



**USC SERIES**

**85°C Standard, Snap-in Terminal Type**

**◆FEATURES**

- Load Life : 85°C 3000 hours.
- Smaller size with higher ripple current endurance than USR series.
- RoHS compliance.



**◆SPECIFICATIONS**

| Items                                      | Characteristics   |             |                    |                                   |                    |  |  |                                    |         |         |  |         |         |               |      |      |      |      |      |      |      |      |      |      |
|--|---|-------------|--------------------|-----------------------------------|--------------------|--|--|------------------------------------|---------|---------|--|---------|---------|---------------|------|------|------|------|------|------|------|------|------|------|
| Category Temperature Range                 | -40~+85°C   | -25~+85°C   |                    |                                   |                    |  |  |                                    |         |         |  |         |         |               |      |      |      |      |      |      |      |      |      |      |
| Rated Voltage Range                        | 10~250V.DC  | 315~450V.DC |                    |                                   |                    |  |  |                                    |         |         |  |         |         |               |      |      |      |      |      |      |      |      |      |      |
| Capacitance Tolerance                      | ±20% (20°C, 120Hz)  |             |                    |                                   |                    |  |  |                                    |         |         |  |         |         |               |      |      |      |      |      |      |      |      |      |      |
| Leakage Current(MAX)                       | $I=3\sqrt{CV}$ (After 5 minutes application of rated voltage)<br>$I$ =Leakage Current( $\mu$ A) $V$ =Rated Voltage(V) $C$ =Rated Capacitance( $\mu$ F)  |             |                    |                                   |                    |  |  |                                    |         |         |  |         |         |               |      |      |      |      |      |      |      |      |      |      |
| Dissipation Factor(MAX)<br>(tan $\delta$ ) | <table border="1"> <thead> <tr> <th>Rated Voltage (V)</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>80</th> <th>100</th> <th>160~400</th> <th>420~450</th> </tr> </thead> <tbody> <tr> <td>(20°C, 120Hz)</td> <td>0.55</td> <td>0.50</td> <td>0.45</td> <td>0.40</td> <td>0.35</td> <td>0.30</td> <td>0.25</td> <td>0.20</td> <td>0.15</td> <td>0.25</td> </tr> </tbody> </table>                        |             | Rated Voltage (V)  | 10                                | 16                 | 25   | 35   | 50                                 | 63      | 80      | 100  | 160~400 | 420~450 | (20°C, 120Hz) | 0.55 | 0.50 | 0.45 | 0.40 | 0.35 | 0.30 | 0.25 | 0.20 | 0.15 | 0.25 |
| Rated Voltage (V)                          | 10  | 16          | 25                 | 35                                | 50                 | 63   | 80   | 100                                | 160~400 | 420~450 |  |         |         |               |      |      |      |      |      |      |      |      |      |      |
| (20°C, 120Hz)                              | 0.55  | 0.50        | 0.45               | 0.40                              | 0.35               | 0.30                                       | 0.25                                       | 0.20                               | 0.15    | 0.25    |  |         |         |               |      |      |      |      |      |      |      |      |      |      |
| Impedance Ratio(MAX)                       | <table border="1"> <thead> <tr> <th>Rated Voltage (V)</th> <th>10~250</th> <th>315~400</th> <th>420~450</th> </tr> </thead> <tbody> <tr> <td><math>Z(-25^\circ\text{C})/Z(20^\circ\text{C})</math></td> <td>3</td> <td>8</td> <td>12</td> </tr> <tr> <td><math>Z(-40^\circ\text{C})/Z(20^\circ\text{C})</math></td> <td>12</td> <td></td> <td></td> </tr> </tbody> </table>   |             | Rated Voltage (V)  | 10~250                            | 315~400            | 420~450                                    | $Z(-25^\circ\text{C})/Z(20^\circ\text{C})$ | 3                                  | 8       | 12      | $Z(-40^\circ\text{C})/Z(20^\circ\text{C})$ | 12      |         |               |      |      |      |      |      |      |      |      |      |      |
| Rated Voltage (V)                          | 10~250  | 315~400     | 420~450            |                                   |                    |  |  |                                    |         |         |  |         |         |               |      |      |      |      |      |      |      |      |      |      |
| $Z(-25^\circ\text{C})/Z(20^\circ\text{C})$ | 3   | 8           | 12                 |                                   |                    |  |  |                                    |         |         |  |         |         |               |      |      |      |      |      |      |      |      |      |      |
| $Z(-40^\circ\text{C})/Z(20^\circ\text{C})$ | 12  |             |                    |                                   |                    |  |  |                                    |         |         |  |         |         |               |      |      |      |      |      |      |      |      |      |      |
| Endurance                                  | After applying rated voltage with rated ripple current for 3000hrs at 85°C, the capacitors shall meet the following requirements. <table border="1"> <tbody> <tr> <td>Capacitance Change</td> <td>Within ±20% of the initial value.</td> </tr> <tr> <td>Dissipation Factor</td> <td>Not more than 200% of the specified value.</td> </tr> <tr> <td>Leakage Current</td> <td>Not more than the specified value.</td> </tr> </tbody> </table> |             | Capacitance Change | Within ±20% of the initial value. | Dissipation Factor | Not more than 200% of the specified value. | Leakage Current                            | Not more than the specified value. |         |         |  |         |         |               |      |      |      |      |      |      |      |      |      |      |
| Capacitance Change                         | Within ±20% of the initial value.   |             |                    |                                   |                    |  |  |                                    |         |         |  |         |         |               |      |      |      |      |      |      |      |      |      |      |
| Dissipation Factor                         | Not more than 200% of the specified value.  |             |                    |                                   |                    |  |  |                                    |         |         |  |         |         |               |      |      |      |      |      |      |      |      |      |      |
| Leakage Current                            | Not more than the specified value.  |             |                    |                                   |                    |  |  |                                    |         |         |  |         |         |               |      |      |      |      |      |      |      |      |      |      |

**◆MULTIPLIER FOR RIPPLE CURRENT**

Frequency coefficient

| Frequency (Hz) |           | 60 (50) | 120  | 500  | 1k   | 10k≤ |
|----------------|-----------|---------|------|------|------|------|
| Coefficient    | 10~100WV  | 0.90    | 1.00 | 1.05 | 1.10 | 1.15 |
|                | 160~250WV | 0.80    | 1.00 | 1.20 | 1.30 | 1.50 |
|                | 315~450WV | 0.80    | 1.00 | 1.20 | 1.25 | 1.40 |

**◆PART NUMBER**

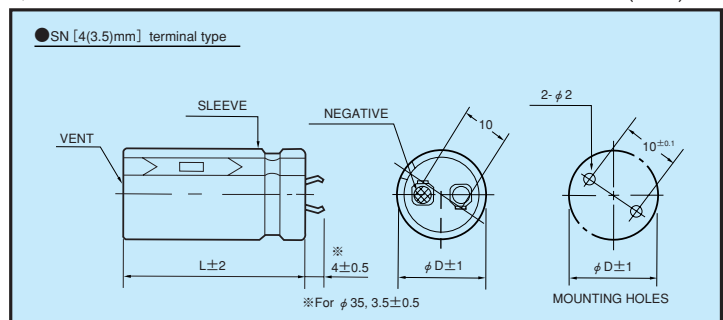
   USC                OOE    SN    DXL  
 Rated Voltage    Series    Rated Capacitance    Capacitance Tolerance    Option    Terminal Code    Case Size

**◆Option**

|               | Code  |
|---------------|-------|
| without plate | OOE   |
| with plate    | Blank |

**◆DIMENSIONS**

(mm)



**◆ STANDARD SIZE, RATED RIPPLE CURRENT**

| Cap<br>( $\mu$ F) | WV<br>$\phi$ D | 10          |             |             |             |             | 16          |             |             |             |             |
|-------------------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                   |                | $\phi$ 20   | $\phi$ 22   | $\phi$ 25   | $\phi$ 30   | $\phi$ 35   | $\phi$ 20   | $\phi$ 22   | $\phi$ 25   | $\phi$ 30   | $\phi$ 35   |
| 8200              |                |             |             |             |             |             | 20×25; 2.56 |             |             |             |             |
| 10000             |                | 20×25; 2.22 |             |             |             |             | 20×30; 2.85 | 22×25; 2.85 |             |             |             |
| 12000             |                | 20×30; 2.44 | 22×25; 2.41 |             |             |             | 20×35; 3.20 | 22×30; 3.20 |             |             |             |
| 15000             |                | 20×35; 2.90 | 22×30; 2.88 | 25×25; 2.88 |             |             | 20×40; 3.70 | 22×35; 3.70 | 25×25; 3.70 |             |             |
| 18000             |                | 20×40; 3.31 | 22×35; 3.22 | 25×30; 3.08 |             |             |             | 22×40; 3.98 | 25×30; 3.98 |             |             |
| 22000             |                |             | 22×40; 3.79 | 25×30; 3.66 | 30×25; 3.58 |             |             | 22×45; 4.52 | 25×35; 4.52 | 30×25; 4.52 |             |
| 27000             |                |             | 22×45; 4.04 | 25×35; 4.04 | 30×30; 3.99 |             |             | 22×50; 4.98 | 25×40; 4.98 | 30×30; 4.98 |             |
| 33000             |                |             | 22×50; 4.58 | 25×40; 4.56 | 30×30; 4.58 |             |             |             | 25×45; 5.49 | 30×35; 5.49 | 35×30; 5.49 |
| 39000             |                |             |             | 25×45; 5.29 | 30×35; 5.21 | 35×30; 5.05 |             |             | 25×50; 6.11 | 30×40; 6.11 | 35×35; 6.11 |
| 47000             |                |             |             | 25×50; 5.78 | 30×40; 5.78 | 35×35; 5.55 |             |             |             | 30×45; 6.80 | 35×35; 6.80 |
| 56000             |                |             |             |             | 30×45; 6.59 | 35×35; 6.40 |             |             |             | 30×50; 7.62 | 35×40; 7.62 |
| 68000             |                |             |             |             | 30×50; 7.50 | 35×40; 7.48 |             |             |             |             | 35×45; 8.45 |
| 82000             |                |             |             |             |             | 35×50; 8.50 |             |             |             |             | 35×50; 9.14 |

| Cap<br>( $\mu$ F) | WV<br>$\phi$ D | 25          |             |             |             |             | 35          |             |             |             |             |
|-------------------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                   |                | $\phi$ 20   | $\phi$ 22   | $\phi$ 25   | $\phi$ 30   | $\phi$ 35   | $\phi$ 20   | $\phi$ 22   | $\phi$ 25   | $\phi$ 30   | $\phi$ 35   |
| 3300              |                |             |             |             |             |             | 20×25; 2.14 |             |             |             |             |
| 3900              |                |             |             |             |             |             | 20×30; 2.28 |             |             |             |             |
| 4700              |                |             |             |             |             |             | 20×35; 2.46 | 22×25; 2.46 |             |             |             |
| 5600              |                | 20×25; 2.33 |             |             |             |             | 20×40; 2.79 | 22×30; 2.79 | 25×25; 2.79 |             |             |
| 6800              |                | 20×30; 2.56 | 22×25; 2.56 |             |             |             |             | 22×35; 2.89 | 25×30; 2.89 |             |             |
| 8200              |                | 20×35; 2.91 | 22×30; 2.91 |             |             |             |             | 22×40; 3.47 | 25×30; 3.47 | 30×25; 3.47 |             |
| 10000             |                | 20×40; 3.18 | 22×35; 3.18 | 25×25; 3.18 |             |             |             | 22×45; 3.59 | 25×35; 3.59 | 30×30; 3.59 |             |
| 12000             |                |             | 22×40; 3.53 | 25×30; 3.53 |             |             |             | 22×50; 4.51 | 25×40; 4.51 | 30×30; 4.51 |             |
| 15000             |                |             | 22×45; 4.08 | 25×35; 4.08 | 30×25; 4.08 |             |             |             | 25×45; 4.80 | 30×35; 4.80 | 35×30; 4.80 |
| 18000             |                |             | 22×50; 4.68 | 25×40; 4.68 | 30×30; 4.68 |             |             |             |             | 30×40; 5.70 | 35×35; 5.70 |
| 22000             |                |             |             | 25×45; 5.19 | 30×35; 5.19 | 35×30; 5.19 |             |             |             | 30×45; 6.38 | 35×40; 6.38 |
| 27000             |                |             |             | 25×50; 6.02 | 30×40; 6.02 | 35×35; 6.02 |             |             |             |             | 35×45; 6.90 |
| 33000             |                |             |             |             | 30×45; 6.75 | 35×40; 6.75 |             |             |             |             | 35×50; 7.49 |
| 39000             |                |             |             |             | 30×50; 7.56 | 35×45; 7.56 |             |             |             |             |             |
| 47000             |                |             |             |             |             | 35×50; 8.30 |             |             |             |             |             |

| Cap<br>( $\mu$ F) | WV<br>$\phi$ D | 50          |             |             |             |             | 63          |             |             |             |             |
|-------------------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                   |                | $\phi$ 20   | $\phi$ 22   | $\phi$ 25   | $\phi$ 30   | $\phi$ 35   | $\phi$ 20   | $\phi$ 22   | $\phi$ 25   | $\phi$ 30   | $\phi$ 35   |
| 1500              |                |             |             |             |             |             | 20×25; 1.69 |             |             |             |             |
| 1800              |                |             |             |             |             |             | 20×30; 2.04 | 22×25; 2.04 |             |             |             |
| 2200              |                | 20×25; 2.07 |             |             |             |             | 20×35; 2.40 | 22×30; 2.40 |             |             |             |
| 2700              |                | 20×30; 2.21 | 22×25; 2.21 |             |             |             | 20×40; 2.52 | 22×35; 2.52 | 25×25; 2.52 |             |             |
| 3300              |                | 20×35; 2.41 | 22×30; 2.41 |             |             |             |             | 22×40; 2.69 | 25×30; 2.69 |             |             |
| 3900              |                | 20×40; 2.72 | 22×30; 2.72 | 25×25; 2.72 |             |             |             | 22×45; 3.10 | 25×35; 3.10 | 30×25; 3.10 |             |
| 4700              |                |             | 22×35; 3.01 | 25×30; 3.01 |             |             |             | 22×50; 3.49 | 25×40; 3.49 | 30×30; 3.49 |             |
| 5600              |                |             | 22×40; 3.43 | 25×35; 3.43 | 30×25; 3.43 |             |             |             | 25×45; 3.81 | 30×35; 3.81 |             |
| 6800              |                |             | 22×45; 3.94 | 25×35; 3.94 | 30×30; 3.94 |             |             |             | 25×50; 4.41 | 30×40; 4.41 | 35×30; 4.41 |
| 8200              |                |             |             | 25×40; 4.37 | 30×35; 4.37 |             |             |             |             | 30×45; 4.90 | 35×35; 4.90 |
| 10000             |                |             |             | 25×50; 5.02 | 30×40; 5.02 | 35×30; 5.02 |             |             |             | 30×50; 5.49 | 35×40; 5.49 |
| 12000             |                |             |             |             | 30×45; 5.60 | 35×35; 5.60 |             |             |             |             | 35×45; 6.30 |
| 15000             |                |             |             |             | 30×50; 6.44 | 35×40; 6.44 |             |             |             |             |             |
| 18000             |                |             |             |             |             | 35×45; 6.71 |             |             |             |             |             |

| Cap<br>( $\mu$ F) | WV<br>$\phi$ D | 80          |             |             |             |             | 100         |             |             |             |             |
|-------------------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                   |                | $\phi$ 20   | $\phi$ 22   | $\phi$ 25   | $\phi$ 30   | $\phi$ 35   | $\phi$ 20   | $\phi$ 22   | $\phi$ 25   | $\phi$ 30   | $\phi$ 35   |
| 680               |                |             |             |             |             |             | 20×25; 1.66 |             |             |             |             |
| 820               |                |             |             |             |             |             | 20×30; 1.86 | 22×25; 1.86 |             |             |             |
| 1000              |                | 20×25; 1.56 |             |             |             |             | 20×30; 2.02 | 22×30; 2.02 |             |             |             |
| 1200              |                | 20×30; 1.80 | 22×25; 1.80 |             |             |             | 20×35; 2.12 | 22×30; 2.12 | 25×25; 2.12 |             |             |
| 1500              |                | 20×30; 2.10 | 22×30; 2.10 |             |             |             | 20×40; 2.45 | 22×35; 2.45 | 25×30; 2.45 |             |             |
| 1800              |                | 20×35; 2.30 | 22×30; 2.30 | 25×25; 2.30 |             |             |             | 22×40; 2.77 | 25×30; 2.77 | 30×25; 2.77 |             |
| 2200              |                | 20×40; 2.53 | 22×35; 2.53 | 25×30; 2.53 |             |             |             | 22×45; 3.12 | 25×35; 3.12 | 30×30; 3.12 |             |
| 2700              |                |             | 22×40; 2.93 | 25×35; 2.93 | 30×25; 2.93 |             |             |             | 25×40; 3.61 | 30×30; 3.61 |             |
| 3300              |                |             | 22×45; 3.25 | 25×35; 3.25 | 30×30; 3.25 |             |             |             | 25×50; 4.06 | 30×35; 4.06 | 35×30; 4.06 |
| 3900              |                |             |             | 25×40; 3.62 | 30×35; 3.62 |             |             |             |             | 30×40; 4.60 | 35×35; 4.60 |
| 4700              |                |             |             | 25×45; 4.28 | 30×40; 4.28 | 35×30; 4.28 |             |             |             | 30×45; 5.13 | 35×40; 5.13 |
| 5600              |                |             |             |             | 30×45; 4.55 | 35×35; 4.55 |             |             |             |             | 35×45; 5.75 |
| 6800              |                |             |             |             | 30×45; 5.83 | 35×40; 5.83 |             |             |             |             | 35×50; 6.01 |
| 8200              |                |             |             |             |             | 35×45; 6.40 |             |             |             |             |             |
| 10000             |                |             |             |             |             | 35×50; 7.03 |             |             |             |             |             |

↑ Ripple Current (A r.m.s./120Hz, 85°C)  
 ↑ Case Size  $\phi$  D×L(mm)

**◆ STANDARD SIZE, RATED RIPPLE CURRENT**

| Cap<br>( $\mu$ F) | WV<br>$\phi$ D | 160         |             |             |             |             | 180         |             |             |             |             |
|-------------------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                   |                | $\phi$ 20   | $\phi$ 22   | $\phi$ 25   | $\phi$ 30   | $\phi$ 35   | $\phi$ 20   | $\phi$ 22   | $\phi$ 25   | $\phi$ 30   | $\phi$ 35   |
| 270               |                | 20×25; 1.28 |             |             |             |             | 20×25; 1.29 |             |             |             |             |
| 330               |                | 20×25; 1.55 |             |             |             |             | 20×30; 1.77 | 22×25; 1.49 |             |             |             |
| 390               |                | 20×30; 1.63 | 22×25; 1.63 |             |             |             | 20×30; 1.84 | 22×25; 1.84 |             |             |             |
| 470               |                | 20×30; 1.90 | 22×30; 1.86 | 25×25; 1.86 |             |             | 20×35; 1.91 | 22×30; 1.91 | 25×25; 2.08 |             |             |
| 560               |                | 20×35; 2.14 | 22×30; 2.15 | 25×25; 2.15 |             |             | 20×40; 2.15 | 22×35; 2.25 | 25×25; 2.25 |             |             |
| 680               |                | 20×40; 2.35 | 22×35; 2.35 | 25×30; 2.33 | 30×25; 2.33 |             |             | 22×35; 2.48 | 25×30; 2.50 | 30×25; 2.46 |             |
| 820               |                |             | 22×40; 2.68 | 25×30; 2.65 | 30×25; 2.64 |             |             | 22×40; 2.86 | 25×35; 2.75 | 30×25; 2.69 |             |
| 1000              |                |             | 22×45; 3.02 | 25×35; 3.00 | 30×30; 2.96 |             |             | 22×50; 3.10 | 25×40; 3.06 | 30×30; 3.10 |             |
| 1200              |                |             |             | 25×40; 3.43 | 30×30; 3.41 | 35×30; 3.40 |             |             | 25×45; 3.63 | 30×35; 3.55 | 35×30; 3.49 |
| 1500              |                |             |             | 25×50; 3.96 | 30×35; 3.96 | 35×30; 3.94 |             |             |             | 30×40; 4.10 | 35×35; 4.02 |
| 1800              |                |             |             |             | 30×40; 4.31 | 35×35; 4.28 |             |             |             | 30×45; 4.55 | 35×35; 4.54 |
| 2200              |                |             |             |             | 30×50; 4.96 | 35×40; 4.96 |             |             |             |             | 35×40; 4.83 |
| 2700              |                |             |             |             |             | 35×45; 5.57 |             |             |             |             | 35×50; 5.30 |

| Cap<br>( $\mu$ F) | WV<br>$\phi$ D | 200         |             |             |             |             | 220         |             |             |             |             |
|-------------------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                   |                | $\phi$ 20   | $\phi$ 22   | $\phi$ 25   | $\phi$ 30   | $\phi$ 35   | $\phi$ 20   | $\phi$ 22   | $\phi$ 25   | $\phi$ 30   | $\phi$ 35   |
| 220               |                | 20×25; 1.19 |             |             |             |             | 20×25; 1.23 |             |             |             |             |
| 270               |                | 20×25; 1.39 | 22×25; 1.37 |             |             |             | 20×30; 1.46 | 22×25; 1.42 |             |             |             |
| 330               |                | 20×30; 1.56 | 22×25; 1.51 |             |             |             | 20×35; 1.64 | 22×30; 1.59 |             |             |             |
| 390               |                | 20×35; 1.74 | 22×30; 1.73 | 25×25; 1.71 |             |             | 20×35; 1.79 | 22×30; 1.80 | 25×25; 1.75 |             |             |
| 470               |                | 20×35; 2.03 | 22×30; 1.97 | 25×25; 1.95 |             |             | 20×40; 2.12 | 22×35; 2.06 | 25×30; 2.08 |             |             |
| 560               |                | 20×40; 2.18 | 22×35; 2.18 | 25×30; 2.15 | 30×25; 2.15 |             |             | 22×40; 2.22 | 25×35; 2.38 | 30×25; 2.18 |             |
| 680               |                |             | 22×40; 2.48 | 25×30; 2.48 | 30×25; 2.48 |             |             | 22×45; 2.62 | 25×35; 2.56 | 30×30; 2.52 |             |
| 820               |                |             | 22×45; 2.81 | 25×35; 2.79 | 30×30; 2.75 |             |             | 25×45; 2.91 | 30×35; 2.84 | 35×30; 2.79 |             |
| 1000              |                |             | 22×50; 3.28 | 25×40; 3.28 | 30×35; 3.15 |             |             |             | 30×35; 3.36 | 35×30; 3.29 |             |
| 1200              |                |             |             | 25×45; 3.61 | 30×35; 3.61 | 35×30; 3.57 |             |             |             | 30×40; 3.72 | 35×35; 3.68 |
| 1500              |                |             |             |             | 30×45; 4.13 | 35×35; 4.06 |             |             |             | 30×50; 4.18 | 35×40; 4.10 |
| 1800              |                |             |             |             | 30×50; 4.60 | 35×40; 4.59 |             |             |             |             | 35×45; 4.52 |
| 2200              |                |             |             |             |             | 35×45; 5.25 |             |             |             |             |             |

| Cap<br>( $\mu$ F) | WV<br>$\phi$ D | 250         |             |             |             |             | 315         |             |             |             |             |
|-------------------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                   |                | $\phi$ 20   | $\phi$ 22   | $\phi$ 25   | $\phi$ 30   | $\phi$ 35   | $\phi$ 20   | $\phi$ 22   | $\phi$ 25   | $\phi$ 30   | $\phi$ 35   |
| 150               |                |             |             |             |             |             | 20×30; 1.00 |             |             |             |             |
| 180               |                | 20×25; 1.20 |             |             |             |             | 20×35; 1.13 | 22×30; 1.29 | 25×25; 1.38 |             |             |
| 220               |                | 20×25; 1.26 | 22×25; 1.24 |             |             |             | 20×35; 1.29 | 22×30; 1.41 | 25×25; 1.47 |             |             |
| 270               |                | 20×30; 1.42 | 22×25; 1.50 |             |             |             |             | 22×35; 1.68 | 25×30; 1.70 |             |             |
| 330               |                | 20×35; 1.68 | 22×30; 1.66 | 25×25; 1.61 |             |             |             | 22×40; 1.91 | 25×35; 1.94 | 30×25; 1.98 |             |
| 390               |                | 20×40; 1.92 | 22×35; 1.88 | 25×30; 1.88 |             |             |             | 22×45; 2.07 | 25×40; 2.11 | 30×30; 2.15 |             |
| 470               |                |             | 22×35; 2.15 | 25×35; 2.15 | 30×25; 2.04 |             |             |             | 25×50; 2.31 | 30×35; 2.38 | 35×30; 2.36 |
| 560               |                |             | 22×40; 2.48 | 25×35; 2.35 | 30×25; 2.35 |             |             |             |             | 30×35; 2.63 | 35×30; 2.69 |
| 680               |                |             |             | 25×40; 2.67 | 30×30; 2.71 |             |             |             |             | 30×45; 2.80 | 35×35; 3.05 |
| 820               |                |             |             | 25×45; 3.01 | 30×35; 2.98 | 35×30; 2.96 |             |             |             | 30×50; 3.28 | 35×40; 3.45 |
| 1000              |                |             |             |             | 30×40; 3.56 | 35×35; 3.48 |             |             |             |             | 35×45; 3.57 |
| 1200              |                |             |             |             | 30×45; 3.99 | 35×35; 3.84 |             |             |             |             |             |
| 1500              |                |             |             |             |             | 35×40; 4.33 |             |             |             |             |             |
| 1800              |                |             |             |             |             | 35×50; 4.54 |             |             |             |             |             |

| Cap<br>( $\mu$ F) | WV<br>$\phi$ D | 350         |             |             |             |             | 385         |             |             |             |             |
|-------------------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                   |                | $\phi$ 20   | $\phi$ 22   | $\phi$ 25   | $\phi$ 30   | $\phi$ 35   | $\phi$ 20   | $\phi$ 22   | $\phi$ 25   | $\phi$ 30   | $\phi$ 35   |
| 68                |                |             |             |             |             |             | 20×25; 0.68 |             |             |             |             |
| 82                |                |             |             |             |             |             | 20×30; 0.74 | 22×25; 0.76 |             |             |             |
| 100               |                |             |             |             |             |             | 20×30; 0.86 | 22×30; 0.89 |             |             |             |
| 120               |                | 20×30; 0.96 | 22×25; 1.04 |             |             |             | 20×35; 0.96 | 22×30; 0.98 | 25×25; 1.02 |             |             |
| 150               |                | 20×30; 1.10 | 22×30; 1.20 | 25×25; 1.22 |             |             | 20×35; 1.10 | 22×35; 1.12 | 25×30; 1.14 |             |             |
| 180               |                | 20×35; 1.24 | 22×30; 1.34 | 25×25; 1.37 |             |             | 20×40; 1.27 | 22×35; 1.27 | 25×30; 1.30 | 30×25; 1.37 |             |
| 220               |                |             | 22×35; 1.47 | 25×30; 1.53 | 30×25; 1.54 |             |             | 22×40; 1.42 | 25×35; 1.48 | 30×30; 1.49 |             |
| 270               |                |             | 22×40; 1.70 | 25×35; 1.73 | 30×25; 1.80 |             |             | 22×50; 1.60 | 25×40; 1.61 | 30×30; 1.64 |             |
| 330               |                |             | 22×45; 1.87 | 25×35; 1.97 | 30×30; 2.03 |             |             |             | 25×45; 1.80 | 30×35; 1.85 | 35×30; 1.87 |
| 390               |                |             |             | 25×40; 2.14 | 30×35; 2.23 | 35×30; 2.30 |             |             | 25×50; 2.04 | 30×40; 2.05 | 35×35; 2.07 |
| 470               |                |             |             | 25×50; 2.55 | 30×35; 2.53 | 35×30; 2.55 |             |             |             | 30×45; 2.26 | 35×35; 2.26 |
| 560               |                |             |             |             | 30×40; 2.73 | 35×35; 2.75 |             |             |             | 30×50; 2.57 | 35×40; 2.59 |
| 680               |                |             |             |             | 30×50; 3.15 | 35×40; 3.15 |             |             |             |             | 35×45; 2.80 |
| 820               |                |             |             |             |             | 35×45; 3.47 |             |             |             |             |             |
| 1000              |                |             |             |             |             | 35×50; 3.60 |             |             |             |             |             |

↑ Ripple Current (A r.m.s./120Hz, 85°C)  
 ↑ Case Size  $\phi$  D×L(mm)

**◆ STANDARD SIZE, RATED RIPPLE CURRENT**

| Cap<br>( $\mu F$ ) | wv<br>$\phi D$ | 400         |             |             |             |           | 420         |             |             |             |             |
|--------------------|----------------|-------------|-------------|-------------|-------------|-----------|-------------|-------------|-------------|-------------|-------------|
|                    |                | $\phi 20$   | $\phi 22$   | $\phi 25$   | $\phi 30$   | $\phi 35$ | $\phi 20$   | $\phi 22$   | $\phi 25$   | $\phi 30$   | $\phi 35$   |
| 68                 | 20×25; 0.75    |             |             |             |             |           | 20×25; 0.70 |             |             |             |             |
| 82                 | 20×30; 0.82    | 22×25; 0.84 |             |             |             |           | 20×30; 0.80 | 22×25; 0.85 |             |             |             |
| 100                | 20×30; 0.95    | 22×30; 0.99 |             |             |             |           | 20×35; 0.90 | 22×30; 0.97 | 25×25; 0.98 |             |             |
| 120                | 20×35; 1.07    | 22×30; 1.09 | 25×25; 1.13 |             |             |           | 20×35; 1.04 | 22×30; 1.07 | 25×25; 1.08 |             |             |
| 150                | 20×40; 1.22    | 22×35; 1.24 | 25×30; 1.27 |             |             |           | 20×40; 1.17 | 22×35; 1.21 | 25×30; 1.26 | 30×25; 1.30 |             |
| 180                |                | 22×40; 1.41 | 25×30; 1.44 | 30×25; 1.52 |             |           |             | 22×40; 1.33 | 25×35; 1.42 | 30×25; 1.48 |             |
| 220                |                | 22×45; 1.58 | 25×35; 1.64 | 30×30; 1.66 |             |           |             | 22×45; 1.55 | 25×35; 1.58 | 30×30; 1.65 |             |
| 270                |                |             | 25×40; 1.79 | 30×30; 1.82 |             |           |             | 25×40; 1.74 | 30×35; 1.90 | 35×30; 1.94 |             |
| 330                |                |             | 25×45; 2.00 | 30×35; 2.05 | 35×30; 2.05 |           |             | 25×50; 2.20 | 30×35; 1.98 | 35×35; 2.17 |             |
| 390                |                |             |             | 30×40; 2.26 | 35×35; 2.28 |           |             |             |             | 30×40; 2.22 | 35×35; 2.27 |
| 470                |                |             |             | 30×45; 2.51 | 35×40; 2.54 |           |             |             |             | 30×45; 2.50 | 35×40; 2.61 |
| 560                |                |             |             | 30×50; 2.85 | 35×40; 2.85 |           |             |             |             |             | 35×45; 2.95 |
| 680                |                |             |             |             | 35×50; 3.10 |           |             |             |             |             |             |

| Cap<br>( $\mu F$ ) | wv<br>$\phi D$ | 450         |             |             |             |           |
|--------------------|----------------|-------------|-------------|-------------|-------------|-----------|
|                    |                | $\phi 20$   | $\phi 22$   | $\phi 25$   | $\phi 30$   | $\phi 35$ |
| 56                 | 20×25; 0.61    |             |             |             |             |           |
| 68                 | 20×30; 0.70    | 22×25; 0.71 |             |             |             |           |
| 82                 | 20×35; 0.80    | 22×25; 0.86 |             |             |             |           |
| 100                | 20×35; 0.88    | 22×30; 0.95 | 25×25; 0.97 |             |             |           |
| 120                | 20×40; 0.99    | 22×35; 1.07 | 25×30; 1.09 | 30×25; 1.12 |             |           |
| 150                |                | 22×40; 1.18 | 25×30; 1.25 | 30×25; 1.29 |             |           |
| 180                |                | 22×45; 1.32 | 25×35; 1.40 | 30×30; 1.45 |             |           |
| 220                |                |             | 25×40; 1.59 | 30×30; 1.64 | 35×30; 1.66 |           |
| 270                |                |             | 25×45; 1.73 | 30×35; 1.89 | 35×30; 1.90 |           |
| 330                |                |             | 25×50; 2.12 | 30×40; 2.12 | 35×35; 2.15 |           |
| 390                |                |             |             | 30×45; 2.35 | 35×40; 2.38 |           |
| 470                |                |             |             | 30×50; 2.65 | 35×45; 2.68 |           |
| 560                |                |             |             |             | 35×50; 2.88 |           |

↑ Ripple Current (A r.m.s./120Hz, 85°C)  
 Case Size  $\phi D \times L$ (mm)

