

# CONDUCTIVE POLYMER HYBRID ALUMINUM ELECTROLYTIC CAPACITORS

**YT** Chip type, Ultra High Temperature Series

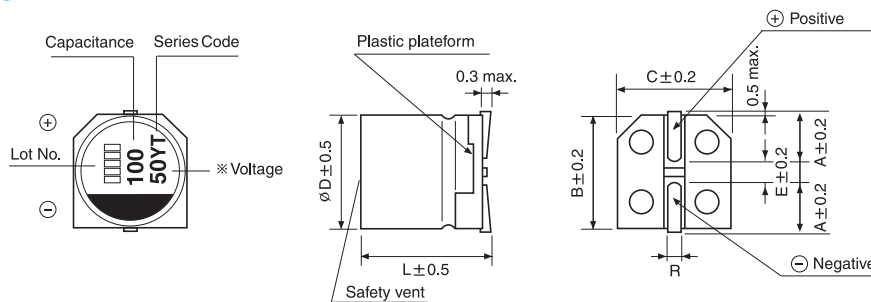


- High temperature range, for 150°C use
- Complied to the RoHS directive

| Item  | Characteristics  |                                       |     |      |    |    |              |      |      |     |      |
|---|--|---------------------------------------|-----|------|----|----|--------------|------|------|-----|------|
| Operating temperature range                                 | -55 ~ +150°C   |                                       |     |      |    |    |              |      |      |     |      |
| Leakage current max.  | $I = 0.01CV$ or $3\mu A$ whichever is greater (after 2 minutes)  |                                       |     |      |    |    |              |      |      |     |      |
| Capacitance tolerance                                       | $\pm 20\%$ at 120Hz, 20°C  |                                       |     |      |    |    |              |      |      |     |      |
| Dissipation factor max. (at 120Hz, 20°C)                    | <table border="1"> <tr> <td>WV</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> </tr> <tr> <td>tan<math>\delta</math></td> <td>0.14</td> <td>0.12</td> <td>0.1</td> <td>0.08</td> </tr> </table>                                   | WV                                    | 25  | 35   | 50 | 63 | tan $\delta$ | 0.14 | 0.12 | 0.1 | 0.08 |
|   | WV   | 25                                    | 35  | 50   | 63 |    |              |      |      |     |      |
| tan $\delta$  | 0.14   | 0.12                                  | 0.1 | 0.08 |    |    |              |      |      |     |      |
| Low temperature characteristics (Impedance ratio at 100kHz) | $Z(-25^\circ C) / Z(+20^\circ C) \leq 1.5$<br>$Z(-55^\circ C) / Z(+20^\circ C) \leq 2.0$   |                                       |     |      |    |    |              |      |      |     |      |
| Load life   | After an application of DC bias voltage plus the rated AC ripple current for 1000 hours at 150°C. The measurement shall meet the following limits. The DC voltage plus the peak AC voltage combined must not exceed the rated voltage. |                                       |     |      |    |    |              |      |      |     |      |
|   | Capacitance change   | Within $\pm 30\%$ of initial value    |     |      |    |    |              |      |      |     |      |
|   | tan $\delta$   | Less than 200% of the specified value |     |      |    |    |              |      |      |     |      |
|   | ESR  | Less than 200% of the specified value |     |      |    |    |              |      |      |     |      |
|   | Leakage current  | Less than specified value             |     |      |    |    |              |      |      |     |      |
| Shelf life (at 150°C)                                       | After 1000 hours no load test, leakage current, capacitance and tan $\delta$ are same as load life value. The measurement shall be performed at 20°C by the KS C IEC 60384 - 4   |                                       |     |      |    |    |              |      |      |     |      |
| Resistance to soldering heat                                | The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them at 250°C for 10 seconds.  |                                       |     |      |    |    |              |      |      |     |      |
|   | Leakage current  | Less than specified value             |     |      |    |    |              |      |      |     |      |
|   | Capacitance change   | Within $\pm 10\%$ of initial value    |     |      |    |    |              |      |      |     |      |
|   | tan $\delta$   | Less than specified value             |     |      |    |    |              |      |      |     |      |

## DRAWING

Unit : mm



| $\varnothing D \times L$ | A   | B    | C    | E   | R       |
|--------------------------|-----|------|------|-----|---------|
| 6.3×7.7                  | 2.4 | 6.6  | 6.6  | 2.2 | 0.5~0.8 |
| 8×10                     | 2.9 | 8.3  | 8.3  | 3.1 | 0.8~1.1 |
| 10×10                    | 3.2 | 10.3 | 10.3 | 4.5 | 0.8~1.1 |

## DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT

| $\mu F$ | WV      | 25 |     | 35      |    |     | 50      |    |     | 63      |    |     |
|---------|---------|----|-----|---------|----|-----|---------|----|-----|---------|----|-----|
| 15      |         |    |     |         |    |     |         |    |     |         |    |     |
| 22      |         |    |     |         |    |     | 6.3×7.7 | 80 | 410 | 6.3×7.7 | 80 | 410 |
| 33      |         |    |     |         |    |     |         |    |     | 8×10    | 40 | 610 |
| 47      |         |    |     | 6.3×7.7 | 60 | 510 |         |    |     |         |    |     |
| 56      |         |    |     |         |    |     | 8×10    | 35 | 660 | 10×10   | 30 | 710 |
| 68      | 6.3×7.7 | 45 | 540 |         |    |     |         |    |     |         |    |     |
| 100     |         |    |     | 8×10    | 30 | 710 | 10×10   | 28 | 780 |         |    |     |
| 150     | 8×10    | 27 | 740 | 10×10   | 23 | 830 |         |    |     |         |    |     |
| 270     | 10×10   | 22 | 850 |         |    |     |         |    |     |         |    |     |

Ripple current (mA rms) at 150°C, 100kHz  
 ESR ( $\Omega$ ) at 20°C, 100kHz  
 Case size  $\varnothing D \times L$ (mm)

## FREQUENCY COEFFICIENT OF PERMISSIBLE RIPPLE CURRENT

| Frequency   | 120Hz | 1kHz | 10kHz | 100kHz |
|-------------|-------|------|-------|--------|
| Coefficient | 0.05  | 0.30 | 0.70  | 1.00   |