

SURFACE MOUNT ALUMINUM ELECTROLYTIC CAPACITORS



UPGRADE

SC Chip type, Standard Series

S
Solvent Proof
WV ≤ 100V



- Chip type higher capacitance in larger case size
- Designed for surface mounting on high density PC board
- Applicable to automatic insertion machine using carrier tape
- Complied to the RoHS directive



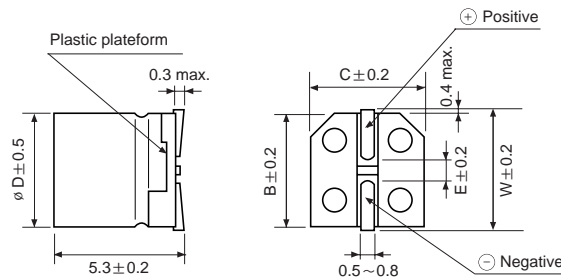
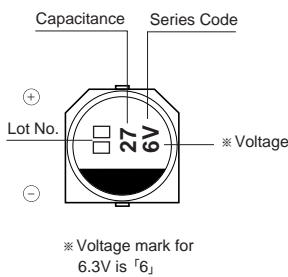
| Item | Characteristics | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|--|----------------|----------------|----------------|----------------|----------------|----------------|-----------|-----------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---|---|---------------|----|----|---|---|---|---|---|----|
| Operating temperature range | -40 ~ +85°C | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Leakage current max. | WV ≤ 100 I = 0.01CV or 3μA whichever is greater (after 2 minutes) WV ≥ 160 I = 0.04CV + 100μA(after 1 minutes) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Capacitance tolerance | ±20% at 120Hz, 20°C | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dissipation factor max. (at 120Hz, 20°C) | <table border="1"> <tr> <td>WV</td> <td>4</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> </tr> <tr> <td>tanδ</td> <td>0.35 (0.40)</td> <td>0.28 (0.35)</td> <td>0.20 (0.24)</td> <td>0.16 (0.20)</td> <td>0.13 (0.16)</td> <td>0.12 (0.15)</td> <td>0.09 (0.12)</td> </tr> </table> | WV | 4 | 6.3 | 10 | 16 | 25 | 35 | 50 | tanδ | 0.35 (0.40) | 0.28 (0.35) | 0.20 (0.24) | 0.16 (0.20) | 0.13 (0.16) | 0.12 (0.15) | 0.09 (0.12) | | | | | | | | | | | |
| | WV | 4 | 6.3 | 10 | 16 | 25 | 35 | 50 | | | | | | | | | | | | | | | | | | | | |
| | tanδ | 0.35 (0.40) | 0.28 (0.35) | 0.20 (0.24) | 0.16 (0.20) | 0.13 (0.16) | 0.12 (0.15) | 0.09 (0.12) | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <tr> <td>WV</td> <td>63</td> <td>100</td> <td>160</td> <td>200</td> <td>250</td> <td>400</td> <td>450</td> </tr> <tr> <td>tanδ</td> <td>0.12</td> <td>0.12</td> <td>0.20</td> <td>0.20</td> <td>0.20</td> <td>0.25</td> <td>0.25</td> </tr> </table> | WV | 63 | 100 | 160 | 200 | 250 | 400 | 450 | tanδ | 0.12 | 0.12 | 0.20 | 0.20 | 0.20 | 0.25 | 0.25 | | | | | | | | | | | | |
| WV | 63 | 100 | 160 | 200 | 250 | 400 | 450 | | | | | | | | | | | | | | | | | | | | | |
| tanδ | 0.12 | 0.12 | 0.20 | 0.20 | 0.20 | 0.25 | 0.25 | | | | | | | | | | | | | | | | | | | | | |
| Figures in() are for small size, over the 6.3 × 5.8(φ D × L) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Low temperature characteristics (Impedance ratio at 120Hz) | <table border="1"> <tr> <td>WV</td> <td>4</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35 ~ 100</td> <td>160 ~ 250</td> <td>400 ~ 450</td> </tr> <tr> <td>Z-25°C/Z+20°C</td> <td>6</td> <td>5</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>3</td> <td>6</td> </tr> <tr> <td>Z-40°C/Z+20°C</td> <td>12</td> <td>10</td> <td>8</td> <td>6</td> <td>4</td> <td>3</td> <td>6</td> <td>10</td> </tr> </table> | WV | 4 | 6.3 | 10 | 16 | 25 | 35 ~ 100 | 160 ~ 250 | 400 ~ 450 | Z-25°C/Z+20°C | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 6 | Z-40°C/Z+20°C | 12 | 10 | 8 | 6 | 4 | 3 | 6 | 10 |
| | WV | 4 | 6.3 | 10 | 16 | 25 | 35 ~ 100 | 160 ~ 250 | 400 ~ 450 | | | | | | | | | | | | | | | | | | | |
| | Z-25°C/Z+20°C | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 6 | | | | | | | | | | | | | | | | | | | |
| Z-40°C/Z+20°C | 12 | 10 | 8 | 6 | 4 | 3 | 6 | 10 | | | | | | | | | | | | | | | | | | | | |
| Load life (after application of the rated voltage for 2000 hours at 85°C) | Leakage current | Less than specified value | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Capacitance change | Within ±20% of initial value (Small size : ±25%) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | tanδ | Less than 200% of specified value | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Shelf life (at 85°C) | After 1000 hours no load test, leakage current, capacitance and tanδ are same as load life value. | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 30 seconds. | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Leakage current | Less than specified value | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Capacitance change | Within ±10% of initial value | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | tanδ | Less than specified value | | | | | | | | | | | | | | | | | | | | | | | | | | |

CHIP TYPES

DRAWING

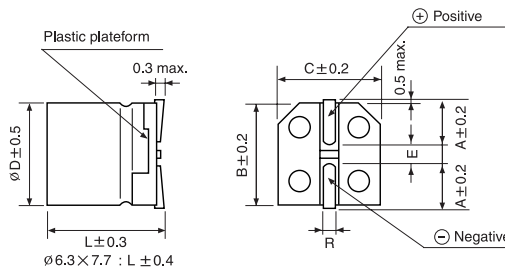
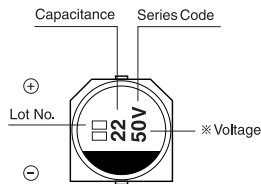
Unit : mm

(φ 4, φ 5, φ 6.3 × 5.3mmL)

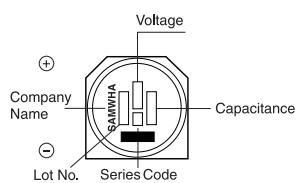


| φ D × L | W | A | B | C | E | R |
|-------------|-----|-----|------|------|-----|---------|
| 4 × 5.3 | 4.8 | | 4.3 | 4.3 | 1.0 | 0.5~0.8 |
| 5 × 5.3 | 6.0 | | 5.3 | 5.3 | 1.4 | 0.5~0.8 |
| 6.3 × 5.3 | 7.1 | | 6.6 | 6.6 | 2.2 | 0.5~0.8 |
| 6.3 × 5.8 | | 2.4 | 6.6 | 6.6 | 2.2 | 0.5~0.8 |
| 6.3 × 7.7 | | 2.4 | 6.6 | 6.6 | 2.2 | 0.5~0.8 |
| 8 × 6.2 | | 3.3 | 8.3 | 8.3 | 2.3 | 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 |
| 12.5 × 13.5 | | 4.6 | 12.8 | 12.8 | 4.5 | 1.1~1.4 |

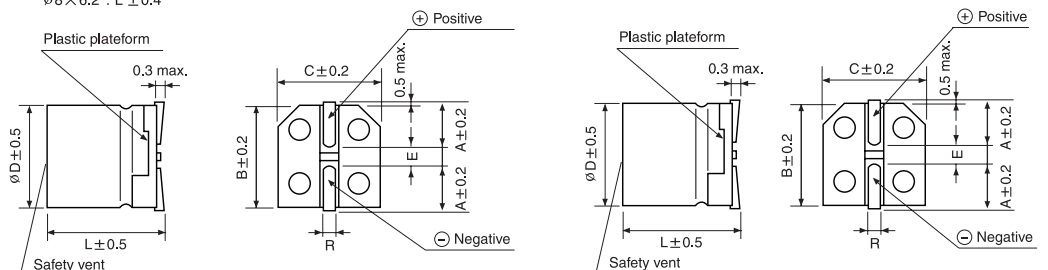
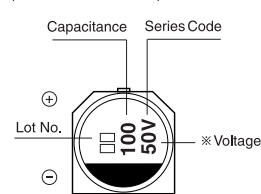
(φ 6.3, φ 8 × 6.2)



(φ 12.5 × 13.5mmL)



(φ 8 × 10, φ 10 × 10)



SURFACE MOUNT ALUMINUM ELECTROLYTIC CAPACITORS



● DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT

| μF \ WV | 4 | | 6.3 | | 10 | | 16 | | 25 | | 35 | | 50 | | |
|---------|---------|----|-----------|-----|-----------|-----|-----------|-------|-----------|-------|-----------|-------|-----------|-------|----|
| | | | | | | | | | | | | | | | |
| 0.1 | | | | | | | | | | | | | 3×5.3 | 2.4 | |
| | | | | | | | | | | | | | 4×5.3 | 3.2 | |
| 0.22 | | | | | | | | | | | | | 3×5.3 | 3.5 | |
| | | | | | | | | | | | | | 4×5.3 | 4.7 | |
| 0.33 | | | | | | | | | | | | | 3×5.3 | 4.3 | |
| | | | | | | | | | | | | | 4×5.3 | 5.7 | |
| 0.47 | | | | | | | | | | | | | 3×5.3 | 5.2 | |
| | | | | | | | | | | | | | 4×5.3 | 6.8 | |
| 1.0 | | | | | | | | | | | | | 3×5.3 | 7.5 | |
| | | | | | | | | | | | | | 4×5.3 | 10 | |
| 2.2 | | | | | | | | | | | | 3×5.3 | 10 | | |
| | | | | | | | | | | | | 4×5.3 | 11 | 4×5.3 | 15 |
| 3.3 | | | | | | | | | | 3×5.3 | 12 | | | | |
| | | | | | | | | | | 4×5.3 | 15 | 4×5.3 | 16 | 4×5.3 | 18 |
| 4.7 | | | | | | | | 3×5.3 | 13 | | | | | 4×5.3 | 24 |
| | | | | | | | | 4×5.3 | 16 | 4×5.3 | 18 | 4×5.3 | 19 | 5×5.3 | 25 |
| 10 | 3×5.3 | 13 | 3×5.3 | 16 | 4×5.3 | 21 | 4×5.3 | 21 | 4×5.3 | 24 | 4×5.3 | 27 | 5×5.3 | 41 | |
| | 4×5.3 | 16 | 4×5.3 | 19 | | | | | 5×5.3 | 30 | 5×5.3 | 32 | 6.3×5.3 | 43 | |
| 22 | 3×5.3 | 19 | 4×5.3 | 29 | 4×5.3 | 28 | 4×5.3 | 30 | 5×5.3 | 41 | 6.3×5.3 | 55 | 6.3×5.3 | 71 | |
| | 4×5.3 | 24 | | | 5×5.3 | 36 | 5×5.3 | 41 | 6.3×5.3 | 53 | | | 6.3×5.8 | 73 | |
| 33 | 4×5.3 | 29 | 4×5.3 | 30 | 4×5.3 | 34 | 5×5.3 | 43 | 5×5.3 | 50 | 6.3×5.3 | 65 | 6.3×5.8 | 94 | |
| | | | 5×5.3 | 41 | 5×5.3 | 44 | 6.3×5.3 | 58 | 6.3×5.3 | 64 | 6.3×5.3 | 67 | 8×6.2 | 95 | |
| 47 | 4×5.3 | 35 | 4×5.3 | 36 | 5×5.3 | 47 | 5×5.3 | 52 | 6.3×5.3 | 70 | 6.3×7.7 | 94 | 6.3×7.7 | 105 | |
| | | | 5×5.3 | 48 | 6.3×5.3 | 62 | 6.3×5.3 | 69 | 6.3×5.8 | 72 | 8×6.2 | 105 | 8×10 | 140 | |
| 100 | 5×5.3 | 54 | 5×5.3 | 60 | 6.3×5.3 | 80 | 6.3×5.3 | 88 | 8×6.2 | 145 | 6.3×7.7 | 132 | 8×10 | 181 | |
| | 6.3×5.3 | 68 | 6.3×5.8 | 82 | 6.3×5.8 | 82 | 6.3×5.8 | 91 | | | 8×10 | 175 | 10×10 | 195 | |
| 220 | 6.3×5.3 | 93 | 6.3×5.8 | 91 | 6.3×7.7 | 173 | 6.3×7.7 | 162 | 8×10 | 232 | 10×10 | 265 | 10×10 | 320 | |
| | | | | | 8×6.2 | 175 | 8×10 | 215 | 10×10 | 250 | | | | | |
| 330 | | | 6.3×7.7 | 188 | 8×10 | 240 | 8×10 | 270 | 10×10 | 305 | 10×10 | 360 | 12.5×13.5 | 600 | |
| | | | 8×6.2 | 190 | | | | | | | | | | | |
| 470 | | | 8×10 | 265 | 8×10 | 290 | 8×10 | 307 | 10×10 | 400 | 12.5×13.5 | 600 | | | |
| | | | | | | | 10×10 | 330 | | | | | | | |
| 1000 | | | 8×10 | 370 | 10×10 | 454 | 12.5×13.5 | 710 | 12.5×13.5 | 820 | | | | | |
| | | | 10×10 | 400 | | | | | | | | | | | |
| 1500 | | | 10×10 | 480 | 12.5×13.5 | 850 | | | | | | | | | |
| 2200 | | | 12.5×13.5 | 890 | 12.5×13.5 | 960 | | | | | | | | | |

| μF \ WV | 63 | | 100 | | 160 | | 200 | | 250 | | 400 | | 450 | | |
|---------|-----------|-----|-----------|-----|-------------------------|-----|--|-----|-----------|-----|-----------|-----|-----------|-----|--|
| | | | | | | | | | | | | | | | |
| 2.2 | | | | | | | | | | | | | 10×10 | 85 | |
| 3.3 | | | 6.3×5.8 | 29 | | | | | | | 10×10 | 90 | 10×10 | 100 | |
| 4.7 | 6.3×5.8 | 31 | 6.3×5.8 | 35 | | | 10×10 | 100 | 10×10 | 100 | 12.5×13.5 | 115 | 12.5×13.5 | 115 | |
| | | | 8×6.2 | 40 | | | | | | | | | | | |
| 10 | 8×5.8 | 46 | 8×10 | 77 | 10×10 | 100 | 12.5×13.5 | 150 | 12.5×13.5 | 150 | | | | | |
| 22 | 8×6.2 | 96 | 8×10 | 100 | 12.5×13.5 | 240 | 12.5×13.5 | 260 | | | | | | | |
| 33 | 8×10 | 117 | 10×10 | 130 | 12.5×13.5 | 260 | ← Ripple current (mA rms) at 85°C, 120Hz | | | | | | | | |
| 47 | 10×10 | 140 | 10×10 | 155 | —— Case size ∅ D×L (mm) | | | | | | | | | | |
| 68 | 10×10 | 160 | 12.5×13.5 | 350 | | | | | | | | | | | |
| 100 | 12.5×13.5 | 370 | | | | | | | | | | | | | |