

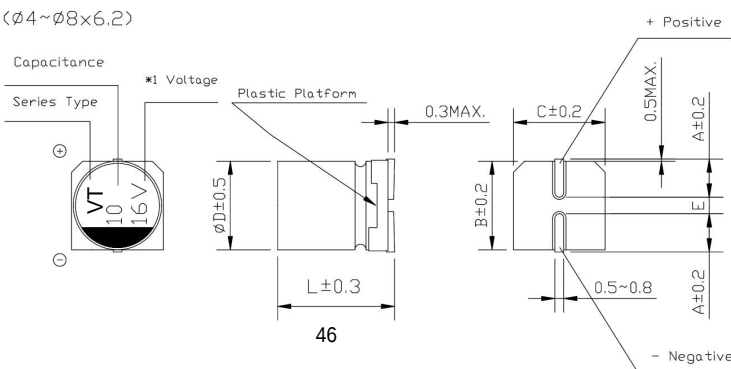
## VT Wide Temperature

- Temperature up to 105 °C with load life of 2000 hours.

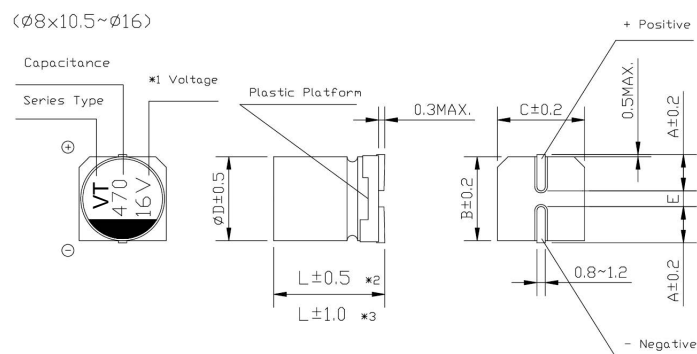
### ◆ Specifications

| Items                        | Performance Characteristics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                    |      |      |      |      |      |      |      |      |                      |                                                                                                                               |   |     |    |    |    |    |    |    |     |                              |                                            |                    |      |      |      |      |      |      |      |      |                    |                                 |      |      |      |      |      |      |      |             |                    |   |   |   |   |   |   |   |   |                    |    |    |    |   |   |   |   |   |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|------|------|------|------|------|------|------|------|----------------------|-------------------------------------------------------------------------------------------------------------------------------|---|-----|----|----|----|----|----|----|-----|------------------------------|--------------------------------------------|--------------------|------|------|------|------|------|------|------|------|--------------------|---------------------------------|------|------|------|------|------|------|------|-------------|--------------------|---|---|---|---|---|---|---|---|--------------------|----|----|----|---|---|---|---|---|
| Operating Temperature Range  | -55 ~ 105 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                    |      |      |      |      |      |      |      |      |                      |                                                                                                                               |   |     |    |    |    |    |    |    |     |                              |                                            |                    |      |      |      |      |      |      |      |      |                    |                                 |      |      |      |      |      |      |      |             |                    |   |   |   |   |   |   |   |   |                    |    |    |    |   |   |   |   |   |
| Voltage Range                | 4 ~ 100V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                    |      |      |      |      |      |      |      |      |                      |                                                                                                                               |   |     |    |    |    |    |    |    |     |                              |                                            |                    |      |      |      |      |      |      |      |      |                    |                                 |      |      |      |      |      |      |      |             |                    |   |   |   |   |   |   |   |   |                    |    |    |    |   |   |   |   |   |
| Capacitance Range            | 0.1 ~ 6800 μF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |      |      |      |      |      |      |      |      |                      |                                                                                                                               |   |     |    |    |    |    |    |    |     |                              |                                            |                    |      |      |      |      |      |      |      |      |                    |                                 |      |      |      |      |      |      |      |             |                    |   |   |   |   |   |   |   |   |                    |    |    |    |   |   |   |   |   |
| Capacitance Tolerance        | ±20% at 120 Hz 20 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                    |      |      |      |      |      |      |      |      |                      |                                                                                                                               |   |     |    |    |    |    |    |    |     |                              |                                            |                    |      |      |      |      |      |      |      |      |                    |                                 |      |      |      |      |      |      |      |             |                    |   |   |   |   |   |   |   |   |                    |    |    |    |   |   |   |   |   |
| Leakage Current              | For Φ4 ~ Φ10 after 2 minutes application of rated voltage leakage current is not more than 0.01CV or 3(μA) whichever is greater.<br>For Φ12.5 ~ Φ16 after 1 minute s application of rated voltage leakage current is not more than 0.03CV or 4(μA) whichever is greater.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                    |      |      |      |      |      |      |      |      |                      |                                                                                                                               |   |     |    |    |    |    |    |    |     |                              |                                            |                    |      |      |      |      |      |      |      |      |                    |                                 |      |      |      |      |      |      |      |             |                    |   |   |   |   |   |   |   |   |                    |    |    |    |   |   |   |   |   |
| Tan δ                        | Measurement frequency 120Hz Temperature 20 °C <table border="1"> <thead> <tr> <th colspan="2">Rated voltage (V.DC)</th><th>4</th><th>6.3</th><th>10</th><th>16</th><th>25</th><th>35</th><th>50</th><th>63</th><th>100</th></tr> </thead> <tbody> <tr> <td rowspan="2">Tan δ (max)</td><td>Φ4 ~ Φ10</td><td>0.35</td><td>0.26</td><td>0.20</td><td>0.16</td><td>0.14</td><td>0.12</td><td>0.12</td><td>0.12</td><td>0.12</td></tr> <tr> <td>Φ12.5 ~ Φ16</td><td>0.42</td><td>0.38</td><td>0.34</td><td>0.30</td><td>0.26</td><td>0.22</td><td>0.18</td><td>0.14</td><td>0.12</td></tr> </tbody> </table>                                                                                                                                                                                                                                                    |                    |      |      |      |      |      |      |      |      | Rated voltage (V.DC) |                                                                                                                               | 4 | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | Tan δ (max)                  | Φ4 ~ Φ10                                   | 0.35               | 0.26 | 0.20 | 0.16 | 0.14 | 0.12 | 0.12 | 0.12 | 0.12 | Φ12.5 ~ Φ16        | 0.42                            | 0.38 | 0.34 | 0.30 | 0.26 | 0.22 | 0.18 | 0.14 | 0.12        |                    |   |   |   |   |   |   |   |   |                    |    |    |    |   |   |   |   |   |
| Rated voltage (V.DC)         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 4                  | 6.3  | 10   | 16   | 25   | 35   | 50   | 63   | 100  |                      |                                                                                                                               |   |     |    |    |    |    |    |    |     |                              |                                            |                    |      |      |      |      |      |      |      |      |                    |                                 |      |      |      |      |      |      |      |             |                    |   |   |   |   |   |   |   |   |                    |    |    |    |   |   |   |   |   |
| Tan δ (max)                  | Φ4 ~ Φ10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0.35               | 0.26 | 0.20 | 0.16 | 0.14 | 0.12 | 0.12 | 0.12 | 0.12 |                      |                                                                                                                               |   |     |    |    |    |    |    |    |     |                              |                                            |                    |      |      |      |      |      |      |      |      |                    |                                 |      |      |      |      |      |      |      |             |                    |   |   |   |   |   |   |   |   |                    |    |    |    |   |   |   |   |   |
|                              | Φ12.5 ~ Φ16                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 0.42               | 0.38 | 0.34 | 0.30 | 0.26 | 0.22 | 0.18 | 0.14 | 0.12 |                      |                                                                                                                               |   |     |    |    |    |    |    |    |     |                              |                                            |                    |      |      |      |      |      |      |      |      |                    |                                 |      |      |      |      |      |      |      |             |                    |   |   |   |   |   |   |   |   |                    |    |    |    |   |   |   |   |   |
| Stability at Low Temperature | Measurement frequency 120Hz <table border="1"> <thead> <tr> <th colspan="2">Rated voltage (V.DC)</th><th>4</th><th>6.3</th><th>10</th><th>16</th><th>25</th><th>35</th><th>50</th><th>63</th><th>100</th></tr> </thead> <tbody> <tr> <td rowspan="4">Impedance ratio ZT Z20 (max)</td><td rowspan="2">Φ4 ~ Φ10</td><td>Z(-25 °C) Z(20 °C)</td><td>7</td><td>4</td><td>3</td><td>2</td><td>2</td><td>2</td><td>2</td><td>3</td></tr> <tr> <td>Z(-55 °C) Z(20 °C)</td><td>15</td><td>8</td><td>6</td><td>4</td><td>4</td><td>3</td><td>3</td><td>4</td></tr> <tr> <td rowspan="2">Φ12.5 ~ Φ16</td><td>Z(-25 °C) Z(20 °C)</td><td>7</td><td>5</td><td>4</td><td>3</td><td>2</td><td>2</td><td>2</td><td>2</td></tr> <tr> <td>Z(-55 °C) Z(20 °C)</td><td>17</td><td>12</td><td>10</td><td>8</td><td>5</td><td>4</td><td>3</td><td>3</td></tr> </tbody> </table> |                    |      |      |      |      |      |      |      |      | Rated voltage (V.DC) |                                                                                                                               | 4 | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | Impedance ratio ZT Z20 (max) | Φ4 ~ Φ10                                   | Z(-25 °C) Z(20 °C) | 7    | 4    | 3    | 2    | 2    | 2    | 2    | 3    | Z(-55 °C) Z(20 °C) | 15                              | 8    | 6    | 4    | 4    | 3    | 3    | 4    | Φ12.5 ~ Φ16 | Z(-25 °C) Z(20 °C) | 7 | 5 | 4 | 3 | 2 | 2 | 2 | 2 | Z(-55 °C) Z(20 °C) | 17 | 12 | 10 | 8 | 5 | 4 | 3 | 3 |
| Rated voltage (V.DC)         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 4                  | 6.3  | 10   | 16   | 25   | 35   | 50   | 63   | 100  |                      |                                                                                                                               |   |     |    |    |    |    |    |    |     |                              |                                            |                    |      |      |      |      |      |      |      |      |                    |                                 |      |      |      |      |      |      |      |             |                    |   |   |   |   |   |   |   |   |                    |    |    |    |   |   |   |   |   |
| Impedance ratio ZT Z20 (max) | Φ4 ~ Φ10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Z(-25 °C) Z(20 °C) | 7    | 4    | 3    | 2    | 2    | 2    | 2    | 3    |                      |                                                                                                                               |   |     |    |    |    |    |    |    |     |                              |                                            |                    |      |      |      |      |      |      |      |      |                    |                                 |      |      |      |      |      |      |      |             |                    |   |   |   |   |   |   |   |   |                    |    |    |    |   |   |   |   |   |
|                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Z(-55 °C) Z(20 °C) | 15   | 8    | 6    | 4    | 4    | 3    | 3    | 4    |                      |                                                                                                                               |   |     |    |    |    |    |    |    |     |                              |                                            |                    |      |      |      |      |      |      |      |      |                    |                                 |      |      |      |      |      |      |      |             |                    |   |   |   |   |   |   |   |   |                    |    |    |    |   |   |   |   |   |
|                              | Φ12.5 ~ Φ16                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Z(-25 °C) Z(20 °C) | 7    | 5    | 4    | 3    | 2    | 2    | 2    | 2    |                      |                                                                                                                               |   |     |    |    |    |    |    |    |     |                              |                                            |                    |      |      |      |      |      |      |      |      |                    |                                 |      |      |      |      |      |      |      |             |                    |   |   |   |   |   |   |   |   |                    |    |    |    |   |   |   |   |   |
|                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Z(-55 °C) Z(20 °C) | 17   | 12   | 10   | 8    | 5    | 4    | 3    | 3    |                      |                                                                                                                               |   |     |    |    |    |    |    |    |     |                              |                                            |                    |      |      |      |      |      |      |      |      |                    |                                 |      |      |      |      |      |      |      |             |                    |   |   |   |   |   |   |   |   |                    |    |    |    |   |   |   |   |   |
| Load Life                    | After 2000 hours application of rated voltage at 105 °C capacitors meet the characteristics requirements listed at right. <table border="1"> <tbody> <tr> <td>Capacitance Change</td><td colspan="10">Within ±20 of the initial value for capacitors of 10V or more and within ±30 of the initial value for capacitors of 4V &amp; 6.3V</td></tr> <tr> <td>Tan δ</td><td colspan="10">200 or less of the initial specified value</td></tr> <tr> <td>Leakage Current</td><td colspan="10">Initial specified value or less</td></tr> </tbody> </table>                                                                                                                                                                                                                                                                                                        |                    |      |      |      |      |      |      |      |      | Capacitance Change   | Within ±20 of the initial value for capacitors of 10V or more and within ±30 of the initial value for capacitors of 4V & 6.3V |   |     |    |    |    |    |    |    |     | Tan δ                        | 200 or less of the initial specified value |                    |      |      |      |      |      |      |      |      | Leakage Current    | Initial specified value or less |      |      |      |      |      |      |      |             |                    |   |   |   |   |   |   |   |   |                    |    |    |    |   |   |   |   |   |
| Capacitance Change           | Within ±20 of the initial value for capacitors of 10V or more and within ±30 of the initial value for capacitors of 4V & 6.3V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |      |      |      |      |      |      |      |      |                      |                                                                                                                               |   |     |    |    |    |    |    |    |     |                              |                                            |                    |      |      |      |      |      |      |      |      |                    |                                 |      |      |      |      |      |      |      |             |                    |   |   |   |   |   |   |   |   |                    |    |    |    |   |   |   |   |   |
| Tan δ                        | 200 or less of the initial specified value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                    |      |      |      |      |      |      |      |      |                      |                                                                                                                               |   |     |    |    |    |    |    |    |     |                              |                                            |                    |      |      |      |      |      |      |      |      |                    |                                 |      |      |      |      |      |      |      |             |                    |   |   |   |   |   |   |   |   |                    |    |    |    |   |   |   |   |   |
| Leakage Current              | Initial specified value or less                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                    |      |      |      |      |      |      |      |      |                      |                                                                                                                               |   |     |    |    |    |    |    |    |     |                              |                                            |                    |      |      |      |      |      |      |      |      |                    |                                 |      |      |      |      |      |      |      |             |                    |   |   |   |   |   |   |   |   |                    |    |    |    |   |   |   |   |   |
| Shelf Life                   | After leaving capacitors under no load at 105 °C for 1000 hours they meet the specified value for load life characteristics listed above.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                    |      |      |      |      |      |      |      |      |                      |                                                                                                                               |   |     |    |    |    |    |    |    |     |                              |                                            |                    |      |      |      |      |      |      |      |      |                    |                                 |      |      |      |      |      |      |      |             |                    |   |   |   |   |   |   |   |   |                    |    |    |    |   |   |   |   |   |
| Resistance to Soldering Heat | After reflow soldering and restored at room temperature they meet the characteristics requirements listed at right. <table border="1"> <tbody> <tr> <td>Capacitance Change</td><td colspan="10">Within ±10 of the initial value</td></tr> <tr> <td>Tan δ</td><td colspan="10">Initial specified value or less</td></tr> <tr> <td>Leakage Current</td><td colspan="10">Initial specified value or less</td></tr> </tbody> </table>                                                                                                                                                                                                                                                                                                                                                                                                                           |                    |      |      |      |      |      |      |      |      | Capacitance Change   | Within ±10 of the initial value                                                                                               |   |     |    |    |    |    |    |    |     | Tan δ                        | Initial specified value or less            |                    |      |      |      |      |      |      |      |      | Leakage Current    | Initial specified value or less |      |      |      |      |      |      |      |             |                    |   |   |   |   |   |   |   |   |                    |    |    |    |   |   |   |   |   |
| Capacitance Change           | Within ±10 of the initial value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                    |      |      |      |      |      |      |      |      |                      |                                                                                                                               |   |     |    |    |    |    |    |    |     |                              |                                            |                    |      |      |      |      |      |      |      |      |                    |                                 |      |      |      |      |      |      |      |             |                    |   |   |   |   |   |   |   |   |                    |    |    |    |   |   |   |   |   |
| Tan δ                        | Initial specified value or less                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                    |      |      |      |      |      |      |      |      |                      |                                                                                                                               |   |     |    |    |    |    |    |    |     |                              |                                            |                    |      |      |      |      |      |      |      |      |                    |                                 |      |      |      |      |      |      |      |             |                    |   |   |   |   |   |   |   |   |                    |    |    |    |   |   |   |   |   |
| Leakage Current              | Initial specified value or less                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                    |      |      |      |      |      |      |      |      |                      |                                                                                                                               |   |     |    |    |    |    |    |    |     |                              |                                            |                    |      |      |      |      |      |      |      |      |                    |                                 |      |      |      |      |      |      |      |             |                    |   |   |   |   |   |   |   |   |                    |    |    |    |   |   |   |   |   |
| Applicable Standards         | JIS C-5141 and JIS C-5102                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                    |      |      |      |      |      |      |      |      |                      |                                                                                                                               |   |     |    |    |    |    |    |    |     |                              |                                            |                    |      |      |      |      |      |      |      |      |                    |                                 |      |      |      |      |      |      |      |             |                    |   |   |   |   |   |   |   |   |                    |    |    |    |   |   |   |   |   |

### ◆ Dimensions & Marking



# Aluminum Electrolytic Capacitor



- 1 Voltage mark 6V represents 6.3V for  $\Phi 4 \sim \Phi 10$       2  $L \pm 0.3$  is applicable to  $\Phi 6.3 \times 7.7$  and  $\Phi 8 \times 6.2$   
 3  $L \pm 0.5$  is applicable to  $\Phi 8 \times 10.5 \sim \Phi 10$       4  $L \pm 1.0$  is applicable to  $\Phi 12.5 \sim \Phi 16$ .  
 Re Date code and series type — 1<sup>st</sup> digit for year 2<sup>nd</sup> digit for quarter 4 quarter codes in one year are 1 4 7 0  
 3<sup>rd</sup> character for Series HT Series T

(mm)

| D×L       | $\Phi 4 \times 5.4$ | $\Phi 5 \times 5.4$ | $\Phi 6.3 \times 5.4$ | $\Phi 6.3 \times 7.7$ | $\Phi 8 \times 6.2$ | $\Phi 8 \times 10.5$ | $\Phi 10 \times 10.5$ | $\Phi 10 \times 13.5$ | $\Phi 12.5 \times 13.5$ | $\Phi 12.5 \times 16$ | $\Phi 16 \times 16.5$ |
|-----------|---------------------|---------------------|-----------------------|-----------------------|---------------------|----------------------|-----------------------|-----------------------|-------------------------|-----------------------|-----------------------|
| A         | 1.8                 | 2.1                 | 2.4                   | 2.4                   | 3.3                 | 2.                   | 3.2                   | 3.2                   | 4.7                     | 4.7                   | 5.5                   |
| B         | 4.3                 | 5.3                 | 6.6                   | 6.6                   | 8.3                 | 8.3                  | 10.3                  | 10.3                  | 12.8                    | 12.8                  | 16.3                  |
| C         | 4.3                 | 5.3                 | 6.6                   | 6.6                   | 8.3                 | 8.3                  | 10.3                  | 10.3                  | 12.8                    | 12.8                  | 16.3                  |
| E         | 1.0                 | 1.3                 | 2.2                   | 2.2                   | 2.2                 | 3.1                  | 4.4                   | 4.4                   | 4.4                     | 4.4                   | 6.7                   |
| $\pm 0.2$ |                     |                     |                       |                       |                     |                      |                       |                       |                         |                       |                       |
| L         | 5.4                 | 5.4                 | 5.4                   | 7.7                   | 6.2                 | 10.5                 | 10.5                  | 13.5                  | 13.5                    | 16.0                  | 16.5                  |

## ◆ Standard size & Maximum permissible ripple current

| WV              |     | 4                    |              | 6.3                    |              | 10                  |              | 16                                  |                       | 25                  |                |
|-----------------|-----|----------------------|--------------|------------------------|--------------|---------------------|--------------|-------------------------------------|-----------------------|---------------------|----------------|
| Cap.( $\mu F$ ) |     | 0G                   |              | 0J                     |              | 1A                  |              | 1C                                  |                       | 1E                  |                |
| 4.7             | 4R7 |                      |              |                        |              |                     |              |                                     |                       | 4×5.4               | 13             |
| 10              | 100 |                      |              |                        |              |                     |              | 4×5.4                               | 18                    | 5×5.4<br>(4×5.4)    | 20<br>(14)     |
| 22              | 220 |                      |              | 4×5.4                  | 22           | 5×5.4<br>(4×5.4)    | 25<br>(20)   | 5×5.4<br>(4×5.4)                    | 27<br>(20)            | 6.3×5.4<br>(5×5.4)  | 36<br>(25)     |
| 33              | 330 | 5×5.4<br>(4×5.4)     | 30<br>(18)   | 5×5.4<br>(4×5.4)       | 27<br>(22)   | 5×5.4<br>(4×5.4)    | 30<br>(22)   | 6.3×5.4<br>(5×5.4)                  | 40<br>(28)            | 6.3×5.4<br>(5×5.4)  | 44<br>(29)     |
| 47              | 470 | 5×5.4<br>(4×5.4)     | 36<br>(24)   | 5×5.4<br>(4×5.4)       | 33<br>(25)   | 6.3×5.4<br>(5×5.4)  | 41<br>(30)   | 6.3×5.4<br>(5×5.4)                  | 48<br>(31)            | 6.3×5.4<br>(8×6.2)  | 48<br>(91)     |
| 100             | 101 | 6.3×5.4<br>(5×5.4)   | 60<br>(43)   | 6.3×5.4<br>(5×5.4)     | 50<br>(3 )   | 6.3×5.4<br>(8×6.2)  | 53<br>(110)  | 6.3×5.4<br>(8×6.2)                  | 60<br>(120)           | 6.3×7.7             | 91             |
| 150             | 151 | 6.3×5.4              | 52           | 6.3×5.4                | 55           | 6.3×5.4             | 62           | 6.3×7.7                             | 95                    | 8×10.5<br>(6.3×7.7) | 140<br>(100)   |
| 220             | 221 | 6.3×5.4              | 57           | 6.3×7.7<br>(6.3×5.4)   | 105<br>(67)  | 6.3×7.7<br>(8×6.2)  | 105<br>(105) | 8×10.5<br>(6.3×7.7)<br>(8×6.2)      | 150<br>(105)<br>(85)  | 8×10.5              | 175            |
| 330             | 331 | 6.3×7.7              | 100          | 6.3×7.7                | 105          | 8×10.5              | 196          | 8×10.5                              | 195                   | 10×10.5<br>(8×10.5) | 240<br>(220)   |
| 470             | 471 | 6.3×7.7              | 105          | 8×10.5<br>(6.3×7.7)    | 210<br>(120) | 10×10.5<br>(8×10.5) | 260<br>(210) | 10×10.5<br>(8×10.5)                 | 2 5<br>(230)          | 10×10.5             | 280            |
| 680             | 681 | 8×10.5               | 210          | 8×10.5                 | 210          | 10×10.5             | 270          | 10×10.5                             | 315                   | 10×13.5             | 400            |
| 1000            | 102 | 8×10.5               | 230          | 10×10.5<br>(8×10.5)    | 300<br>(230) | 10×10.5             | 315          | 12.5×13.5<br>(10×13.5)<br>(10×10.5) | 500<br>(3 0)<br>(340) | 12.5×13.5           | 580            |
| 1500            | 152 | 10×10.5              | 315          | 10×13.5<br>(10×10.5)   | 450<br>(315) | 10×13.5             | 460          | 12.5×13.5                           | 550                   | 12.5×16             | 850            |
| 2200            | 222 | 10×13.5<br>(10×10.5) | 440<br>(340) | 12.5×13.5<br>(10×13.5) | 620<br>(500) | 12.5×13.5           | 680          | 16×16.5<br>(12.5×16)                | 950<br>(750)          | 16×16.5             | 1050           |
| 3300            | 332 | 10×13.5              | 490          | 12.5×16<br>(12.5×13.5) | 700<br>(660) | 16×16.5             | 1000         | 16×16.5                             | 1000                  |                     |                |
| 4700            | 472 | 12.5×13.5            | 600          | 16×16.5                | 1000         |                     |              |                                     |                       |                     |                |
| 6800            | 682 | 16×16.5<br>(12.5×16) | 950<br>(650) |                        |              |                     |              |                                     |                       | Case Size           | Ripple Current |

Ripple Current (mA rms) at 105℃ 120Hz

## Aluminum Electrolytic Capacitor

### ◆ Standard size & Maximum permissible ripple current

| WV<br>Cap.( $\mu$ F) |     | 35<br>1V                            |                       | 50<br>1H                            |                       | 63<br>1J                            |                       | 100<br>2A                           |                       |
|----------------------|-----|-------------------------------------|-----------------------|-------------------------------------|-----------------------|-------------------------------------|-----------------------|-------------------------------------|-----------------------|
| 0.1                  | 0R1 |                                     |                       | 4×5.4                               | 0.7                   | 4×5.4                               | 0.7                   |                                     |                       |
| 0.22                 | R22 |                                     |                       | 4×5.4                               | 1.6                   | 4×5.4                               | 1.6                   |                                     |                       |
| 0.33                 | R33 |                                     |                       | 4×5.4                               | 2.5                   | 4×5.4                               | 2.5                   |                                     |                       |
| 0.47                 | R47 |                                     |                       | 4×5.4                               | 3.5                   | 4×5.4                               | 3.5                   |                                     |                       |
| 1                    | 010 |                                     |                       | 4×5.4                               | 7                     | 4×5.4                               | 7                     | 4×5.4                               | 7                     |
| 2.2                  | 2R2 |                                     |                       | 4×5.4                               | 11                    | 4×5.4                               | 11                    | 6.3×5.4                             | 14                    |
| 3.3                  | 3R3 | 4×5.4                               | 13                    | 4×5.4                               | 13                    | 5×5.4                               | 13                    | 6.3×7.7<br>(6.3×5.4)<br>(8×6.2)     | 32<br>(20)<br>(30)    |
| 4.7                  | 4R7 | 4×5.4                               | 14                    | 5×5.4<br>(4×5.4)                    | 16<br>(13)            | 5×5.4                               | 16                    | 6.3×7.7<br>(6.3×5.4)                | 35<br>(21)            |
| 10                   | 100 | 5×5.4<br>(4×5.4)                    | 21<br>(14)            | 6.3×5.4                             | 24                    | 6.3×7.7<br>(6.3×5.4)<br>(8×6.2)     | 30<br>(24)<br>(25)    | 8×10.5<br>(6.3×7.7)                 | 77<br>(35)            |
| 22                   | 220 | 6.3×5.4                             | 38                    | 6.3×7.7<br>(6.3×5.4)<br>(8×6.2)     | 51<br>(42)<br>(70)    | 8×10.5<br>(6.3×7.7)                 | 98<br>(49)            | 10×10.5<br>(8×10.5)                 | 126<br>(84)           |
| 33                   | 330 | 6.3×5.4<br>(8×6.2)                  | 42<br>(84)            | 6.3×7.7                             | 60                    | 8×10.5                              | 112                   | 10×10.5                             | 133                   |
| 47                   | 470 | 6.3×7.7<br>(6.3×5.4)                | 70<br>(50)            | 8×10.5<br>(6.3×7.7)                 | 120<br>(63)           | 10×10.5<br>(8×10.5)                 | 160<br>(119)          | 12.5×13.5<br>(10×13.5)<br>(10×10.5) | 250<br>(160)<br>(140) |
| 68                   | 680 |                                     |                       |                                     |                       |                                     |                       | 12.5×13.5<br>(10×13.5)              | 300<br>(180)          |
| 100                  | 101 | 8×10.5<br>(6.3×7.7)                 | 120<br>(84)           | 10×10.5<br>(8×10.5)                 | 170<br>(140)          | 12.5×13.5<br>(10×13.5)<br>(10×10.5) | 270<br>(210)<br>(196) | 16×16.5<br>(12.5×13.5)              | 450<br>(380)          |
| 150                  | 151 | 8×10.5                              | 155                   | 10×10.5                             | 170                   | 10×13.5                             | 225                   |                                     |                       |
| 220                  | 221 | 10×10.5<br>(8×10.5)                 | 220<br>(190)          | 10×13.5<br>(10×10.5)                | 280<br>(220)          | 16×16.5<br>(12.5×13.5)<br>(10×13.5) | 560<br>(470)<br>(235) | 16×16.5                             | 550                   |
| 330                  | 331 | 10×10.5                             | 245                   | 16×16.5<br>(12.5×13.5)<br>(10×13.5) | 600<br>(420)<br>(295) | 16×16.5<br>(12.5×16)                | 700<br>(510)          |                                     |                       |
| 470                  | 471 | 12.5×13.5<br>(10×13.5)<br>(10×10.5) | 520<br>(375)<br>(280) | 16×16.5<br>(12.5×16)                | 700<br>(520)          | 16×16.5                             | 750                   |                                     |                       |
| 680                  | 681 | 12.5×13.5<br>(10×13.5)              | 530<br>(395)          | 16×16.5                             | 750                   |                                     |                       |                                     |                       |
| 1000                 | 102 | 16×16.5<br>(12.5×16)                | 750<br>(600)          |                                     |                       |                                     |                       | Case Size                           | Ripple Current        |

Ripple Current (mA rms) at 105℃ 120Hz z

### ◆ Frequency Correction Factor of Rated Ripple Current

| Frequency<br>Capacitance ( $\mu$ F) |           | 50Hz | 120Hz | 300Hz | 1kHz | 10kHz~ |
|-------------------------------------|-----------|------|-------|-------|------|--------|
| Φ4~Φ10                              | 0.1~68    | 0.70 | 1.00  | 1.17  | 1.36 | 1.50   |
|                                     | 100~3300  | 0.85 | 1.00  | 1.08  | 1.20 | 1.30   |
| Φ12.5~<br>Φ16                       | ~68       | 0.75 | 1.00  | 1.35  | 1.57 | 2.00   |
|                                     | 100~680   | 0.80 | 1.00  | 1.23  | 1.34 | 1.50   |
|                                     | 1000~6800 | 0.85 | 1.00  | 1.10  | 1.13 | 1.15   |