×35                | 2880                                              | 0.020                     | 0.065         |
| 5600                            | 12.5×40                | 3350                                              | 0.017                     | 0.056         |
| 5600                            | 16×25                  | 2930                                              | 0.021                     | 0.060         |
| 5600                            | 18×20                  | 2860                                              | 0.026                     | 0.067         |
| 6800                            | 16×31.5                | 3450                                              | 0.017                     | 0.050         |
| 6800                            | 18×25                  | 3140                                              | 0.019                     | 0.049         |
| 8200                            | 16×35.5                | 3610                                              | 0.015                     | 0.044         |
| 8200                            | 18×31.5                | 4170                                              | 0.015                     | 0.040         |
| 10000                           | 16×40                  | 4080                                              | 0.013                     | 0.038         |
| 10000                           | 18×35.5                | 4220                                              | 0.014                     | 0.038         |
| 12000                           | 18×40                  | 4280                                              | 0.012                     | 0.032         |

| Rated voltage 16V(1C)           |                        |                                                   |                           |               |
|---------------------------------|------------------------|---------------------------------------------------|---------------------------|---------------|
| Rated capacitance<br>( $\mu$ F) | Size<br>$\phi$ D×L(mm) | Rated ripple current<br>(mA r.m.s./105°C, 100kHz) | Impedance ( $\Omega$ MAX) |               |
|                                 |                        |                                                   | 20°C, 100kHz              | −10°C, 100kHz |
| 56                              | 5×11                   | 210                                               | 0.58                      | 2.3           |
| 120                             | 6.3×11                 | 340                                               | 0.22                      | 0.87          |
| 330                             | 8×11.5                 | 640                                               | 0.13                      | 0.52          |
| 470                             | 8×16                   | 840                                               | 0.087                     | 0.35          |
| 470                             | 10×12.5                | 865                                               | 0.080                     | 0.32          |
| 680                             | 8×20                   | 1050                                              | 0.069                     | 0.27          |
| 680                             | 10×16                  | 1210                                              | 0.060                     | 0.24          |
| 1000                            | 10×20                  | 1400                                              | 0.046                     | 0.18          |
| 1000                            | 12.5×16                | 1450                                              | 0.049                     | 0.16          |
| 1200                            | 10×23                  | 1650                                              | 0.042                     | 0.17          |
| 1500                            | 10×28                  | 1910                                              | 0.031                     | 0.12          |
| 1500                            | 12.5×20                | 1900                                              | 0.035                     | 0.12          |
| 1500                            | 16×16                  | 1940                                              | 0.042                     | 0.12          |
| 2200                            | 12.5×25                | 2230                                              | 0.027                     | 0.089         |
| 2200                            | 18×16                  | 2210                                              | 0.043                     | 0.11          |
| 2700                            | 12.5×30                | 2650                                              | 0.024                     | 0.078         |
| 2700                            | 16×20                  | 2530                                              | 0.027                     | 0.078         |
| 3300                            | 12.5×35                | 2880                                              | 0.020                     | 0.065         |
| 3900                            | 12.5×40                | 3350                                              | 0.017                     | 0.056         |
| 3900                            | 16×25                  | 2930                                              | 0.021                     | 0.060         |
| 3900                            | 18×20                  | 2860                                              | 0.026                     | 0.067         |
| 4700                            | 16×31.5                | 3450                                              | 0.017                     | 0.050         |
| 4700                            | 18×25                  | 3140                                              | 0.019                     | 0.049         |
| 5600                            | 16×35.5                | 3610                                              | 0.015                     | 0.044         |
| 5600                            | 18×31.5                | 4170                                              | 0.015                     | 0.040         |
| 6800                            | 16×40                  | 4080                                              | 0.013                     | 0.038         |
| 8200                            | 18×35.5                | 4220                                              | 0.014                     | 0.038         |
| 10000                           | 18×40                  | 4280                                              | 0.012                     | 0.032         |

| Rated voltage 10V(1A)           |                        |                                                   |                           |               |
|---------------------------------|------------------------|---------------------------------------------------|---------------------------|---------------|
| Rated capacitance<br>( $\mu$ F) | Size<br>$\phi$ D×L(mm) | Rated ripple current<br>(mA r.m.s./105°C, 100kHz) | Impedance ( $\Omega$ MAX) |               |
|                                 |                        |                                                   | 20°C, 100kHz              | −10°C, 100kHz |
| 100                             | 5×11                   | 210                                               | 0.58                      | 2.3           |
| 220                             | 6.3×11                 | 340                                               | 0.22                      | 0.87          |
| 470                             | 8×11.5                 | 640                                               | 0.13                      | 0.52          |
| 680                             | 8×16                   | 840                                               | 0.087                     | 0.35          |
| 680                             | 10×12.5                | 865                                               | 0.080                     | 0.32          |
| 1000                            | 8×20                   | 1050                                              | 0.069                     | 0.27          |
| 1000                            | 10×16                  | 1210                                              | 0.060                     | 0.24          |
| 1200                            | 10×20                  | 1400                                              | 0.046                     | 0.18          |
| 1500                            | 10×23                  | 1650                                              | 0.042                     | 0.17          |
| 1500                            | 12.5×16                | 1450                                              | 0.049                     | 0.16          |
| 2200                            | 10×28                  | 1910                                              | 0.031                     | 0.12          |
| 2200                            | 12.5×20                | 1900                                              | 0.035                     | 0.12          |
| 2200                            | 16×16                  | 1940                                              | 0.042                     | 0.12          |
| 2700                            | 18×16                  | 2210                                              | 0.043                     | 0.11          |
| 3300                            | 12.5×25                | 2230                                              | 0.027                     | 0.089         |
| 3900                            | 12.5×30                | 2650                                              | 0.024                     | 0.078         |
| 3900                            | 16×20                  | 2530                                              | 0.027                     | 0.078         |
| 4700                            | 12.5×35                | 2880                                              | 0.020                     | 0.065         |
| 5600                            | 12.5×40                | 3350                                              | 0.017                     | 0.056         |
| 5600                            | 16×25                  | 2930                                              | 0.021                     | 0.060         |
| 5600                            | 18×20                  | 2860                                              | 0.026                     | 0.067         |
| 6800                            | 16×31.5                | 3450                                              | 0.017                     | 0.050         |
| 6800                            | 18×25                  | 3140                                              | 0.019                     | 0.049         |
| 8200                            | 16×35.5                | 3610                                              | 0.015                     | 0.044         |
| 8200                            | 18×31.5                | 4170                                              | 0.015                     | 0.040         |
| 10000                           | 16×40                  | 4080                                              | 0.013                     | 0.038         |
| 10000                           | 18×35.5                | 4220                                              | 0.014                     | 0.038         |
| 12000                           | 18×40                  | 4280                                              | 0.012                     | 0.032         |

| Rated voltage 16V(1C)           |                        |                                                   |                           |               |
|---------------------------------|------------------------|---------------------------------------------------|---------------------------|---------------|
| Rated capacitance<br>( $\mu$ F) | Size<br>$\phi$ D×L(mm) | Rated ripple current<br>(mA r.m.s./105°C, 100kHz) | Impedance ( $\Omega$ MAX) |               |
|                                 |                        |                                                   | 20°C, 100kHz              | −10°C, 100kHz |
| 56                              | 5×11                   | 210                                               | 0.58                      | 2.3           |
| 120                             | 6.3×11                 | 340                                               | 0.22                      | 0.87          |
| 330                             | 8×11.5                 | 640                                               | 0.13                      | 0.52          |
| 470                             | 8×16                   | 840                                               | 0.087                     | 0.35          |
| 470                             | 10×12.5                | 865                                               | 0.080                     | 0.32          |
| 680                             | 8×20                   | 1050                                              | 0.069                     | 0.27          |
| 680                             | 10×16                  | 1210                                              | 0.060                     | 0.24          |
| 1000                            | 10×20                  | 1400                                              | 0.046                     | 0.18          |
| 1000                            | 12.5×16                | 1450                                              | 0.049                     | 0.16          |
| 1200                            | 10×23                  | 1650                                              | 0.042                     | 0.17          |
| 1500                            | 10×28                  | 1910                                              | 0.031                     | 0.12          |
| 1500                            | 12.5×20                | 1900                                              | 0.035                     | 0.12          |
| 1500                            | 16×16                  | 1940                                              | 0.042                     | 0.12          |
| 2200                            | 12.5×25                | 2230                                              | 0.027                     | 0.089         |
| 2200                            | 18×16                  | 2210                                              | 0.043                     | 0.11          |
| 2700                            | 12.5×30                | 2650                                              | 0.024                     | 0.078         |
| 2700                            | 16×20                  | 2530                                              | 0.027                     | 0.078         |
| 3300                            | 12.5×35                | 2880                                              | 0.020                     | 0.065         |
| 3900                            | 12.5×40                | 3350                                              | 0.017                     | 0.056         |
| 3900                            | 16×25                  | 2930                                              | 0.021                     | 0.060         |
| 3900                            | 18×20                  | 2860                                              | 0.026                     | 0.067         |
| 4700                            | 16×31.5                | 3450                                              | 0.017                     | 0.050         |
| 4700                            | 18×25                  | 3140                                              | 0.019                     | 0.049         |
| 5600                            | 16×35.5                | 3610                                              | 0.015                     | 0.044         |
| 5600                            | 18×31.5                | 4170                                              | 0.015                     | 0.040         |
| 6800                            | 16×40                  | 4080                                              | 0.013                     | 0.038         |
| 8200                            | 18×35.5                | 4220                                              | 0.014                     | 0.038         |
| 10000                           | 18×40                  | 4280                                              | 0.012                     | 0.032         |

| Rated voltage 25V(1E)           |                        |                                                   |                           |               |
|---------------------------------|------------------------|---------------------------------------------------|---------------------------|---------------|
| Rated capacitance<br>( $\mu$ F) | Size<br>$\phi$ D×L(mm) | Rated ripple current<br>(mA r.m.s./105°C, 100kHz) | Impedance ( $\Omega$ MAX) |               |
|                                 |                        |                                                   | 20°C, 100kHz              | −10°C, 100kHz |
| 47                              | 5×11                   | 210                                               | 0.58                      | 2.3           |
| 100                             | 6.3×11                 | 340                                               | 0.22                      | 0.87          |
| 220                             | 8×11.5                 | 640                                               | 0.13                      | 0.52          |
| 330                             | 8×16                   | 840                                               | 0.087                     | 0.35          |
| 330                             | 10×12.5                | 865                                               | 0.080                     | 0.32          |
| 470                             | 8×20                   | 1050                                              | 0.069                     | 0.27          |
| 470                             | 10×16                  | 1210                                              | 0.060                     | 0.24          |
| 680                             | 10×20                  | 1400                                              | 0.046                     | 0.18          |
| 680                             | 12.5×16                | 1450                                              | 0.049                     | 0.16          |
| 820                             | 10×23                  | 1650                                              | 0.042                     | 0.17          |
| 1000                            | 10×28                  | 1910                                              | 0.031                     | 0.12          |
| 1000                            | 12.5×20                | 1900                                              | 0.035                     | 0.12          |
| 1000                            | 16×16                  | 1940                                              | 0.042                     | 0.12          |
| 1200                            | 18×16                  | 2210                                              | 0.043                     | 0.11          |
| 1500                            | 12.5×25                | 2230                                              | 0.027                     | 0.089         |
| 1800                            | 12.5×30                | 2650                                              | 0.024                     | 0.078         |
| 1800                            | 16×20                  | 2530                                              | 0.027                     | 0.078         |
| 2200                            | 12.5×35                | 2880                                              | 0.020                     | 0.065         |
| 2200                            | 18×20                  | 2860                                              | 0.026                     | 0.067         |
| 2700                            | 12.5×40                | 3350                                              | 0.017                     | 0.056         |
| 2700                            | 16×25                  | 2930                                              | 0.021                     | 0.060         |
| 3300                            | 16×31.5                | 3450                                              | 0.017                     | 0.050         |
| 3300                            | 18×25                  | 3140                                              | 0.019                     | 0.049         |
| 3900                            | 16×35.5                | 3610                                              | 0.015                     | 0.044         |
| 3900                            | 18×31.5                | 4170                                              | 0.015                     | 0.040         |
| 4700                            | 16×40                  | 4080                                              | 0.013                     | 0.038         |
| 4700                            | 18×35.5                | 4220                                              | 0.014                     | 0.038         |
| 5600                            | 18×40                  | 4280                                              | 0.012                     | 0.032         |

| Rated voltage 35V(1V)           |                        |                                                   |                           |               |
|---------------------------------|------------------------|---------------------------------------------------|---------------------------|---------------|
| Rated capacitance<br>( $\mu$ F) | Size<br>$\phi$ D×L(mm) | Rated ripple current<br>(mA r.m.s./105°C, 100kHz) | Impedance ( $\Omega$ MAX) |               |
|                                 |                        |                                                   | 20°C, 100kHz              | −10°C, 100kHz |
| 33                              | 5×11                   | 210                                               | 0.58                      | 2.3           |
| 56                              | 6.3×11                 | 340                                               | 0.22                      | 0.87          |
| 150                             | 8×11.5                 | 640                                               | 0.13                      | 0.52          |
| 220                             | 8×16                   | 840                                               | 0.087                     | 0.35          |
| 220                             | 10×12.5                | 865                                               | 0.080                     | 0.32          |
| 270                             | 8×20                   | 1050                                              | 0.069                     | 0.27          |
| 330                             | 10×16                  | 1210                                              | 0.060                     | 0.24          |
| 470                             | 10×20                  | 1400                                              | 0.046                     | 0.18          |
| 470                             | 12.5×16                | 1450                                              | 0.049                     | 0.16          |
| 560                             | 10×23                  | 1650                                              | 0.042                     | 0.17          |
| 680                             | 10×28                  | 1910                                              | 0.031                     | 0.12          |
| 680                             | 12.5×20                | 1900                                              | 0.035                     | 0.12          |
| 680                             | 16×16                  | 1940                                              | 0.042                     | 0.12          |
| 1000                            | 12.5×25                | 2230                                              | 0.027                     | 0.089         |
| 1000                            | 18×16                  | 2210                                              | 0.043                     | 0.11          |
| 1200                            | 12.5×30                | 2650                                              | 0.024                     | 0.078         |
| 1200                            | 16×20                  | 2530                                              | 0.027                     | 0.078         |
| 1500                            | 12.5×35                | 2880                                              | 0.020                     | 0.065         |
| 1800                            | 12.5×40                | 3350                                              | 0.017                     | 0.056         |
| 1800                            | 16×25                  | 2930                                              | 0.021                     | 0.060         |
| 1800                            | 18×20                  | 2860                                              | 0.026                     | 0.067         |
| 2200                            | 16×31.5                | 3450                                              | 0.017                     | 0.050         |
| 2200                            | 18×25                  | 3140                                              | 0.019                     | 0.049         |
| 2700                            | 16×35.5                | 3610                                              | 0.015                     | 0.044         |
| 2700                            | 18×31.5                | 4170                                              | 0.015                     | 0.040         |
| 3300                            | 16×40                  | 4080                                              | 0.013                     | 0.038         |
| 3300                            | 18×35.5                | 4220                                              | 0.014                     | 0.038         |
| 3900                            | 18×40                  | 4280                                              | 0.012                     | 0.032         |

| Rated voltage 50V(1H)           |                        |                                                   |                           |               |
|---------------------------------|------------------------|---------------------------------------------------|---------------------------|---------------|
| Rated capacitance<br>( $\mu$ F) | Size<br>$\phi$ D×L(mm) | Rated ripple current<br>(mA r.m.s./105°C, 100kHz) | Impedance ( $\Omega$ MAX) |               |
|                                 |                        |                                                   | 20°C, 100kHz              | −10°C, 100kHz |
| 22                              | 5×11                   | 180                                               | 0.70                      | 2.8           |
| 56                              | 6.3×11                 | 295                                               | 0.30                      | 1.2           |
| 100                             | 8×11.5                 | 555                                               | 0.17                      | 0.68          |
| 120                             | 8×16                   | 730                                               | 0.12                      | 0.48          |
| 150                             | 10×12.5                | 760                                               | 0.12                      | 0.48          |
| 180                             | 8×20                   | 910                                               | 0.091                     | 0.36          |
| 220                             | 10×16                  | 1050                                              | 0.084                     | 0.34          |
| 270                             | 10×20                  | 1220                                              | 0.060                     | 0.24          |
| 270                             | 12.5×16                | 1260                                              | 0.061                     | 0.20          |
| 330                             | 10×23                  | 1440                                              | 0.055                     | 0.22          |
| 470                             | 10×28                  | 1690                                              | 0.043                     | 0.17          |
| 470                             | 12.5×20                | 1660                                              | 0.045                     | 0.15          |
| 470                             | 16×16                  | 1690                                              | 0.055                     | 0.17          |
| 560                             | 12.5×25                | 1950                                              | 0.034                     | 0.11          |
| 560                             | 18×16                  | 1930                                              | 0.054                     | 0.15          |
| 680                             | 12.5×30                | 2310                                              | 0.030                     | 0.10          |
| 820                             | 12.5×35                | 2510                                              | 0.025                     | 0.083         |
| 820                             | 16×20                  | 2210                                              | 0.034                     | 0.10          |
| 1000                            | 12.5×40                | 2920                                              | 0.021                     | 0.069         |
| 1000                            | 16×25                  | 2555                                              | 0.025                     | 0.075         |
| 1000                            | 18×20                  | 2490                                              | 0.036                     | 0.097         |
| 1200                            | 16×31.5                | 3010                                              | 0.022                     | 0.066         |
| 1200                            | 18×25                  | 2740                                              | 0.026                     | 0.070         |
| 1500                            | 16×35.5                | 3150                                              | 0.019                     | 0.057         |
| 1800                            | 16×40                  | 3710                                              | 0.016                     | 0.048         |
| 1800                            | 18×31.5                | 3635                                              | 0.021                     | 0.057         |
| 2200                            | 18×35.5                | 3680                                              | 0.017                     | 0.046         |
| 2700                            | 18×40                  | 3800                                              | 0.014                     | 0.038         |

| Rated voltage 63V(1J)           |                        |                                                   |                           |               |
|---------------------------------|------------------------|---------------------------------------------------|---------------------------|---------------|
| Rated capacitance<br>( $\mu$ F) | Size<br>$\phi$ D×L(mm) | Rated ripple current<br>(mA r.m.s./105°C, 100kHz) | Impedance ( $\Omega$ MAX) |               |
|                                 |                        |                                                   | 20°C, 100kHz              | −10°C, 100kHz |
| 15                              | 5×11                   | 62                                                | 1.8                       | 7.3           |
| 33                              | 6.3×11                 | 126                                               | 1.0                       | 4.1           |
| 56                              | 8×11.5                 | 260                                               | 0.50                      | 2.2           |
| 82                              | 8×16                   | 335                                               | 0.36                      | 1.7           |
| 82                              | 10×12.5                | 325                                               | 0.34                      | 1.4           |
| 120                             | 8×20                   | 408                                               | 0.26                      | 1.3           |
| 120                             | 10×16                  | 400                                               | 0.25                      | 1.2           |
| 180                             | 10×20                  | 518                                               | 0.17                      | 0.76          |
| 180                             | 12.5×16                | 527                                               | 0.18                      | 0.86          |
| 220                             | 10×23                  | 595                                               | 0.16                      | 0.67          |
| 270                             | 10×28                  | 740                                               | 0.12                      | 0.57          |
| 270                             | 12.5×20                | 765                                               | 0.13                      | 0.52          |
| 270                             | 16×16                  | 895                                               | 0.11                      | 0.52          |
| 330                             | 12.5×25                | 875                                               | 0.096                     | 0.36          |
| 390                             | 18×16                  | 1030                                              | 0.096                     | 0.40          |
| 470                             | 12.5×30                | 1010                                              | 0.080                     | 0.34          |
| 470                             | 16×20                  | 1130                                              | 0.077                     | 0.32          |
| 560                             | 12.5×35                | 1140                                              | 0.070                     | 0.30          |
| 560                             | 16×25                  | 1350                                              | 0.062                     | 0.23          |
| 680                             | 12.5×40                | 1280                                              | 0.060                     | 0.25          |
| 680                             | 18×20                  | 1300                                              | 0.072                     | 0.27          |
| 820                             | 16×31.5                | 1650                                              | 0.049                     | 0.18          |
| 820                             | 18×25                  | 1560                                              | 0.052                     | 0.19          |
| 1000                            | 16×35.5                | 1900                                              | 0.040                     | 0.15          |
| 1000                            | 18×31.5                | 1720                                              | 0.042                     | 0.15          |
| 1200                            | 16×40                  | 2130                                              | 0.036                     | 0.13          |
| 1200                            | 18×35.5                | 1890                                              | 0.036                     | 0.13          |
| 1500                            | 18×40                  | 2470                                              | 0.032                     | 0.12          |

| Rated voltage 100V(2A)          |                        |                                                   |                           |               |
|---------------------------------|------------------------|---------------------------------------------------|---------------------------|---------------|
| Rated capacitance<br>( $\mu$ F) | Size<br>$\phi$ D×L(mm) | Rated ripple current<br>(mA r.m.s./105°C, 100kHz) | Impedance ( $\Omega$ MAX) |               |
|                                 |                        |                                                   | 20°C, 100kHz              | −10°C, 100kHz |
| 6.8                             | 5×11                   | 62                                                | 1.8                       | 7.3           |
| 15                              | 6.3×11                 | 126                                               | 1.0                       | 4.1           |
| 27                              | 8×11.5                 | 260                                               | 0.50                      | 2.2           |
| 39                              | 8×16                   | 335                                               | 0.36                      | 1.7           |
| 47                              | 10×12.5                | 325                                               | 0.34                      | 1.4           |
| 56                              | 8×20                   | 408                                               | 0.26                      | 1.3           |
| 68                              | 10×16                  | 400                                               | 0.25                      | 1.2           |
| 82                              | 10×20                  | 518                                               | 0.17                      | 0.76          |
| 82                              | 12.5×16                | 527                                               | 0.18                      | 0.86          |
| 100                             | 10×23                  | 595                                               | 0.16                      | 0.67          |
| 120                             | 10×28                  | 740                                               | 0.12                      | 0.57          |
| 120                             | 12.5×20                | 765                                               | 0.13                      | 0.52          |
| 150                             | 16×16                  | 895                                               | 0.11                      | 0.52          |
| 180                             | 12.5×25                | 875                                               | 0.096                     | 0.36          |
| 180                             | 18×16                  | 1030                                              | 0.096                     | 0.40          |
| 220                             | 12.5×30                | 1010                                              | 0.080                     | 0.34          |
| 220                             | 16×20                  | 1130                                              | 0.077                     | 0.32          |
| 270                             | 12.5×35                | 1140                                              | 0.070                     | 0.30          |
| 270                             | 16×25                  | 1350                                              | 0.062                     | 0.23          |
| 330                             | 12.5×40                | 1280                                              | 0.060                     | 0.25          |
| 330                             | 18×20                  | 1300                                              | 0.072                     | 0.27          |
| 390                             | 16×31.5                | 1650                                              | 0.049                     | 0.18          |
| 390                             | 18×25                  | 1560                                              | 0.052                     | 0.19          |
| 470                             | 16×35.5                | 1900                                              | 0.040                     | 0.15          |
| 470                             | 18×31.5                | 1720                                              | 0.042                     | 0.15          |
| 560                             | 16×40                  | 2130                                              | 0.036                     | 0.13          |
| 680                             | 18×35.5                | 1890                                              | 0.036                     | 0.13          |
| 820                             | 18×40                  | 2470                                              | 0.032                     | 0.12          |