

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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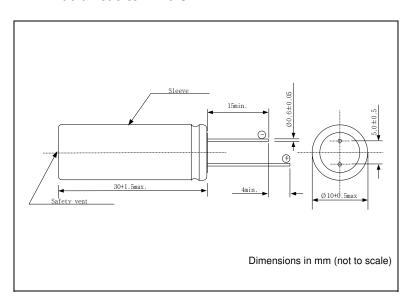


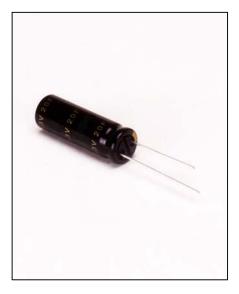
# NESSCAP 20F/ 2.3V

#### PSHLR-0020C0-002R3

#### Features

- Cylindrical cell
- Radial lead terminals





### Specifications

| Rated Capacitance, C (DCC <sup>(1)</sup> , 25°C) |             | 20 Farads          | (1) Discharging with constant current                                                                                    |
|--------------------------------------------------|-------------|--------------------|--------------------------------------------------------------------------------------------------------------------------|
| Capacitance Tolerance                            |             | -10% / +20%        |                                                                                                                          |
| Rated Voltage, V <sub>R</sub>                    |             | 2.3 V              |                                                                                                                          |
| Surge Voltage                                    |             | 2.5 V              |                                                                                                                          |
| Rated Current (25°C)                             |             | 0.016 A            | About 30 min discharge rate from 2.3V to 0.9V                                                                            |
| Max. Current-continuous (25°C)                   |             | 0.5 A              | 40sec discharge current from V <sub>R</sub> to 0.5 V <sub>R</sub>                                                        |
| Max. Stored Energy (at V <sub>R</sub> )          |             | 52.9J (0.0147Wh)   |                                                                                                                          |
| Specific Energy                                  | Gravimetric | 3.7 Wh/kg          |                                                                                                                          |
|                                                  | Volumetric  | 6.2 Wh/l           |                                                                                                                          |
| Specific Power <sup>(2)</sup>                    | Gravimetric | 6.6 kW/kg          | (2) Power density at which one-half the energy of                                                                        |
| (at matched load)                                |             | 11.0 kW/l          | the discharge is in the form of electricity and                                                                          |
|                                                  | volumetric  | iumetric 11.0 kw/i | one-half is in heat.                                                                                                     |
| Maximum Internal<br>Resistance (ESR)             | AC (1kHz)   | 40 mΩ              |                                                                                                                          |
|                                                  | DC (1.8A)   | 55 mΩ              |                                                                                                                          |
| Dimensions                                       |             | φ 10 x / 30 mm     |                                                                                                                          |
| Volume                                           |             | 2.4 ml             |                                                                                                                          |
| Weight                                           |             | 4.0 g              |                                                                                                                          |
| Operating temperature range <sup>(3)</sup>       |             | -25 ~ 60 °C        | (3) $\Delta$ C < 30% and ESR < 5 times of initially measured value at 25°C, respectively                                 |
| Storage temperature range                        |             | -30 ~ 70 °C        |                                                                                                                          |
| Max. Leakage Current, L <sub>C</sub> (12h, 25°C) |             | 300 μΑ             |                                                                                                                          |
| Life Time at RT <sup>(4)</sup>                   |             | 10 years           | (4) $ \Delta C $ < 30% and ESR < three times of initially measured value, respectively and LC < specified value          |
| Cycle Life (25°C) <sup>(4), (5)</sup>            |             | 100,000 cycles     | (5) 1 cycle: charging to $V_R$ for 40s, constant voltage charging for 10s, discharging to $1/2V_R$ for 40s, rest for 10s |

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