

# SURFACE MOUNT CONDUCTIVE POLYMER ALUMINUM SOLID CAPACITORS

# VS

Long life and Ultra low ESR

- Features: 105℃, 5000hrs, Long life and Ultra low ESR
- Recommended Applications: Motherboard, DC/DC Converter , Adapter , SPS , VCR , camcorder , DSC , PDA, HD Drive , MO Drive , DVD Drive, Navigation system, Portable Communication Devices
- Corresponding product to RoHS



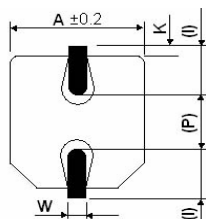
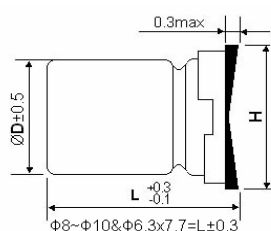
## Specifications

| Item                                                      | Characteristics                                                                                               |                                                   |
|-----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| Category Temperature Range                                | -55 ~ +105℃                                                                                                   |                                                   |
| Rated Voltage Range                                       | 4 ~ 16VDC                                                                                                     |                                                   |
| Rated Capacitance Range                                   | 39 ~ 330 $\mu$ F                                                                                              |                                                   |
| Capacitance Tolerance                                     | $\pm 20\%$ at 120Hz , 20℃                                                                                     |                                                   |
| Surge Voltage                                             | Rated voltage (V) x 1.15                                                                                      |                                                   |
| Leakage Current (MAX) (20℃)                               | Less than or equal to the value of Table.(After rated voltage applied for 2 minutes at 20℃ )                  |                                                   |
| Dissipation Factor (MAX)<br>(tan $\delta$ ) (120Hz , 20℃) | WV                                                                                                            | 4 ~ 16V                                           |
|                                                           | tan $\delta$                                                                                                  | 0.12                                              |
| Low Temperature Stability<br>Impedance Ratio (MAX) (20℃)  | WV                                                                                                            | 4 ~ 16V                                           |
|                                                           | Z(100KHz)                                                                                                     |                                                   |
|                                                           | Z-25℃ / Z+20℃                                                                                                 | $\leq 1.15$                                       |
|                                                           | Z-55℃ / Z+20℃                                                                                                 | $\leq 1.25$                                       |
| Endurance                                                 | After applying rated voltage for 5000 hours at 105℃ , the capacitor shall meet the following requirement.     |                                                   |
|                                                           | Appearance                                                                                                    | No significant damage                             |
|                                                           | Capacitance Change                                                                                            | Within $\pm 20\%$ of the initial value            |
|                                                           | Dissipation Factor                                                                                            | Not more than 150% of the initial specified value |
|                                                           | Equivalent Series Resistance                                                                                  | Not more than 150% of the initial specified value |
|                                                           | Leakage Current                                                                                               | Not more than the initial specified value         |
|                                                           | WV                                                                                                            | 2.5 ~ 16V                                         |
|                                                           | Life                                                                                                          | 5000                                              |
| Humidity Test                                             | after subjecting 90 to 95% RH for 1000 hours at 60℃ . the capacitors shall meet the requirement as Endurance. |                                                   |
| Resistance to Soldering Heat *                            | Capacitance Change                                                                                            | Within $\pm 10\%$ of the initial value            |
|                                                           | Dissipation Factor                                                                                            | Not more than 130% of the initial specified value |
|                                                           | Equivalent Series Resistance                                                                                  | Not more than 130% of the initial specified value |
|                                                           | Leakage Current                                                                                               | Not more than the initial specified value         |

\*For any doubt about measured values, measure the leakage current again after the following voltage treatment.

Voltage treatment: Applying DC rated voltage to the capacitors for 2 hours at 105 oC.

## Diagram of Dimensions



| ΦD  | L    | A    | H        | I   | W         | P       | K         |               |
|-----|------|------|----------|-----|-----------|---------|-----------|---------------|
| 6.3 | 5.8  | 6.6  | 7.8 Max  | 2.6 | 0.65±0.15 | 1.8±0.2 | 0.35      | +0.15<br>-0.2 |
| 8   | 10.4 | 8.3  | 10.0 Max | 3.4 | 0.90±0.2  | 3.1±0.2 | 0.70±0.20 |               |
| 10  | 12.2 | 10.3 | 12.0 Max | 3.5 | 0.90±0.2  | 4.6±0.2 | 0.70±0.20 |               |

## Multiplier for Ripple Current

| Frequency (Hz) | 120≤F<1K | 1K≤F<10K | 10K≤F<100K | 100K≤F≤500K |
|----------------|----------|----------|------------|-------------|
| Coefficient    | 0.05     | 0.3      | 0.7        | 1           |

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## ■ Dimensions, Rated Ripple Current, Equivalent Series Resistance

| Capacitance<br>( $\mu$ F) | Rated Voltage |        |     |                       |         |        |     |                       |
|---------------------------|---------------|--------|-----|-----------------------|---------|--------|-----|-----------------------|
|                           | 4V            |        |     |                       | 6.3V    |        |     |                       |
|                           | SIZE          | RIPPLE | ESR | LC( $\mu$ A max/2min) | SIZE    | RIPPLE | ESR | LC( $\mu$ A max/2min) |
| 100                       |               |        |     |                       | 6.3x5.8 | 2800   | 22  | 300                   |
| 120                       |               |        |     |                       | 6.3x5.8 | 2800   | 22  | 300                   |
| 150                       | 6.3x5.8       | 2570   | 22  | 300                   |         |        |     |                       |
| 220                       |               |        |     |                       | 6.3x5.8 | 2800   | 20  | 277                   |
| 330                       | 6.3x5.8       | 2800   | 20  | 264                   |         |        |     |                       |

| Capacitance<br>( $\mu$ F) | Rated Voltage |        |     |                       |         |        |     |                       |
|---------------------------|---------------|--------|-----|-----------------------|---------|--------|-----|-----------------------|
|                           | 10V           |        |     |                       | 16V     |        |     |                       |
|                           | SIZE          | RIPPLE | ESR | LC( $\mu$ A max/2min) | SIZE    | RIPPLE | ESR | LC( $\mu$ A max/2min) |
| 39                        |               |        |     |                       | 6.3x5.8 | 2200   | 30  | 300                   |
| 56                        | 6.3x5.8       | 2300   | 27  | 300                   |         |        |     |                       |
| 68                        | 6.3x5.8       | 2300   | 27  | 300                   | 6.3x5.8 | 2200   | 30  | 300                   |
| 120                       | 6.3x5.8       | 2300   | 27  | 300                   |         |        |     |                       |
| 330                       |               |        |     |                       | 10x12.2 | 3800   | 14  | 1056                  |
| 470                       | 8x10.4        | 3000   | 22  | 940                   |         |        |     |                       |

☆ SIZE :  $\phi$  DxL(mm) ☆  $\tan \delta$  : 20℃, 120Hz. ☆ Ripple Current: (mA/rms), 105℃ . 100KHz ☆ ESR(m $\Omega$ ). 20℃ . 100KHz