



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Upgrade!  
NPCAP™-PSA Series

- Super low ESR, high temperature resistance and high ripple current capability
- Rated voltage range : 2.5 to 16V<sub>dc</sub>
- 2,000 hours at 105°C
- Suitable for DC-DC converters, voltage regulators and decoupling applications for computer motherboards
- RoHS Compliant



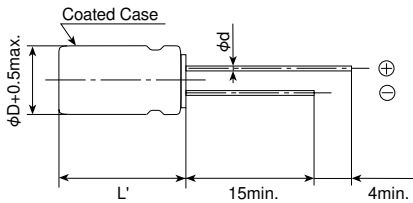
◆ SPECIFICATIONS

| Items                           | Characteristics   |            |                       |                    |                                     |             |                                      |     |                                      |                 |                              |
|---------------------------------|---|------------|-----------------------|--------------------|-------------------------------------|-------------|--------------------------------------|-----|--------------------------------------|-----------------|------------------------------|
| Category                        |   |            |                       |                    |                                     |             |                                      |     |                                      |                 |                              |
| Temperature Range               | -55 to +105°C   |            |                       |                    |                                     |             |                                      |     |                                      |                 |                              |
| Rated Voltage Range             | 2.5 to 16V <sub>dc</sub>  |            |                       |                    |                                     |             |                                      |     |                                      |                 |                              |
| Capacitance Tolerance           | ±20% (M) (at 20°C, 120Hz)   |            |                       |                    |                                     |             |                                      |     |                                      |                 |                              |
| Surge Voltage                   | Rated voltage(V)×1.15 (at 105°C)  |            |                       |                    |                                     |             |                                      |     |                                      |                 |                              |
| Leakage Current                 | I=0.2CV (max.)  |            |                       |                    |                                     |             |                                      |     |                                      |                 |                              |
| *Note                           | Where, I : Leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V <sub>dc</sub> ) (at 20°C after 2 minutes)   |            |                       |                    |                                     |             |                                      |     |                                      |                 |                              |
| Dissipation Factor (tanδ)       | 0.08 max. (at 20°C, 120Hz)  |            |                       |                    |                                     |             |                                      |     |                                      |                 |                              |
| Low Temperature Characteristics | Max. impedance ratio at 100kHz to the 20°C value<br>Z(-25°C)/Z(+20°C) ≤ 1.15<br>Z(-55°C)/Z(+20°C) ≤ 1.25  |            |                       |                    |                                     |             |                                      |     |                                      |                 |                              |
| Endurance                       | The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for 2,000 hours at 105°C.   |            |                       |                    |                                     |             |                                      |     |                                      |                 |                              |
|                                 | <table border="1"> <tr> <td>Appearance</td> <td>No significant damage</td> </tr> <tr> <td>Capacitance change</td> <td>≤±20% of the initial measured value</td> </tr> <tr> <td>D.F. (tanδ)</td> <td>≤150% of the initial specified value</td> </tr> <tr> <td>ESR</td> <td>≤150% of the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>≤The initial specified value</td> </tr> </table> | Appearance | No significant damage | Capacitance change | ≤±20% of the initial measured value | D.F. (tanδ) | ≤150% of the initial specified value | ESR | ≤150% of the initial specified value | Leakage current | ≤The initial specified value |
| Appearance                      | No significant damage   |            |                       |                    |                                     |             |                                      |     |                                      |                 |                              |
| Capacitance change              | ≤±20% of the initial measured value   |            |                       |                    |                                     |             |                                      |     |                                      |                 |                              |
| D.F. (tanδ)                     | ≤150% of the initial specified value  |            |                       |                    |                                     |             |                                      |     |                                      |                 |                              |
| ESR                             | ≤150% of the initial specified value  |            |                       |                    |                                     |             |                                      |     |                                      |                 |                              |
| Leakage current                 | ≤The initial specified value  |            |                       |                    |                                     |             |                                      |     |                                      |                 |                              |
| Bias Humidity Test              | The following specifications shall be satisfied when the capacitors are restored to 20°C after subjecting them to DC voltage at 60°C, 90 to 95% RH for 1,000 hours.   |            |                       |                    |                                     |             |                                      |     |                                      |                 |                              |
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| ESR                             | ≤150% of the initial specified value  |            |                       |                    |                                     |             |                                      |     |                                      |                 |                              |
| Leakage current                 | ≤The initial specified value  |            |                       |                    |                                     |             |                                      |     |                                      |                 |                              |
| Surge Voltage Test              | The capacitors shall be subjected to 1,000 cycles each consisting of charge with the surge voltage specified at 105°C for 30 seconds through a protective resistor(R=1kΩ) and discharge for 5 minutes 30 seconds.   |            |                       |                    |                                     |             |                                      |     |                                      |                 |                              |
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| Capacitance change              | ≤±20% of the initial measured value   |            |                       |                    |                                     |             |                                      |     |                                      |                 |                              |
| D.F. (tanδ)                     | ≤150% of the initial specified value  |            |                       |                    |                                     |             |                                      |     |                                      |                 |                              |
| ESR                             | ≤150% of the initial specified value  |            |                       |                    |                                     |             |                                      |     |                                      |                 |                              |
| Leakage current                 | ≤The initial specified value  |            |                       |                    |                                     |             |                                      |     |                                      |                 |                              |
| Failure Rate                    | 1% per 1,000 hours maximum (Confidence level 60% at 105°C)  |            |                       |                    |                                     |             |                                      |     |                                      |                 |                              |

\*Note : If any doubt arises, measure the leakage current after the following voltage treatment.  
Voltage treatment : DC rated voltage is applied to the capacitors for 120 minutes at 105°C.

◆ DIMENSIONS [mm]

- Terminal Code : E



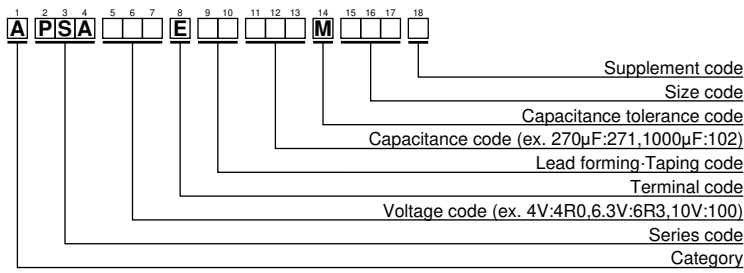
| φD | 6.3      | 8        | 10 |
|----|----------|----------|----|
| φd | 0.5      | 0.8      |    |
| L' | L+0.3max | L+1.5max |    |
| F  | 2.5      | 3.5      | 5  |

◆ MARKING

EX) 4V560μF



◆PART NUMBERING SYSTEM



Please refer to "A guide to global code (conductive polymer type)"

◆STANDARD RATINGS

| WV(Vdc) | Cap(µF) | Case size<br>φD×L(mm) | ESR<br>(mΩmax/20°C, 100k to 300kHz) | Rated ripple current<br>(mArms/105°C, 100kHz) | Part No.           |
|---------|---------|-----------------------|-------------------------------------|---|--------------------|
| 2.5     | 390     | 6.3×10.5              | 20                                  | 3,160   | APSA2R5E□□391MFA5G |
|         | 680     | 8×11.5                | 7                                   | 5,580   | APSA2R5E□□681MHB5S |
|         | 820     | 8×11.5                | 7                                   | 5,580   | APSA2R5E□□821MHB5S |
|         | 1,000   | 10×11.5               | 6                                   | 5,860   | APSA2R5E□□102MJB5S |
| 4       | 270     | 6.3×10.5              | 20                                  | 3,160   | APSA4R0E□□271MFA5G |
|         | 390     | 6.3×10.5              | 24                                  | 3,300   | APSA4R0E□□391MFA5G |
|         | 560     | 8×11.5                | 7                                   | 5,580   | APSA4R0E□□561MHB5S |
|         | 820     | 10×11.5               | 6                                   | 5,860   | APSA4R0E□□821MJB5S |
| 6.3     | 220     | 6.3×10.5              | 20                                  | 3,160   | APSA6R3E□□221MFA5G |
|         | 330     | 6.3×10.5              | 28                                  | 3,190   | APSA6R3E□□331MFA5G |
|         | 390     | 8×11.5                | 8                                   | 5,080   | APSA6R3E□□391MHB5S |
|         | 680     | 10×11.5               | 7                                   | 5,860   | APSA6R3E□□681MJB5S |
| 10      | 47      | 6.3×10.5              | 25                                  | 2,820   | APSA100E□□470MFA5G |
|         | 68      | 6.3×10.5              | 25                                  | 2,820   | APSA100E□□680MFA5G |
|         | 100     | 6.3×10.5              | 25                                  | 2,820   | APSA100E□□101MFA5G |
|         | 150     | 6.3×10.5              | 25                                  | 2,820   | APSA100E□□151MFA5G |
|         | 270     | 8×11.5                | 9                                   | 4,710   | APSA100E□□271MHB5S |
| 16      | 470     | 10×11.5               | 8                                   | 5,650   | APSA100E□□471MJB5S |
|         | 100     | 6.3×10.5              | 25                                  | 2,820   | APSA160E□□101MFA5G |

□□ : Lead forming code and taping code