# ***Data Sheet***

| | |
|---|---|
| **Customer:** | |
| **Product:** | **Supercapacitor — SC Series** |
| **Rated Voltage.:** | **2.7V / 3.0V / 3.6V / 3.8V / 4.2V / 5.5V / 6.0V** |
| **Issued Date:** | **13-Sep-24** |
| **Edition:** | **REV.A9** |

RoHS Compliant


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|---|---|---|---|---|
| 13-Sep-24 | 13-Sep-24 | 13-Sep-24 | | |
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# Supercapacitor

## ■Features

**■For Lithium Ion Type**

－Ultra-low self-discharge, high capacity (10 times the same volume of EDLC)
－High operating voltage (3.8V ); operating temperature range-40℃ ~ +70℃
－High operating voltage (4.2V ); operating temperature range-40℃ ~ +65℃
－Green environmental protection，high security, reliability and maintenance-free

Coin Type

Lithium Ion Type

**■For Cylindrical Type / Coin Type / Combined Type**

－Low internal resistance and high power density
－Self-discharge rate is small, 72 hours self-discharge<20%
－Excellent cycle life, the coulomb efficiency is more than 95%
－Wide operating temperature ranges
－Green, meet RoHS requirements

Cylindrical Type

Combined Type

## ■Applications

**■For Lithium Ion Type**

－Internet of Things terminal GPS positioning and communication power supply，NB IOT/Pulse power supply
－Electric Tool/ETC/Quick Charge power
－Primary or backup power supply，Intelligent water、electricity and gas meter, automotive electronics, etc.

**■For Cylindrical Type / Coin Type / Combined Type**

－Intelligent instrument, automobile data recorder, illumination lamp, smart home, industrial control
－Fiscal cash register, digital camera, power tools, electric toy, emergency power supply
－Wireless energy saving mouse, wireless handwriting board, SSD solid state drive, medical equipment.

## ■Product Identification

| SC | 2V7 | L | 105 | M | | -1 |
|---|---|---|---|---|---|---|
| Product Type | Rated Voltage | Shape Type | Capacitance | Capacitance Tolerance | Series Code | Special |
| | 2V7: 2.7V<br>3V0: 3.0V<br>3V6: 3.6V<br>3V8: 3.8V<br>4V2: 4.2V<br>5V5: 5.5V<br>6V0: 6V | C: Coin & C Type<br>H: Coin & H Type<br>V: Coin & V Type<br>M: Lithium Ion Type<br>L: Cylindrical & Radial Type<br>Z: Combined Type | 104: 0.1F<br>105: 1F<br>106: 10F | M: ±20%<br>Z: +80/-20%<br>9: +30/-10% | : Standard<br>LR: Low ESR<br>V: High Voltage<br>H: High Temperature | |

## ■Standard Coin Type Supercapacitor

**Specifications Value of Product：Coin & C Type**

| Part No. | Rated Voltage (V) | Rated Capacitance (F) | Tolerance | Max ESR AC 25℃ (Ω) | Leakage Current (25℃24h, mA) | Test Current (mA) | Max. stored energy (mWh) |
|---|---|---|---|---|---|---|---|
| SC5V5C104Z | 5.5 | 0.10 | +80%/-20% | 50 | 0.003 | 1.0 | 0.42 |
| SC5V5C224Z | 5.5 | 0.22 | +80%/-20% | 50 | 0.003 | 2.2 | 0.92 |
| SC5V5C334Z | 5.5 | 0.33 | +80%/-20% | 50 | 0.004 | 3.3 | 1.39 |
| SC5V5C474Z | 5.5 | 0.47 | +80%/-20% | 40 | 0.004 | 4.7 | 1.97 |
| SC5V5C684Z | 5.5 | 0.68 | +80%/-20% | 30 | 0.006 | 6.8 | 2.86 |
| SC5V5C105Z | 5.5 | 1.00 | +80%/-20% | 15 | 0.006 | 10 | 4.20 |
| SC5V5C155Z | 5.5 | 1.50 | +80%/-20% | 15 | 0.010 | 15 | 6.30 |

**Specifications Value of Product：Coin & H Type**

| Part No. | Rated Voltage (V) | Rated Capacitance (F) | Tolerance | Max ESR AC 25℃ (Ω) | Leakage Current (25℃24h, mA) | Test Current (mA) | Max. stored energy (mWh) |
|---|---|---|---|---|---|---|---|
| SC5V5H104Z | 5.5 | 0.10 | +80%/-20% | 50 | 0.003 | 1.0 | 0.42 |
| SC5V5H224Z | 5.5 | 0.22 | +80%/-20% | 50 | 0.003 | 2.2 | 0.92 |
| SC5V5H334Z | 5.5 | 0.33 | +80%/-20% | 50 | 0.004 | 3.3 | 1.39 |
| SC5V5H474Z | 5.5 | 0.47 | +80%/-20% | 40 | 0.004 | 4.7 | 1.97 |
| SC5V5H684Z | 5.5 | 0.68 | +80%/-20% | 30 | 0.006 | 6.8 | 2.86 |
| SC5V5H105Z | 5.5 | 1.00 | +80%/-20% | 15 | 0.006 | 10 | 4.20 |
| SC5V5H155Z | 5.5 | 1.50 | +80%/-20% | 15 | 0.010 | 15 | 6.30 |

**Specifications Value of Product：Coin & V Type**

| Part No. | Rated Voltage (V) | Rated Capacitance (F) | Tolerance | Max ESR AC 25℃ (Ω) | Leakage Current (25℃24h, mA) | Test Current (mA) | Max. stored energy (mWh) |
|---|---|---|---|---|---|---|---|
| SC5V5V104Z | 5.5 | 0.10 | +80%/-20% | 50 | 0.003 | 1.0 | 0.42 |
| SC5V5V224Z | 5.5 | 0.22 | +80%/-20% | 50 | 0.003 | 2.2 | 0.92 |
| SC5V5V334Z | 5.5 | 0.33 | +80%/-20% | 50 | 0.004 | 3.3 | 1.39 |
| SC5V5V474Z | 5.5 | 0.47 | +80%/-20% | 40 | 0.004 | 4.7 | 1.97 |
| SC5V5V684Z | 5.5 | 0.68 | +80%/-20% | 30 | 0.006 | 6.8 | 2.86 |
| SC5V5V105Z | 5.5 | 1.00 | +80%/-20% | 15 | 0.006 | 10 | 4.20 |
| SC5V5V155Z | 5.5 | 1.50 | +80%/-20% | 15 | 0.010 | 15 | 6.30 |

**■Body color：≤0.47F Gold；＞0.47F Black**

## Supercapacitor

**Dimensions & Packaging Quantity**

Fig.1

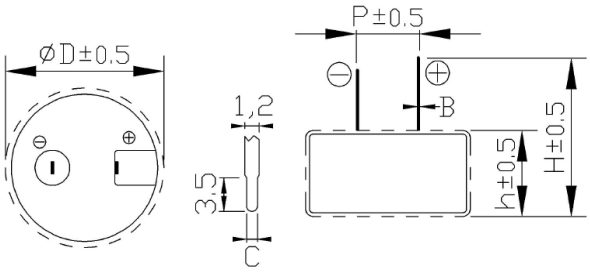



Fig.2

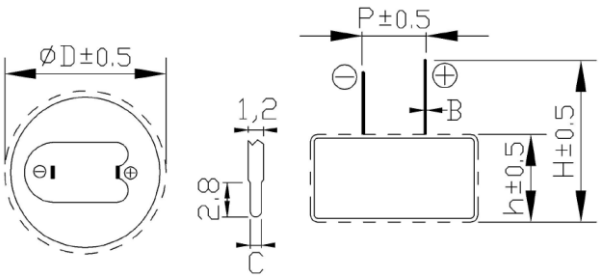



Fig.3

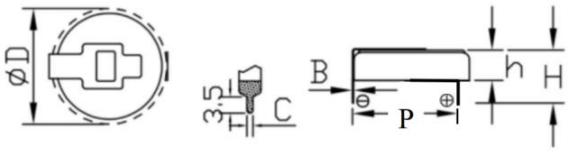



Fig.4

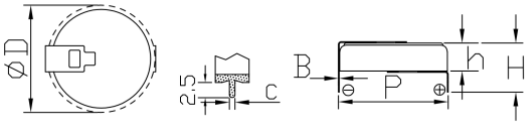



Fig.5

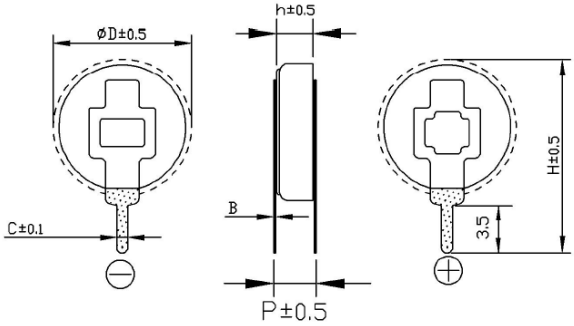
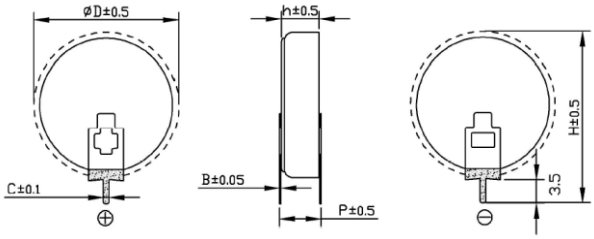



Fig.6




| Part No. | Figure | D (mm) | P (mm) | C (mm) | h (mm) | H (mm) | B (mm) | Quantity (EA) Plastic Tray |
|---|---|---|---|---|---|---|---|---|
| SC5V5C104Z | 2 | 13.2±0.5 | 5.0±0.5 | 0.8±0.10 | 7.0±0.5 | 13.0±1.0 | 0.4±0.10 | 117 |
| SC5V5C224Z | 2 | 13.2±0.5 | 5.0±0.5 | 0.8±0.10 | 7.0±0.5 | 13.0±1.0 | 0.4±0.10 | 117 |
| SC5V5C334Z | 2 | 13.2±0.5 | 5.0±0.5 | 0.8±0.10 | 7.0±0.5 | 13.0±1.0 | 0.4±0.10 | 117 |
| SC5V5C474Z | 2 | 13.2±0.5 | 5.0±0.5 | 0.8±0.10 | 7.0±0.5 | 13.0±1.0 | 0.4±0.10 | 117 |
| SC5V5C684Z | 1 | 21.0±0.5 | 5.5±0.5 | 0.8±0.10 | 7.5±0.5 | 12.5±1.0 | 0.5±0.10 | 70 |
| SC5V5C105Z | 1 | 21.0±0.5 | 5.5±0.5 | 0.8±0.10 | 7.5±0.5 | 12.5±1.0 | 0.5±0.10 | 70 |
| SC5V5C155Z | 1 | 21.0±0.5 | 5.5±0.5 | 0.8±0.10 | 7.5±0.5 | 12.5±1.0 | 0.5±0.10 | 70 |
| SC5V5H104Z | 3 | 12.0±0.5 | 10.0±0.5 | 0.8±0.10 | 4.8±0.5 | 10.0±1.0 | 0.20±0.05 | 168 |
| SC5V5H224Z | 3 | 12.0±0.5 | 10.0±0.5 | 0.8±0.10 | 4.8±0.5 | 10.0±1.0 | 0.20±0.05 | 168 |
| SC5V5H334Z | 3 | 12.0±0.5 | 10.0±0.5 | 0.8±0.10 | 4.8±0.5 | 10.0±1.0 | 0.20±0.05 | 168 |
| SC5V5H474Z | 3 | 12.0±0.5 | 10.0±0.5 | 0.8±0.10 | 4.8±0.5 | 10.0±1.0 | 0.20±0.05 | 168 |
| SC5V5H684Z | 4 | 19.2±0.5 | 19.5±0.5 | 1.0±0.10 | 4.8±0.5 | 9.5±1.0 | 0.20±0.05 | 70 |
| SC5V5H105Z | 4 | 19.2±0.5 | 19.5±0.5 | 1.0±0.10 | 4.8±0.5 | 9.5±1.0 | 0.20±0.05 | 70 |
| SC5V5H155Z | 4 | 19.2±0.5 | 19.5±0.5 | 1.0±0.10 | 4.8±0.5 | 9.5±1.0 | 0.20±0.05 | 70 |
| SC5V5V104Z | 5 | 12.0±0.5 | 5.0±0.5 | 0.8±0.10 | 4.8±0.5 | 16.2±0.5 | 0.20±0.05 | 196 |
| SC5V5V224Z | 5 | 12.0±0.5 | 5.0±0.5 | 0.8±0.10 | 4.8±0.5 | 16.2±0.5 | 0.20±0.05 | 196 |
| SC5V5V334Z | 5 | 12.0±0.5 | 5.0±0.5 | 0.8±0.10 | 4.8±0.5 | 16.2±0.5 | 0.20±0.05 | 196 |
| SC5V5V474Z | 5 | 12.0±0.5 | 5.0±0.5 | 0.8±0.10 | 4.8±0.5 | 16.2±0.5 | 0.20±0.05 | 196 |
| SC5V5V684Z | 6 | 19.2±0.5 | 5.0±0.5 | 1.0±0.10 | 4.8±0.5 | 24.0±0.5 | 0.20±0.05 | 70 |
| SC5V5V105Z | 6 | 19.2±0.5 | 5.0±0.5 | 1.0±0.10 | 4.8±0.5 | 24.0±0.5 | 0.20±0.05 | 70 |
| SC5V5V155Z | 6 | 19.2±0.5 | 5.0±0.5 | 1.0±0.10 | 4.8±0.5 | 24.0±0.5 | 0.20±0.05 | 70 |

## ■Environmental Characteristics

| Item | Requirement | | Test Condition |
|---|---|---|---|
| Operating Temperature Range | -25°C ~+70°C | | |
| Rated Operating Voltage | 5.5V DC | | |
| High temperature characteristics | △C | Less than or equal to 30% of the initial value | Place in the higher operating temperature environment for 16h and test in this environment. |
| | ESR | Less than or equal to the specified value | |
| | Appearance | No leakage or mechanical damage | |
| Low temperature characteristics | △C | Less than or equal to 30% of the initial value | Place in the lower operating temperature environment for 2h and test in this environment. |
| | ESR | Less than or equal to 4 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Endurance | △C | Less than or equal to 30% of the initial value | Applied voltage：5.0V<br>Temperature：+70±2°C<br>Time：1000h |
| | ESR | Less than or equal to 4 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Cycle life | △C | Less than or equal to 30% of the initial value | Capacitors cycles 500000 times between rated voltage and half rated voltage under constant current at 25°C . Shelf for 5s between each charge and discharge. |
| | ESR | Less than or equal to 4 times the initial value | |
| Humidity Characteristics | △C | Satisfies the range of 30% of the initial rating | Temperature：+40±2°C<br>Relative humidity：90~95%RH<br>Test time：240h |
| | ESR | Less than or equal to 4 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Temperature cycle | △C | Less than or equal to 10% of the initial value | Temperature cycle：-25±2°C →normal temperature →+70±2°C→normal temperature<br>Cycles：5 |
| | Appearance | No mechanical damage or leakage | |
| Low temperature storage characteristics | △C | Less than or equal to 30% of the initial value | Applied voltage：0V<br>Temperature：-25±2°C<br>Time：96h |
| | ESR | Less than or equal to 4 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| High temperature storage characteristics | △C | Less than or equal to 30% of the initial value | Applied voltage：0V<br>Temperature：+70±2°C<br>Time：96h |
| | ESR | Less than or equal to 4 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Self discharge characteristics | The self-discharge cut-off voltage is greater than or equal to 80% of the rated voltage | | Charging process: normal temperature, no load, rated voltage charge 8h<br>Placement process: temperature less than or equal to 25 ℃, relative humidity less than 60% RH, open 24 h |
| Lead strength | No damage to the outlet | | DL/T 1652-2016 |
| Solder ability | More than 3/4 of the terminal surface is covered by a tin layer | | DL/T 1652-2016 |

**■Storage Temperature: -30~50℃; Relative Humidity:<60%RH, Max. Humidity<85%RH**

## ■High Temperature Coin Type Supercapacitor

**Specifications Value of Product：Coin & C Type (3.6V)**

| Part No. | Rated Voltage (V) | Rated Capacitance (F) | Tolerance | Max ESR AC 25℃ (Ω) | Leakage Current (25℃24h, mA) | Test Current (mA) | Max. stored energy (mWh) |
|---|---|---|---|---|---|---|---|
| SC3V6C224ZH | 3.6 | 0.22 | +80%/-20% | 50 | 0.003 | 2.2 | 0.40 |

**Specifications Value of Product：Coin & C Type (5.5V)**

| Part No. | Rated Voltage (V) | Rated Capacitance (F) | Tolerance | Max ESR AC 25℃ (Ω) | Leakage Current (25℃24h, mA) | Test Current (mA) | Max. stored energy (mWh) |
|---|---|---|---|---|---|---|---|
| SC5V5C104ZH | 5.5 | 0.10 | +80%/-20% | 50 | 0.003 | 1.0 | 0.42 |
| SC5V5C224ZH | 5.5 | 0.22 | +80%/-20% | 50 | 0.003 | 2.2 | 0.92 |
| SC5V5C334ZH | 5.5 | 0.33 | +80%/-20% | 50 | 0.004 | 3.3 | 1.39 |
| SC5V5C474ZH | 5.5 | 0.47 | +80%/-20% | 50 | 0.004 | 4.7 | 1.97 |
| SC5V5C684ZH | 5.5 | 0.68 | +80%/-20% | 30 | 0.006 | 6.8 | 2.86 |
| SC5V5C105ZH | 5.5 | 1.00 | +80%/-20% | 15 | 0.006 | 10 | 4.20 |
| SC5V5C155ZH | 5.5 | 1.50 | +80%/-20% | 15 | 0.010 | 15 | 6.30 |

**Specifications Value of Product：Coin & H Type (3.6V)**

| Part No. | Rated Voltage (V) | Rated Capacitance (F) | Tolerance | Max ESR AC 25℃ (Ω) | Leakage Current (25℃24h, mA) | Test Current (mA) | Max. stored energy (mWh) |
|---|---|---|---|---|---|---|---|
| SC3V6H224ZH | 3.6 | 0.22 | +80%/-20% | 50 | 0.003 | 2.2 | 0.40 |
| SC3V6H105ZH | 3.6 | 1.00 | +80%/-20% | 15 | 0.006 | 10.0 | 1.80 |
| SC3V6H155ZH | 3.6 | 1.50 | +80%/-20% | 15 | 0.010 | 10.0 | 2.70 |

**Specifications Value of Product：Coin & H Type (5.5V)**

| Part No. | Rated Voltage (V) | Rated Capacitance (F) | Tolerance | Max ESR AC 25℃ (Ω) | Leakage Current (25℃24h, mA) | Test Current (mA) | Max. stored energy (mWh) |
|---|---|---|---|---|---|---|---|
| SC5V5H104ZH | 5.5 | 0.10 | +80%/-20% | 50 | 0.003 | 1.0 | 0.42 |
| SC5V5H224ZH | 5.5 | 0.22 | +80%/-20% | 50 | 0.003 | 2.2 | 0.92 |
| SC5V5H334ZH | 5.5 | 0.33 | +80%/-20% | 50 | 0.004 | 3.3 | 1.39 |
| SC5V5H474ZH | 5.5 | 0.47 | +80%/-20% | 50 | 0.004 | 4.7 | 1.97 |
| SC5V5H684ZH | 5.5 | 0.68 | +80%/-20% | 30 | 0.006 | 6.8 | 2.86 |
| SC5V5H105ZH | 5.5 | 1.00 | +80%/-20% | 15 | 0.006 | 10 | 4.20 |
| SC5V5H155ZH | 5.5 | 1.50 | +80%/-20% | 15 | 0.010 | 15 | 6.30 |

**Specifications Value of Product：Coin & V Type (3.6V)**

| Part No. | Rated Voltage (V) | Rated Capacitance (F) | Tolerance | Max ESR AC 25℃ (Ω) | Leakage Current (25℃24h, mA) | Test Current (mA) | Max. stored energy (mWh) |
|---|---|---|---|---|---|---|---|
| SC3V6V224ZH | 3.6 | 0.22 | +80%/-20% | 50 | 0.003 | 2.2 | 0.40 |
| SC3V6V105ZH | 3.6 | 1.00 | +80%/-20% | 15 | 0.006 | 10.0 | 1.80 |

**Specifications Value of Product：Coin & V Type (5.5V)**

| Part No. | Rated Voltage (V) | Rated Capacitance (F) | Tolerance | Max ESR AC 25℃ (Ω) | Leakage Current (25℃24h, mA) | Test Current (mA) | Max. stored energy (mWh) |
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| SC5V5V105ZH | 5.5 | 1.00 | +80%/-20% | 15 | 0.006 | 10 | 4.20 |
| SC5V5V155ZH | 5.5 | 1.50 | +80%/-20% | 15 | 0.010 | 15 | 6.30 |

**■Body color：≤0.47F Gold；＞0.47F Black**

## Supercapacitor

### Dimensions & Packaging Quantity

Fig.1

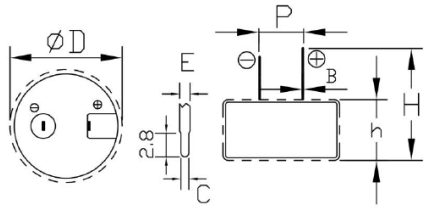



Fig.2

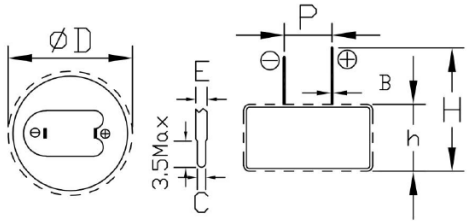



Fig.3

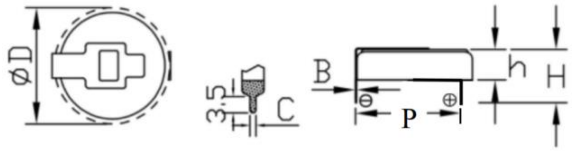



Fig.4

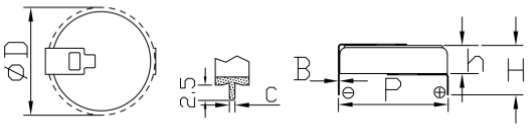



Fig.5

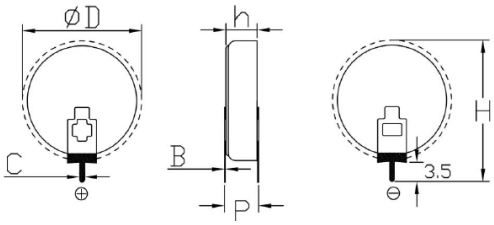
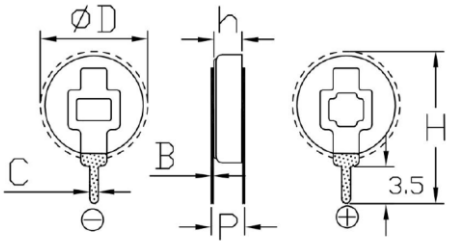



Fig.6




| Part No. | Figure | D (mm) | P (mm) | C (mm) | h (mm) | H (mm) | B (mm) | E (mm) | Quantity (EA) Plastic Tray |
|---|---|---|---|---|---|---|---|---|---|
| SC3V6C224ZH | 2 | 13.2±0.5 | 5.0±0.5 | 0.8±0.10 | 7.0±0.5 | 13.0±1.0 | 0.40±0.10 | - | 117 |
| SC5V5C104ZH | 2 | 13.2±0.5 | 5.0±0.5 | 0.8±0.10 | 7.0±0.5 | 13.0±1.0 | 0.40±0.10 | 1.0±0.2 | 117 |
| SC5V5C224ZH | 2 | 13.2±0.5 | 5.0±0.5 | 0.8±0.10 | 7.0±0.5 | 13.0±1.0 | 0.40±0.10 | 1.0±0.2 | 117 |
| SC5V5C334ZH | 2 | 13.2±0.5 | 5.0±0.5 | 0.8±0.10 | 7.0±0.5 | 13.0±1.0 | 0.40±0.10 | 1.0±0.2 | 117 |
| SC5V5C474ZH | 2 | 13.2±0.5 | 5.0±0.5 | 0.9±0.15 | 7.0±0.5 | 13.0±0.5 | 0.40±0.10 | 1.0±0.2 | 117 |
| SC5V5C684ZH | 1 | 21.0±0.5 | 5.5±0.5 | 0.8±0.10 | 7.5±0.5 | 12.5±1.0 | 0.50±0.10 | 1.1±0.2 | 70 |
| SC5V5C105ZH | 1 | 21.0±0.5 | 5.5±0.5 | 0.8±0.10 | 7.5±0.5 | 12.5±1.0 | 0.50±0.10 | 1.1±0.2 | 70 |
| SC5V5C155ZH | 1 | 21.0±0.5 | 5.5±0.5 | 0.8±0.10 | 7.5±0.5 | 12.5±1.0 | 0.50±0.10 | 1.1±0.2 | 70 |
| SC3V6H224ZH | 3 | 12.0±0.5 | 10.0±0.5 | 0.8±0.10 | 4.8±0.5 | 10.0±1.0 | 0.20±0.05 | - | 117 |
| SC3V6H105ZH | 4 | 19.2±0.5 | 19.5±0.5 | 1.0±0.10 | 4.8±0.5 | 9.5±1.0 | 0.20±0.05 | - | 70 |
| SC3V6H155ZH | 4 | 19.2±0.5 | 19.5±0.5 | 1.0±0.10 | 4.8±0.5 | 9.5±1.0 | 0.20±0.05 | - | 70 |
| SC5V5H104ZH | 3 | 12.0±0.5 | 10.0±0.5 | 0.8±0.10 | 4.8±0.5 | 10.0±1.0 | 0.20±0.05 | - | 168 |
| SC5V5H224ZH | 3 | 12.0±0.5 | 10.0±0.5 | 0.8±0.10 | 4.8±0.5 | 10.0±1.0 | 0.20±0.05 | - | 168 |
| SC5V5H334ZH | 3 | 12.0±0.5 | 10.0±0.5 | 0.8±0.10 | 4.8±0.5 | 10.0±1.0 | 0.20±0.05 | - | 168 |
| SC5V5H474ZH | 3 | 12.0±0.5 | 10.0±0.5 | 0.8±0.10 | 4.8±0.5 | 10.0±1.0 | 0.20±0.05 | - | 168 |
| SC5V5H684ZH | 4 | 19.2±0.5 | 19.5±0.5 | 1.0±0.10 | 4.8±0.5 | 9.5±1.0 | 0.20±0.05 | - | 70 |
| SC5V5H105ZH | 4 | 19.2±0.5 | 19.5±0.5 | 1.0±0.10 | 4.8±0.5 | 9.5±1.0 | 0.20±0.05 | - | 70 |
| SC5V5H155ZH | 4 | 19.2±0.5 | 19.5±0.5 | 1.0±0.10 | 4.8±0.5 | 9.5±1.0 | 0.20±0.05 | - | 70 |
| SC3V6V224ZH | 6 | 12.0±0.5 | 5.0±0.5 | 0.8±0.10 | 4.8±0.5 | 16.2±0.5 | 0.20±0.05 | - | 196 |
| SC3V6V105ZH | 5 | 19.2±0.5 | 5.0±0.5 | 1.0±0.10 | 4.8±0.5 | 24.0±0.5 | 0.20±0.05 | - | 70 |
| SC5V5V104ZH | 6 | 12.0±0.5 | 5.0±0.5 | 0.8±0.10 | 4.8±0.5 | 16.2±0.5 | 0.20±0.05 | - | 196 |
| SC5V5V224ZH | 6 | 12.0±0.5 | 5.0±0.5 | 0.8±0.10 | 4.8±0.5 | 16.2±0.5 | 0.20±0.05 | - | 196 |
| SC5V5V334ZH | 6 | 12.0±0.5 | 5.0±0.5 | 0.8±0.10 | 4.8±0.5 | 16.2±0.5 | 0.20±0.05 | - | 196 |
| SC5V5V474ZH | 6 | 12.0±0.5 | 5.0±0.5 | 0.8±0.10 | 4.8±0.5 | 16.2±0.5 | 0.20±0.05 | - | 196 |
| SC5V5V684ZH | 5 | 19.2±0.5 | 5.0±0.5 | 1.0±0.10 | 4.8±0.5 | 24.0±0.5 | 0.20±0.05 | - | 70 |
| SC5V5V105ZH | 5 | 19.2±0.5 | 5.0±0.5 | 1.0±0.10 | 4.8±0.5 | 24.0±0.5 | 0.20±0.05 | - | 70 |
| SC5V5V155ZH | 5 | 19.2±0.5 | 5.0±0.5 | 1.0±0.10 | 4.8±0.5 | 24.0±0.5 | 0.20±0.05 | - | 70 |

## ■Environmental Characteristics

| Item | Requirement | | Test Condition |
|---|---|---|---|
| Operating Temperature Range | -40°C ~+85°C | | |
| Rated Operating Voltage | 3.6V DC , 5.5V DC | | |
| High Temperature Characteristics | △C | Less than or equal to 30% of the initial value | Place in the higher operating temperature environment for 16h and test in this environment. |
| | ESR | Less than or equal to the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Low Temperature Characteristics | △C | Less than or equal to 50% of the initial value | Place in the lower operating temperature environment for 2h and test in this environment. |
| | ESR | Less than or equal to 7 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Endurance | △C | Less than or equal to 30% of the initial value | Applied voltage：Rated voltage<br>Temperature：+85±2°C<br>Time：1000h |
| | ESR | Less than or equal to 4 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Cycle life | △C | Less than or equal to 30% of the initial value | Capacitors cycles 500000 times between rated voltage and half rated voltage under constant current at 25°C . Shelf for 5s between each charge and discharge. |
| | ESR | Less than or equal to 4 times the initial value | |
| Humidity Characteristics | △C | Satisfies the range of 30% of the initial rating | Temperature：+40±2°C<br>Relative humidity：90~95%RH<br>Test time：240h |
| | ESR | Less than or equal to 4 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Temperature cycle | △C | Less than or equal to 10% of the initial value | Temperature cycle:-40±2°C → normal Temperature →+85±2°C→ normal temperature<br>Cycles：5 |
| | Appearance | No mechanical damage or leakage | |
| Low temperature storage characteristics | △C | Less than or equal to 30% of the initial value | Applied voltage：0V<br>Temperature：-40±2°C<br>Time：96h |
| | ESR | Less than or equal to 4 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| High temperature storage characteristics | △C | Less than or equal to 30% of the initial value | Applied voltage：0V<br>Temperature：+85±2°C<br>Time：96h |
| | ESR | Less than or equal to 4 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Self discharge characteristics | The self-discharge cut-off voltage is greater than or equal to 80% of the rated voltage | | Charging process: normal temperature, no load, rated voltage charge 8h<br>Placement process: temperature less than or equal to 25°C, relative humidity less than 60% RH, open 24 h |
| Lead strength | No damage to the outlet | | DL/T 1652-2016 |
| Solder ability | More than 3/4 of the terminal surface is covered by a tin layer | | DL/T 1652-2016 |

**■Storage Temperature: -30~50℃; Relative Humidity:<60%RH, Max. Humidity<85%RH**

## ■Lithium Ion Type Supercapacitor

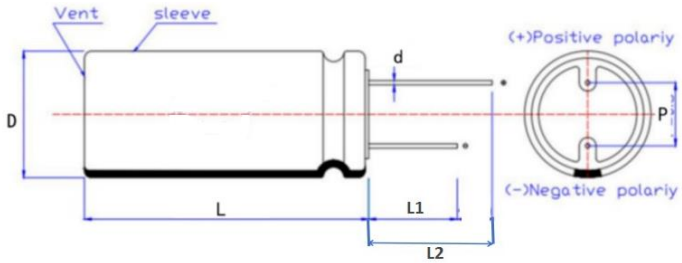
**Specifications Value of Standard Product**

| Part No. | Rated Voltage (V) | Rated Capacitance (F) | Tolerance | MAX ESR AC,@1KHz (mΩ) | Max Discharge Current (A) | Pulse Current (<1s, A) | Store energy (mWh) | Sizs DxL (mm) |
|---|---|---|---|---|---|---|---|---|
| SC3V8M206Z | 3.8 | 20 | +80%/-20% | 500 | 0.10 | 0.8 | 40.11 | 8.0x13.0 |
| SC3V8M306Z | 3.8 | 30 | +80%/-20% | 250 | 0.20 | 2.0 | 60.17 | 8.0x20.0 |
| SC3V8M306Z-1 | 3.8 | 30 | +80%/-20% | 250 | 0.15 | 1.0 | 60.17 | 10.0x13.5 |
| SC3V8M406Z | 3.8 | 40 | +80%/-20% | 200 | 0.20 | 2.0 | 80.22 | 8.0x20.0 |
| SC3V8M406Z-1 | 3.8 | 40 | +80%/-20% | 200 | 0.20 | 2.0 | 80.22 | 10.0x13.5 |
| SC3V8M506Z | 3.8 | 50 | +80%/-20% | 250 | 0.20 | 2.5 | 100.28 | 8.0x25.0 |
| SC3V8M706Z | 3.8 | 70 | +80%/-20% | 175 | 0.25 | 2.5 | 140.39 | 12.5x13.0 |
| SC3V8M706Z-1 | 3.8 | 70 | +80%/-20% | 250 | 0.50 | 2.5 | 140.39 | 8.0x25.0 |
| SC3V8M806Z | 3.8 | 80 | +80%/-20% | 150 | 0.25 | 3.5 | 160.44 | 10.0x20.0 |
| SC3V8M127Z-2 | 3.8 | 120 | +80%/-20% | 100 | 0.50 | 6.0 | 240.67 | 10.0x30.0 |
| SC3V8M127Z-3 | 3.8 | 120 | +80%/-20% | 100 | 0.50 | 5.0 | 240.67 | 12.5x20.0 |
| SC3V8M257Z | 3.8 | 250 | +80%/-20% | 50 | 0.80 | 9.0 | 501.39 | 12.5x35.0 |
| SC3V8M257Z-1 | 3.8 | 250 | +80%/-20% | 50 | 1.00 | 7.0 | 501.39 | 16.0x21.0 |
| SC3V8M307Z | 3.8 | 300 | +80%/-20% | 50 | 1.00 | 10 | 601.67 | 12.5x40.0 |
| SC3V8M507Z | 3.8 | 500 | +80%/-20% | 40 | 2.00 | 16 | 1002.78 | 16.0x41.0 |
| SC3V8M757Z | 3.8 | 750 | +80%/-20% | 35 | 3.00 | 16 | 1504.17 | 18.0x41.0 |
| SC3V8M108Z | 3.8 | 1000 | +80%/-20% | 35 | 6.00 | 20 | 2005.56 | 18.0x41.0 |

**■Body color：Green**

**■Test current I(mA)=5x$C_R$x ($U_R$-$U_{min}$)/3.6**

**Dimensions & Packaging Quantity**




| Part No. | D (mm) | L (mm) | P (mm) | d (mm) | L1 (mm) | L2 (mm) | Quantity (EA) Plastic Tray |
|---|---|---|---|---|---|---|---|
| SC3V8M206Z | 8±1.5 | 13±1.5 | 3.5±0.5 | 0.6±0.1 | 22.5±1.5 | 28.5±1.5 | 50 |
| SC3V8M306Z | 8±1.5 | 20±1.5 | 3.5±0.5 | 0.6±0.1 | 21.0±1.5 | 27.0±1.5 | 50 |
| SC3V8M306Z-1 | 10±1.5 | 13.5±1.5 | 5.0±0.5 | 0.6±0.1 | 23.0±1.5 | 28.5±1.5 | 50 |
| SC3V8M406Z | 8±1.5 | 20±1.5 | 3.5±0.5 | 0.6±0.1 | 21.0±1.5 | 27.0±1.5 | 50 |
| SC3V8M406Z-1 | 10±1.5 | 13.5±1.5 | 5.0±0.5 | 0.6±0.1 | 23.0±1.5 | 28.5±1.5 | 50 |
| SC3V8M506Z | 8±1.5 | 25±1.5 | 3.5±0.5 | 0.6±0.1 | 20.0±1.5 | 26.0±1.5 | 60 |
| SC3V8M706Z | 12.5±1.5 | 13±1.5 | 5.0±0.5 | 0.6±0.1 | 23.0±1.5 | 29.0±1.5 | 50 |
| SC3V8M706Z-1 | 8±1.5 | 25±1.5 | 3.5±0.5 | 0.6±0.1 | 20.0±1.5 | 26.0±1.5 | 60 |
| SC3V8M806Z | 10±1.5 | 20±1.5 | 5.0±0.5 | 0.6±0.1 | 21.0±1.5 | 27.0±1.5 | 40 |
| SC3V8M127Z-2 | 10±1.5 | 30±1.5 | 5.0±0.5 | 0.6±0.1 | 20.0±1.5 | 26.0±1.5 | 40 |
| SC3V8M127Z-3 | 12.5±1.5 | 20±1.5 | 5.0±0.5 | 0.6±0.1 | 20.5±1.5 | 26.5±1.5 | 60 |
| SC3V8M257Z | 12.5±1.5 | 35±1.5 | 5.0±0.5 | 0.6±0.1 | 20.5±1.5 | 27.0±1.5 | 40 |
| SC3V8M257Z-1 | 16.0±1.5 | 21±1.5 | 7.5±0.5 | 0.8±0.1 | 22.5±1.5 | 25.5±1.5 | 60 |
| SC3V8M307Z | 12.5±1.5 | 40±1.5 | 5.0±0.5 | 0.6±0.1 | 20.0±1.5 | 26.5±1.5 | 40 |
| SC3V8M507Z | 16.0±1.5 | 41±1.5 | 7.5±0.5 | 0.8±0.1 | 24.0±1.5 | 28.5±1.5 | 40 |
| SC3V8M757Z | 18.0±1.5 | 41±1.5 | 7.5±0.5 | 0.8±0.1 | 25.0±1.5 | 27.5±1.5 | 40 |
| SC3V8M108Z | 18.0±1.5 | 41±1.5 | 7.5±0.5 | 0.8±0.1 | 25.0±1.5 | 27.5±1.5 | 40 |

## ■Environmental Characteristics

| Item | Requirement | Test Condition |
|---|---|---|
| Operating Temperature Range | -40°C ~+70°C | |
| Minimum Voltage | 2.5V | |
| Capacitance Tolerance | +80% ~ -20% | |
| Optimum storage condition | -10°C ~ 50°C, ≦65%RH | |
| Cycle life | ≥100000 times | Capacitors charge/discharge 100000 times between 3.0V and 3.8V under constant current at 25°C |
| | Capacity Change≦ 30% of the initial value<br>ESR is less than 4 times of the specified value.. | |
| Low Temperature Characteristics | Capacitiy Change ≤50% of the value at 25°C.<br>ESR is less than 20 times of the specified value | Tmin±2℃, 2h |
| High Temperature Characteristics | Capacitiy Change ≤30% of the value at 25°C.<br>ESR is less than 2 times of the value at 25°C. | Tmax±2℃, 16h |
| High Temperature Load Life | Capacity Change≦ 30% of the initial value.<br>ESR is less than 4 times of the specified value.<br>Appearance no remarkable defects. | 1000h, 55±2℃ @$U_R$ |
| High Temperature Storage | Capacity Change≦ 30% of the initial value.<br>ESR is less than 2 times of the specified value. | 1000h, Tmax±2℃, 3.6V, No charging |
| Humidity Characteristics | Capacity Change≦ 30% of the initial value.<br>ESR is less than 2 times of the specified value. | 240h, 40℃, 90±2%RH |

## ■Lithium Ion Type Supercapacitor

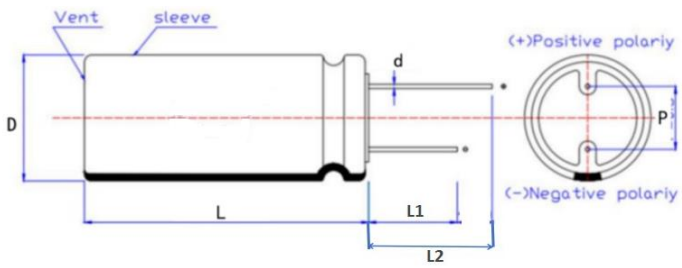
**Specifications Value of Standard Product**

| Part No. | Rated Voltage (V) | Rated Capacitance (F) | Tolerance | MAX ESR AC,@1KHz (mΩ) | Max Discharge Current (A) | Pulse Current (<1s, A) | Store energy (mWh) | Sizs DxL (mm) |
|---|---|---|---|---|---|---|---|---|
| SC4V2M906Z | 4.2 | 90 | +80%/-20% | 250 | 0.5 | 2.5 | 220.5 | 8.0x25.0 |
| SC4V2M197Z | 4.2 | 190 | +80%/-20% | 100 | 0.9 | 5.0 | 465.5 | 10.0x30.0 |
| SC4V2M257Z | 4.2 | 250 | +80%/-20% | 100 | 1.2 | 6.0 | 512.5 | 12.5x20.0 |
| SC4V2M307Z | 4.2 | 300 | +80%/-20% | 90 | 2.0 | 10 | 735.0 | 12.5x30.0 |
| SC4V2M407Z | 4.2 | 400 | +80%/-20% | 80 | 2.0 | 10 | 980.0 | 16.0x21.0 |
| SC4V2M557Z | 4.2 | 550 | +80%/-20% | 80 | 3.0 | 15 | 1347.0 | 12.5x40.0 |
| SC4V2M807Z | 4.2 | 800 | +80%/-20% | 60 | 4.0 | 15 | 1960.0 | 16.0x41.0 |
| SC4V2M108Z | 4.2 | 1000 | +80%/-20% | 35 | 6.0 | 20 | 2450.0 | 18.0x40.0 |

**■Body color：Green**

**■Test current I(mA)=5x$C_R$x ($U_R$-$U_{min}$)/3.6**

**Dimensions & Packaging Quantity**




| Part No. | D (mm) | L (mm) | P (mm) | d (mm) | L1 (mm) | L2 (mm) | Quantity (EA) Plastic Tray |
|---|---|---|---|---|---|---|---|
| SC4V2M906Z | 8±1.5 | 25.0±1.5 | 3.5±0.5 | 0.6±0.1 | 20.0±1.5 | 26.0±1.5 | 60 |
| SC4V2M197Z | 10±1.5 | 30±1.5 | 5.0±0.5 | 0.6±0.1 | 20.5±1.5 | 26.5±1.5 | 40 |
| SC4V2M257Z | 12.5±1.5 | 20.0±1.5 | 5.0±0.5 | 0.6±0.1 | 20.5±1.5 | 26.5±1.5 | 60 |
| SC4V2M307Z | 12.5±1.5 | 30.0±1.5 | 5.0±0.5 | 0.6±0.1 | 20.5±1.5 | 26.5±1.5 | 40 |
| SC4V2M407Z | 16.0±1.5 | 21.0±1.5 | 7.5±0.5 | 0.8±0.1 | 22.5±1.5 | 25.5±1.5 | 60 |
| SC4V2M557Z | 12.5±1.5 | 40.0±1.5 | 5.0±0.5 | 0.6±0.1 | 20.0±1.5 | 26.5±1.5 | 40 |
| SC4V2M807Z | 16.0±1.5 | 41.0±1.5 | 7.5±0.5 | 0.8±0.1 | 24.0±1.5 | 28.5±1.5 | 40 |
| SC4V2M108Z | 18.0±1.5 | 41.0±1.5 | 7.5±0.5 | 0.8±0.1 | 25.0±1.5 | 27.5±1.5 | 40 |

## ■Environmental Characteristics

| Item | Requirement | Test Condition |
|---|---|---|
| Operating Temperature Range | -40°C ~+65°C | |
| Minimum Voltage | 2.5V | |
| Capacitance Tolerance | +80% ~ -20% | |
| Optimum storage condition | -10°C ~ 50°C, ≦65%RH | |
| Cycle life | ≥100000 times | Capacitors charge/discharge 100000 times between 3.0V and 4.2V under constant current at 25°C |
| | Capacity Change≦ 30% of the initial value<br>ESR is less than 4 times of the specified value.. | |
| Low Temperature Characteristics | Capacitiy Change ≤50% of the value at 25°C.<br>ESR is less than 20 times of the specified value | Tmin±2℃, 16h |
| High Temperature Characteristics | Capacitiy Change ≤30% of the value at 25°C.<br>ESR is less than 2 times of the value at 25°C. | Tmax±2℃, 16h |
| High Temperature Load Life | Capacity Change≦ 30% of the initial value.<br>ESR is less than 4 times of the specified value.<br>Appearance no remarkable defects. | 1000h, 55±2℃ @$U_R$ |
| High Temperature Storage | Capacity Change≦ 30% of the initial value.<br>ESR is less than 2 times of the specified value. | 1000h, Tmax±2℃, 4.0V, No charging |
| Humidity Characteristics | Capacity Change≦ 30% of the initial value.<br>ESR is less than 2 times of the specified value. | 240h, 40℃, 90±2%RH |

## ■Standard Cylindrical Type Supercapacitor

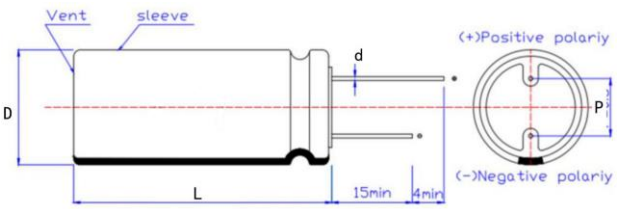
**Specifications Value of Standard Product：Cylindrical & Radial Type**

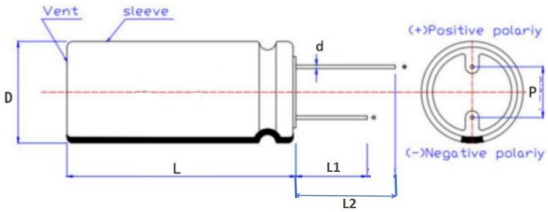
| Part No. | Rated Voltage (V) | Rated Capacitance (F) | Tolerance | Max. ESR 25°C (mΩ) | Maximum Peak Current （25°C <1s, A） | Leakage Current (25°C 72h, mA) | Store energy （mWh） | Sizs DxL (mm) |
|---|---|---|---|---|---|---|---|---|
| SC2V7L504M | 2.7 | 0.5 | ±20% | 500 | 0.54 | 0.008 | 0.51 | 6.3x12.5 |
| SC2V7L105M | 2.7 | 1 | ±20% | 500 | 0.90 | 0.008 | 1.01 | 6.3x12.5 |
| SC2V7L105M-1 | 2.7 | 1 | ±20% | 350 | 1.00 | 0.008 | 1.01 | 8.0x13.0 |
| SC2V7L155M | 2.7 | 1.5 | ±20% | 500 | 1.16 | 0.008 | 1.52 | 6.3x12.5 |
| SC2V7L155M-1 | 2.7 | 1.5 | ±20% | 350 | 1.33 | 0.010 | 1.52 | 8.0x13.0 |
| SC2V7L205M | 2.7 | 2 | ±20% | 200 | 1.99 | 0.012 | 2.03 | 8.0x16.0 |
| SC2V7L205M-1 | 2.7 | 2 | ±20% | 240 | 1.93 | 0.012 | 2.03 | 8.0x13.0 |
| SC2V7L305M | 2.7 | 3 | ±20% | 160 | 2.98 | 0.017 | 3.04 | 8.0x20.0 |
| SC2V7L335M | 2.7 | 3.3 | ±20% | 160 | 3.19 | 0.017 | 3.34 | 8.0x20.0 |
| SC2V7L505M | 2.7 | 5 | ±20% | 120 | 4.82 | 0.020 | 5.06 | 8.0x24.0 |
| SC2V7L505M-1 | 2.7 | 5 | ±20% | 120 | 4.91 | 0.020 | 5.06 | 10.0x20.0 |
| SC2V7L605M | 2.7 | 6 | ±20% | 100 | 5.59 | 0.025 | 6.08 | 10.0x20.0 |
| SC2V7L705M | 2.7 | 7 | ±20% | 80 | 6.34 | 0.030 | 7.09 | 10.0x20.0 |
| SC2V7L106M | 2.7 | 10 | ±20% | 65 | 8.18 | 0.050 | 10.13 | 10.0x25.0 |
| SC2V7L106M-1 | 2.7 | 10 | ±20% | 70 | 7.94 | 0.050 | 10.13 | 12.5x20.0 |
| SC2V7L126M | 2.7 | 12 | ±20% | 65 | 9.01 | 0.050 | 12.15 | 12.5x20.0 |
| SC2V7L156M | 2.7 | 15 | ±20% | 55 | 11.10 | 0.065 | 15.19 | 12.5x25.0 |
| SC2V7L206M | 2.7 | 20 | ±20% | 50 | 14.21 | 0.080 | 20.25 | 12.5x25.0 |
| SC2V7L256M | 2.7 | 25 | ±20% | 45 | 19.29 | 0.070 | 25.31 | 16.0x25.0 |
| SC2V7L306M | 2.7 | 30 | ±20% | 30 | 21.32 | 0.078 | 30.38 | 16.0x30.0 |
| SC2V7L406M | 2.7 | 40 | ±20% | 30 | 25.47 | 0.088 | 40.50 | 18.0x30.0 |
| SC2V7L506M | 2.7 | 50 | ±20% | 25 | 30.00 | 0.100 | 50.63 | 18.0x40.0 |
| SC2V7L606M | 2.7 | 60 | ±20% | 25 | 32.40 | 0.120 | 60.75 | 18.0x40.0 |

**■Maximum Peak Current：Is the current taking 1 sec. to discharge from $U_R$ to 1/2$U_R$**

**■Body color：Blue**

**Dimensions & Packaging Quantity**




| Part No. | D (mm) | L (mm) | P (mm) | d (mm) | L1 (mm) | L2 (mm) | Quantity(EA) Plastic Tray |
|---|---|---|---|---|---|---|---|
| SC2V7L504M | 6.3±1.0 | 12.5±1.5 | 2.5±0.5 | 0.5±0.05 | 20.0±2.0 | 25.0±2.0 | 180 |
| SC2V7L105M | 6.3±1.0 | 12.5±1.5 | 2.5±0.5 | 0.5±0.05 | 20.0±2.0 | 25.0±2.0 | 180 |
| SC2V7L105M-1 | 8.0±1.0 | 13.0±1.5 | 3.5±0.5 | 0.6±0.05 | 20.0±2.0 | 26.0±2.0 | 160 |
| SC2V7L155M | 6.3±1.0 | 12.5±1.5 | 2.5±0.5 | 0.5±0.05 | 20.0±2.0 | 25.0±2.0 | 180 |
| SC2V7L155M-1 | 8.0±1.0 | 13.0±1.5 | 3.5±0.5 | 0.6±0.05 | 20.0±2.0 | 26.0±2.0 | 160 |
| SC2V7L205M | 8.0±1.0 | 16.0±1.5 | 3.5±0.5 | 0.6±0.05 | 20.0±2.0 | 26.0±2.0 | 140 |
| SC2V7L205M-1 | 8.0±1.0 | 13.0±1.5 | 3.5±0.5 | 0.6±0.05 | 20.0±2.0 | 26.0±2.0 | 160 |
| SC2V7L305M | 8.0±1.0 | 20.0±1.5 | 3.5±0.5 | 0.6±0.05 | 20.0±2.0 | 26.0±2.0 | 120 |
| SC2V7L335M | 8.0±1.0 | 20.0±1.5 | 3.5±0.5 | 0.6±0.05 | 20.0±2.0 | 26.0±2.0 | 120 |
| SC2V7L505M | 8.0±1.0 | 24.0±1.5 | 3.5±0.5 | 0.6±0.05 | 20.0±2.0 | 26.0±2.0 | 100 |
| SC2V7L505M-1 | 10.0±1.0 | 20.0±1.5 | 5.0±0.5 | 0.6±0.05 | 19.0±2.0 | 25.0±2.0 | 120 |
| SC2V7L605M | 10.0±1.0 | 20.0±1.5 | 5.0±0.5 | 0.6±0.05 | 19.0±2.0 | 25.0±2.0 | 120 |
| SC2V7L705M | 10.0±1.0 | 20.0±1.5 | 5.0±0.5 | 0.6±0.05 | 19.0±2.0 | 25.0±2.0 | 120 |
| SC2V7L106M | 10.0±1.0 | 25.0±2.0 | 5.0±0.5 | 0.6±0.05 | 22.0±2.0 | 28.0±2.0 | 80 |
| SC2V7L106M-1 | 12.5±1.0 | 20.0±2.0 | 5.0±0.5 | 0.6±0.05 | 23.0±2.0 | 29.0±2.0 | 64 |
| SC2V7L126M | 12.5±1.0 | 20.0±2.0 | 5.0±0.5 | 0.6±0.05 | 23.0±2.0 | 29.0±2.0 | 64 |
| SC2V7L156M | 12.5±1.0 | 25.0±2.0 | 5.0±0.5 | 0.6±0.05 | 22.0±2.0 | 28.0±2.0 | 60 |
| SC2V7L206M | 12.5±1.0 | 25.0±2.0 | 5.0±0.5 | 0.6±0.05 | 22.0±2.0 | 28.0±2.0 | 60 |
| SC2V7L256M | 16.0±1.0 | 25.0±3.0 | 7.5±0.5 | 0.8±0.05 | 22.0±2.0 | 28.0±2.0 | 50 |
| SC2V7L306M | 16.0±1.0 | 30.0±3.0 | 7.5±0.5 | 0.8±0.05 | 22.0±2.0 | 28.0±2.0 | 50 |
| SC2V7L406M | 18.0±1.0 | 30.0±3.0 | 7.5±0.5 | 0.8±0.05 | - | - | 44 |
| SC2V7L506M | 18.0±1.0 | 40.0±3.0 | 7.5±0.5 | 0.8±0.05 | - | - | 26 |
| SC2V7L606M | 18.0±1.0 | 40.0±3.0 | 7.5±0.5 | 0.8±0.05 | - | - | 26 |

## ■Environmental Characteristics

| Item | Requirement | | Test Condition |
|---|---|---|---|
| Operating Temperature Range | -40°C~+65°C@2.7V<br>+70°C@2.5V | | |
| Rated Operating Voltage | 2.7V DC | | |
| High Temperature Characteristics | △C | Less than or equal to 30% of the initial value | Place in the higher operating temperature environment for 16h and test in this environment. |
| | ESR | Less than or equal to the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Low Temperature Characteristics | △C | Less than or equal to 30% of the initial value | Place in the lower operating temperature environment for 2h and test in this environment. |
| | ESR | Less than or equal to 4 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Endurance | △C | Less than or equal to 30% of the initial value | Applied voltage：2.7V<br>Temperature：+65±2°C<br>Time：1000h |
| | ESR | Less than or equal to 4 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Cycle Life | △C | Less than or equal to 30% of the initial value | Capacitors cycles 500000 times between rated voltage and half rated voltage under constant current at 25°C . Shelf for 5s between each charge and discharge. |
| | ESR | Less than or equal to 4 times the initial value | |
| Humidity Characteristics | △C | Satisfies the range of 30% of the initial rating | Temperature：+40±2°C<br>Relative humidity：90~95%RH<br>Test time：240h |
| | ESR | Less than or equal to 4 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Temperature Cycle | △C | Less than or equal to 10% of the initial value | Temperature cycle：-25±2°C → normal temperature →+70±2°C → normal temperature<br>Cycles：5 |
| | Appearance | No mechanical damage or leakage | |
| Low Temperature Storage Characteristics | △C | Satisfies the range of 10% of the initial rating | Applied voltage：0V<br>Temperature：-40±2°C<br>Time：96h |
| | ESR | Less than or equal to 2 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| High Temperature Storage Characteristics | △C | Satisfies the range of 10% of the initial rating | Applied voltage：0V<br>Temperature：+70±2°C<br>Time：96h |
| | ESR | Less than or equal to 2 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Self Discharge Characteristics | The self-discharge cut-off voltage is greater than or equal to 80% of the rated voltage | | Charging process: normal temperature, no load, rated voltage charge 8h<br>Placement process: temperature less than or equal to 25°C, relative humidity less than 60% RH, open 24 h |
| Lead strength | No damage to the outlet | | DL/T 1652-2016 |
| Solder ability | More than 3/4 of the terminal surface is covered by a tin layer | | DL/T 1652-2016 |

**■Storage Temperature: -30~50℃; Relative Humidity:<60%RH, Max. Humidity<85%RH**

## ■Low ESR Cylindrical Type Supercapacitor

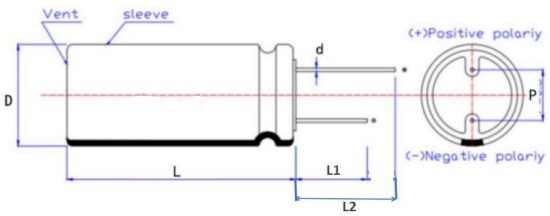
**Specifications Value of Product：Cylindrical & Radial Type**

| Part No. | Rated Voltage (V) | Rated Capacitance (F) | Tolerance | Max. ESR 25°C (mΩ) | Maximum Peak Current （25°C <1s, A） | Leakage Current (25°C 72h, mA) | Store energy （mWh） | Sizs DxL (mm) |
|---|---|---|---|---|---|---|---|---|
| SC2V7L504MLR | 2.7 | 0.5 | ±20% | 280 | 0.59 | 0.013 | 0.51 | 6.3x12.0 |
| SC2V7L105MLR | 2.7 | 1 | ±20% | 240 | 1.12 | 0.008 | 1.01 | 6.3x12.5 |
| SC2V7L105MLR-1 | 2.7 | 1 | ±20% | 200 | 1.12 | 0.008 | 1.01 | 8.0x13.0 |
| SC2V7L205MLR | 2.7 | 2 | ±20% | 160 | 2.04 | 0.012 | 2.03 | 8.0x13.0 |
| SC2V7L355MLR | 2.7 | 3.3 | ±20% | 80 | 3.52 | 0.021 | 3.34 | 8.0x20.0 |
| SC2V7L405MLR | 2.7 | 4 | ±20% | 120 | 3.64 | 0.015 | 4.05 | 8.0x16.0 |
| SC2V7L505MLR | 2.7 | 5 | ±20% | 100 | 4.50 | 0.020 | 5.06 | 8.0x24.0 |
| SC2V7L605MLR | 2.7 | 6 | ±20% | 55 | 6.09 | 0.036 | 6.08 | 10.0x20.0 |
| SC2V7L505MLR-1 | 2.7 | 5 | ±20% | 100 | 4.50 | 0.020 | 5.06 | 10.0x20.0 |
| SC2V7L705MLR | 2.7 | 7 | ±20% | 60 | 6.65 | 0.030 | 7.09 | 10.0x20.0 |
| SC2V7L106MLR | 2.7 | 10 | ±20% | 50 | 9.00 | 0.050 | 10.13 | 10.0x25.0 |
| SC2V7L156MLR | 2.7 | 15 | ±20% | 45 | 12.08 | 0.065 | 15.19 | 12.5x25.0 |
| SC2V7L206MLR | 2.7 | 20 | ±20% | 30 | 16.87 | 0.070 | 20.25 | 16.0x25.0 |

**■Maximum Peak Current：Is the current taking 1 sec. to discharge from $U_R$ to $1/2U_R$**

**■Body color：Blue**

**Dimensions & Packaging Quantity**




| Part No. | D (mm) | L (mm) | P (mm) | d (mm) | L1 (mm) | L2 (mm) | Quantity(EA) Plastic Tray |
|---|---|---|---|---|---|---|---|
| SC2V7L504MLR | 6.3±1.0 | 12.0±1.5 | 2.5±0.5 | 0.5±0.05 | 20.0±2.0 | 25.0±2.0 | 180 |
| SC2V7L105MLR | 6.3±1.0 | 12.5±1.5 | 2.5±0.5 | 0.5±0.05 | 20.0±2.0 | 25.0±2.0 | 180 |
| SC2V7L105MLR-1 | 8.0±1.0 | 13.0±1.5 | 3.5±0.5 | 0.6±0.05 | 20.0±2.0 | 26.0±2.0 | 160 |
| SC2V7L205MLR | 8.0±1.0 | 13.0±1.5 | 3.5±0.5 | 0.6±0.05 | 20.0±2.0 | 26.0±2.0 | 160 |
| SC2V7L335MLR | 8.0±1.0 | 20.0±1.5 | 3.5±0.5 | 0.6±0.05 | 20.0±2.0 | 25.0±2.0 | 120 |
| SC2V7L405MLR | 8.0±1.0 | 16.0±1.5 | 3.5±0.5 | 0.6±0.05 | 20.0±2.0 | 26.0±2.0 | 140 |
| SC2V7L505MLR | 8.0±1.0 | 24.0±1.5 | 3.5±0.5 | 0.6±0.05 | 20.0±2.0 | 26.0±2.0 | 100 |
| SC2V7L505MLR-1 | 10.0±1.0 | 20.0±1.5 | 5.0±0.5 | 0.6±0.05 | 19.0±2.0 | 25.0±2.0 | 120 |
| SC2V7L605MLR | 10.0±1.0 | 20.0±1.5 | 5.0±0.5 | 0.6±0.05 | 20.0±2.0 | 25.0±2.0 | 120 |
| SC2V7L705MLR | 10.0±1.0 | 20.0±1.5 | 5.0±0.5 | 0.6±0.05 | 19.0±2.0 | 25.0±2.0 | 120 |
| SC2V7L106MLR | 10.0±1.0 | 25.0±2.0 | 5.0±0.5 | 0.6±0.05 | 22.0±2.0 | 28.0±2.0 | 80 |
| SC2V7L156MLR | 12.5±1.0 | 25.0±2.0 | 5.0±0.5 | 0.6±0.05 | 23.0±2.0 | 29.0±2.0 | 60 |
| SC2V7L206MLR | 16.0±1.0 | 25.0±3.0 | 7.5±0.5 | 0.8±0.05 | 22.0±2.0 | 28.0±2.0 | 50 |

## ■Environmental Characteristics

| Item | Requirement | | Test Condition |
|---|---|---|---|
| Operating Temperature Range | -40°C~+65°C@2.7V<br>+70°C@2.5V | | |
| Rated Operating Voltage | 2.7V DC | | |
| High Temperature Characteristics | △C | Less than or equal to 30% of the initial value | Place in the higher operating temperature environment for 16h and test in this environment. |
| | ESR | Less than or equal to the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Low Temperature Characteristics | △C | Less than or equal to 30% of the initial value | Place in the lower operating temperature environment for 2h and test in this environment. |
| | ESR | Less than or equal to 4 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Endurance | △C | Less than or equal to 30% of the initial value | Applied voltage：2.7V<br>Temperature：+65±2°C<br>Time：1000h |
| | ESR | Less than or equal to 4 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Cycle Life | △C | Less than or equal to 30% of the initial value | Capacitors cycles 500000 times between rated voltage and half rated voltage under constant current at 25°C . Shelf for 5s between each charge and discharge. |
| | ESR | Less than or equal to 4 times the initial value | |
| Humidity Characteristics | △C | Satisfies the range of 30% of the initial rating | Temperature：+40±2°C<br>Relative humidity：90~95%RH<br>Test time：240h |
| | ESR | Less than or equal to 4 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Temperature Cycle | △C | Less than or equal to 10% of the initial value | Temperature cycle：-25±2°C → normal temperature →+70±2°C →normal temperature<br>Cycles：5 |
| | Appearance | No mechanical damage or leakage | |
| Low Temperature Storage Characteristics | △C | Satisfies the range of 10% of the initial rating | Applied voltage：0V<br>Temperature：-40±2°C<br>Time：96h |
| | ESR | Less than or equal to 2 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| High Temperature Storage Characteristics | △C | Satisfies the range of 10% of the initial rating | Applied voltage：0V<br>Temperature：+70±2°C<br>Time：96h |
| | ESR | Less than or equal to 2 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Self Discharge Characteristics | The self-discharge cut-off voltage is greater than or equal to 80% of the rated voltage | | Charging process: normal temperature, no load, rated voltage charge 8h<br>Placement process: temperature less than or equal to 25°C, relative humidity less than 60% RH, open 24 h |
| Lead strength | No damage to the outlet | | DL/T 1652-2016 |
| Solder ability | More than 3/4 of the terminal surface is covered by a tin layer | | DL/T 1652-2016 |

**■Storage Temperature: -30~50℃; Relative Humidity:<60%RH, Max. Humidity<85%RH**

## ■High Voltage Cylindrical Type Supercapacitor

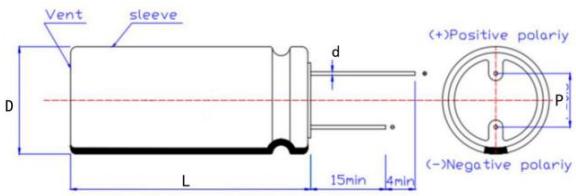
**Specifications Value of Product**

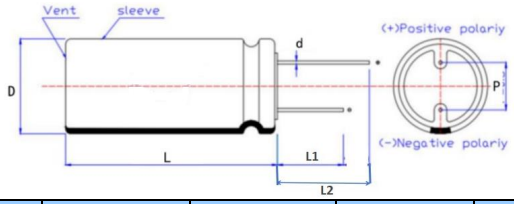
| Part No. | Rated Voltage (V) | Rated Capacitance (F) | Tolerance | Max. ESR 25°C (mΩ) | Maximum Peak Current （25°C <1s, A） | Leakage Current (25°C 72h, mA) | Store energy （mWh） | Sizs DxL (mm) |
|---|---|---|---|---|---|---|---|---|
| SC3V0L504MV | 3.0 | 0.5 | ±20% | 500 | 0.54 | 0.008 | 0.63 | 6.3x12.5 |
| SC3V0L105MV | 3.0 | 1.0 | ±20% | 350 | 1.00 | 0.008 | 1.25 | 8.0x13.0 |
| SC3V0L105MV-1 | 3.0 | 1.0 | ±20% | 500 | 0.90 | 0.008 | 1.25 | 6.3x12.5 |
| SC3V0L155MV | 3.0 | 1.5 | ±20% | 500 | 1.16 | 0.008 | 1.88 | 6.3x12.5 |
| SC3V0L155MV-1 | 3.0 | 1.5 | ±20% | 350 | 1.33 | 0.010 | 1.88 | 8.0x13.0 |
| SC3V0L205MV | 3.0 | 2.0 | ±20% | 240 | 1.93 | 0.012 | 2.50 | 8.0x13.0 |
| SC3V0L205MV-1 | 3.0 | 2.0 | ±20% | 200 | 1.99 | 0.012 | 2.50 | 8.0x16.0 |
| SC3V0L305MV | 3.0 | 3.0 | ±20% | 160 | 2.98 | 0.013 | 3.75 | 8.0x20.0 |
| SC3V0L335MV | 3.0 | 3.3 | ±20% | 160 | 3.19 | 0.013 | 4.13 | 8.0x20.0 |
| SC3V0L505MV | 3.0 | 5.0 | ±20% | 120 | 4.82 | 0.016 | 6.25 | 8.0x24.0 |
| SC3V0L505MV-1 | 3.0 | 5.0 | ±20% | 120 | 4.91 | 0.016 | 6.25 | 10.0x20.0 |
| SC3V0L605MV | 3.0 | 6.0 | ±20% | 100 | 5.59 | 0.024 | 7.50 | 10.0x20.0 |
| SC3V0L6059V | 3.0 | 6.0 | +30%/-10% | 100 | 5.59 | 0.024 | 7.50 | 10.0x20.0 |
| SC3V0L705MV | 3.0 | 7.0 | ±20% | 80 | 6.34 | 0.028 | 8.75 | 10.0x20.0 |
| SC3V0L106MV | 3.0 | 10 | ±20% | 65 | 8.18 | 0.030 | 12.50 | 10.0x25.0 |
| SC3V0L106MV-1 | 3.0 | 10 | ±20% | 70 | 7.94 | 0.030 | 12.50 | 12.5x20.0 |
| SC3V0L126MV | 3.0 | 12 | ±20% | 65 | 9.01 | 0.032 | 15.00 | 12.5x20.0 |
| SC3V0L156MV | 3.0 | 15 | ±20% | 55 | 11.10 | 0.050 | 18.75 | 12.5x25.0 |
| SC3V0L156MV-1 | 3.0 | 15 | ±20% | 70 | 10.97 | 0.050 | 18.75 | 12.5x20.0 |
| SC3V0L206MV | 3.0 | 20 | ±20% | 70 | 11.25 | 0.065 | 25.00 | 12.5x30.0 |
| SC3V0L206MV-1 | 3.0 | 20 | ±20% | 50 | 14.21 | 0.060 | 25.00 | 12.5x25.0 |
| SC3V0L256MV | 3.0 | 25 | ±20% | 45 | 19.29 | 0.070 | 31.25 | 16.0x25.0 |
| SC3V0L2569V | 3.0 | 25 | +30%/-10% | 45 | 19.29 | 0.070 | 31.25 | 16.0x25.0 |
| SC3V0L306MV | 3.0 | 30 | ±20% | 30 | 21.32 | 0.078 | 37.50 | 16.0x30.0 |
| SC3V0L406MV | 3.0 | 40 | ±20% | 30 | 25.47 | 0.088 | 50.00 | 18.0x30.0 |
| SC3V0L506MV | 3.0 | 50 | ±20% | 25 | 30.00 | 0.100 | 62.50 | 18.0x40.0 |
| SC3V0L606MV | 3.0 | 60 | ±20% | 25 | 32.40 | 0.120 | 75.00 | 18.0x40.0 |

**■Maximum Peak Current：Is the current taking 1 sec. to discharge from $U_R$ to $1/2U_R$**

**■Body color：Blue**

**Dimensions & Packaging Quantity**




| Part No. | D (mm) | L (mm) | P (mm) | d (mm) | L1 (mm) | L2 (mm) | Quantity(EA) Plastic Tray |
|---|---|---|---|---|---|---|---|
| SC3V0L504MV | 6.3±1.0 | 12.5±1.5 | 2.5±0.5 | 0.5±0.05 | 20.0±2.0 | 25.0±2.0 | 180 |
| SC3V0L105MV | 8.0±1.0 | 13.0±1.5 | 3.5±0.5 | 0.6±0.05 | 20.0±2.0 | 26.0±2.0 | 160 |
| SC3V0L105MV-1 | 6.3±1.0 | 12.5±1.5 | 2.5±0.5 | 0.5±0.05 | 20.0±2.0 | 25.0±2.0 | 180 |
| SC3V0L155MV | 6.3±1.0 | 12.5±1.5 | 2.5±0.5 | 0.5±0.05 | 20.0±2.0 | 25.0±2.0 | 180 |
| SC3V0L155MV-1 | 8.0±1.0 | 13.0±1.5 | 3.5±0.5 | 0.6±0.05 | 20.0±2.0 | 26.0±2.0 | 160 |
| SC3V0L205MV | 8.0±1.0 | 13.0±1.5 | 3.5±0.5 | 0.6±0.05 | 20.0±2.0 | 26.0±2.0 | 160 |
| SC3V0L205MV-1 | 8.0±1.0 | 16.0±1.5 | 3.5±0.5 | 0.6±0.05 | 20.0±2.0 | 26.0±2.0 | 140 |
| SC3V0L305MV | 8.0±1.0 | 20.0±1.5 | 3.5±0.5 | 0.6±0.05 | 20.0±2.0 | 26.0±2.0 | 120 |
| SC3V0L335MV | 8.0±1.0 | 20.0±1.5 | 3.5±0.5 | 0.6±0.05 | 20.0±2.0 | 26.0±2.0 | 120 |
| SC3V0L505MV | 8.0±1.0 | 24.0±1.5 | 3.5±0.5 | 0.6±0.05 | 20.0±2.0 | 26.0±2.0 | 100 |
| SC3V0L505MV-1 | 10.0±1.0 | 20.0±1.5 | 5.0±0.5 | 0.6±0.05 | 19.0±2.0 | 25.0±2.0 | 120 |
| SC3V0L605MV | 10.0±1.0 | 20.0±1.5 | 5.0±0.5 | 0.6±0.05 | 19.0±2.0 | 25.0±2.0 | 120 |
| SC3V0L6059V | 10.0±1.0 | 20.0±1.5 | 5.0±0.5 | 0.6±0.05 | 19.0±2.0 | 25.0±2.0 | 120 |
| SC3V0L705MV | 10.0±1.0 | 20.0±1.5 | 5.0±0.5 | 0.6±0.05 | 19.0±2.0 | 25.0±2.0 | 120 |
| SC3V0L106MV | 10.0±1.0 | 25.0±2.0 | 5.0±0.5 | 0.6±0.05 | 22.0±2.0 | 28.0±2.0 | 80 |
| SC3V0L106MV-1 | 12.5±1.0 | 20.0±2.0 | 5.0±0.5 | 0.6±0.05 | 23.0±2.0 | 29.0±2.0 | 64 |
| SC3V0L126MV | 12.5±1.0 | 20.0±2.0 | 5.0±0.5 | 0.6±0.05 | 23.0±2.0 | 29.0±2.0 | 64 |
| SC3V0L156MV | 12.5±1.0 | 25.0±2.0 | 5.0±0.5 | 0.6±0.05 | 22.0±2.0 | 28.0±2.0 | 60 |
| SC3V0L156MV-1 | 12.5±1.0 | 20.0±2.0 | 5.0±0.5 | 0.6±0.05 | 23.0±2.0 | 29.0±2.0 | 64 |
| SC3V0L206MV | 12.5±1.0 | 30.0±2.0 | 5.0±0.5 | 0.6±0.05 | 22.0±2.0 | 28.0±2.0 | 60 |
| SC3V0L206MV-1 | 12.5±1.0 | 25.0±2.0 | 5.0±0.5 | 0.6±0.05 | 22.0±2.0 | 28.0±2.0 | 60 |
| SC3V0L256MV | 16.0±1.0 | 25.0±3.0 | 7.5±0.5 | 0.8±0.05 | 22.0±2.0 | 28.0±2.0 | 50 |
| SC3V0L2569V | 16.0±1.0 | 25.0±3.0 | 7.5±0.5 | 0.8±0.05 | 22.0±2.0 | 28.0±2.0 | 50 |
| SC3V0L306MV | 16.0±1.0 | 30.0±3.0 | 7.5±0.5 | 0.8±0.05 | 22.0±2.0 | 28.0±2.0 | 50 |
| SC3V0L406MV | 18.0±1.0 | 30.0±3.0 | 7.5±0.5 | 0.8±0.05 | - | - | 44 |
| SC3V0L506MV | 18.0±1.0 | 40.0±3.0 | 7.5±0.5 | 0.8±0.05 | - | - | 26 |
| SC3V0L606MV | 18.0±1.0 | 40.0±3.0 | 7.5±0.5 | 0.8±0.05 | - | - | 26 |

## ■Environmental Characteristics

| Item | Requirement | | Test Condition |
|---|---|---|---|
| Operating Temperature Range | -40°C~+65°C@3.0V<br>+70°C@2.7V | | |
| Rated Operating Voltage | 3.0V DC | | |
| High Temperature Characteristics | △C | Less than or equal to 30% of the initial value | Place in the higher operating temperature environment for 16h and test in this environment. |
| | ESR | Less than or equal to the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Low Temperature Characteristics | △C | Less than or equal to 30% of the initial value | Place in the higher operating temperature environment for 2h and test in this environment. |
| | ESR | Less than or equal to 4 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Endurance | △C | Less than or equal to 30% of the initial value | Applied voltage：3.0V<br>Temperature：+65±2°C<br>Time：1000h |
| | ESR | Less than or equal to 4 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Cycle Life | △C | Less than or equal to 30% of the initial value | Capacitors cycles 500000 times between rated voltage and half rated voltage under constant current at 25°C . Shelf for 5s between each charge and discharge. |
| | ESR | Less than or equal to 4 times the initial value | |
| Humidity Characteristics | △C | Less than or equal to 30% of the initial value | Temperature：+40±2°C<br>Relative humidity：90~95%RH<br>Test time：240h |
| | ESR | Less than or equal to 4 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Temperature cycle | △C | Less than or equal to 10% of the initial value | Temperature cycle：-25±2°C →normal temperature →+70±2°C→normal temperature<br>Cycles：5 |
| | Appearance | No leakage or mechanical damage | |
| Low Temperature Storage Characteristics | △C | Satisfies the range of 10% of the initial rating | Applied voltage：0V<br>Temperature：-40±2°C<br>Time：96h |
| | ESR | Less than or equal to 2 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| High Temperature Storage Characteristics | △C | Satisfies the range of 10% of the initial rating | Applied voltage：0V<br>Temperature：+70±2°C<br>Time：96h |
| | ESR | Less than or equal to 2 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Self Discharge Characteristics | The self-discharge cut-off voltage is greater than or equal to 80% of the rated voltage | | Charging process: normal temperature, no load, rated voltage charge 8h<br>Placement process: temperature less than or equal to 25°C, relative humidity less than 60% RH, open 24 h |
| Lead strength | No damage to the outlet | | DL/T 1652-2016 |
| Solder ability | More than 3/4 of the terminal surface is covered by a tin layer | | DL/T 1652-2016 |

**■Storage Temperature: -30~50°C; Relative Humidity:<60%RH, Max. Humidity<85%RH**

## ■High Temperature Cylindrical Type Supercapacitor

**Specifications Value of Product**

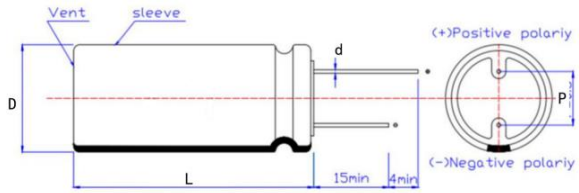
| Part No. | Rated Voltage (V) | Rated Capacitance (F) | Tolerance | Max. ESR 25℃ (mΩ) | Maximum Peak Current （25℃<1s, A） | Leakage Current (25℃72h, mA) | Store energy (mWh） | Sizs DxL (mm) |
|---|---|---|---|---|---|---|---|---|
| SC2V7L504MH | 2.7 | 0.5 | ±20% | 500 | 0.54 | 0.008 | 0.51 | 6.3x12.5 |
| SC2V7L105MH | 2.7 | 1.0 | ±20% | 350 | 1.00 | 0.008 | 1.01 | 8.0x13.0 |
| SC2V7L105MH-1 | 2.7 | 1.0 | ±20% | 500 | 0.90 | 0.008 | 1.01 | 6.3x12.5 |
| SC2V7L155MH | 2.7 | 1.5 | ±20% | 350 | 1.33 | 0.010 | 1.52 | 8.0x13.0 |
| SC2V7L155MH-1 | 2.7 | 1.5 | ±20% | 500 | 1.16 | 0.008 | 1.52 | 6.3x12.5 |
| SC2V7L205MH | 2.7 | 2.0 | ±20% | 200 | 1.99 | 0.012 | 2.03 | 8.0x16.0 |
| SC2V7L205MH-1 | 2.7 | 2.0 | ±20% | 200 | 1.92 | 0.012 | 2.03 | 8.0x20.0 |
| SC2V7L205MH-2 | 2.7 | 2.0 | ±20% | 240 | 1.93 | 0.012 | 2.03 | 8.0x13.0 |
| SC2V7L305MH | 2.7 | 3.0 | ±20% | 160 | 2.98 | 0.017 | 3.04 | 8.0x20.0 |
| SC2V7L305MH-1 | 2.7 | 3.0 | ±20% | 160 | 2.74 | 0.015 | 3.04 | 8.0x16.0 |
| SC2V7L335MH | 2.7 | 3.3 | ±20% | 160 | 3.19 | 0.017 | 3.34 | 8.0x20.0 |
| SC2V7L405MH | 2.7 | 4.0 | ±20% | 150 | 3.38 | 0.015 | 4.05 | 8.0x16.0 |
| SC2V7L505MH | 2.7 | 5.0 | ±20% | 120 | 4.82 | 0.020 | 5.06 | 8.0x24.0 |
| SC2V7L505MH-1 | 2.7 | 5.0 | ±20% | 120 | 4.91 | 0.020 | 5.06 | 10.0x20.0 |
| SC2V7L605MH | 2.7 | 6.0 | ±20% | 100 | 5.59 | 0.025 | 6.08 | 10.0x20.0 |
| SC2V7L705MH | 2.7 | 7.0 | ±20% | 80 | 6.34 | 0.030 | 7.09 | 10.0x20.0 |
| SC2V7L106MH | 2.7 | 10 | ±20% | 65 | 8.18 | 0.050 | 10.13 | 10.0x25.0 |
| SC2V7L106MH-1 | 2.7 | 10 | ±20% | 70 | 7.94 | 0.050 | 10.13 | 12.5x20.0 |
| SC2V7L126MH | 2.7 | 12 | ±20% | 65 | 9.01 | 0.050 | 12.15 | 12.5x20.0 |
| SC2V7L156MH | 2.7 | 15 | ±20% | 55 | 11.10 | 0.065 | 15.19 | 12.5x25.0 |
| SC2V7L206MH | 2.7 | 20 | ±20% | 50 | 14.21 | 0.080 | 20.25 | 12.5x25.0 |
| SC2V7L206MH-1 | 2.7 | 20 | ±20% | 70 | 11.25 | 0.065 | 20.25 | 12.5x30.0 |
| SC2V7L256MH | 2.7 | 25 | ±20% | 45 | 19.29 | 0.070 | 25.31 | 16.0x25.0 |
| SC2V7L256MH-1 | 2.7 | 25 | ±20% | 65 | 12.86 | 0.070 | 25.31 | 12.5x30.0 |
| SC2V7L306MH | 2.7 | 30 | ±20% | 30 | 21.32 | 0.078 | 30.38 | 16.0x30.0 |
| SC2V7L406MH | 2.7 | 40 | ±20% | 30 | 25.47 | 0.088 | 40.50 | 18.0x30.0 |
| SC2V7L506MH | 2.7 | 50 | ±20% | 25 | 30.00 | 0.100 | 50.63 | 18.0x40.0 |
| SC2V7L606MH | 2.7 | 60 | ±20% | 25 | 32.40 | 0.120 | 60.75 | 18.0x40.0 |

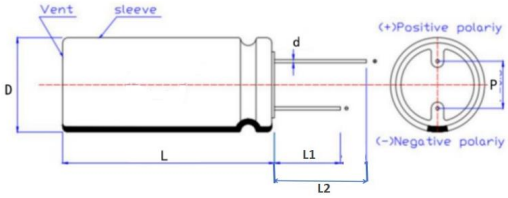
**■Maximum Peak Current：Is the current taking 1 sec. to discharge from $U_R$ to $1/2U_R$**

**■Body color：Black**

## Supercapacitor

**Dimensions & Packaging Quantity**




| Part No. | D (mm) | L (mm) | P (mm) | d (mm) | L1 (mm) | L2 (mm) | Quantity(EA) Plastic Tray |
|---|---|---|---|---|---|---|---|
| SC2V7L504MH | 6.3±1.0 | 12.5±1.5 | 2.5±0.5 | 0.5±0.05 | 20.0±2.0 | 25.0±2.0 | 180 |
| SC2V7L105MH | 8.0±1.0 | 13.0±1.5 | 3.5±0.5 | 0.6±0.05 | 20.0±2.0 | 26.0±2.0 | 160 |
| SC2V7L105MH-1 | 6.3±1.0 | 12.5±1.5 | 2.5±0.5 | 0.5±0.05 | 20.0±2.0 | 25.0±2.0 | 180 |
| SC2V7L155MH | 8.0±1.0 | 13.0±1.5 | 3.5±0.5 | 0.6±0.05 | 20.0±2.0 | 26.0±2.0 | 160 |
| SC2V7L155MH-1 | 6.3±1.0 | 12.5±1.5 | 2.5±0.5 | 0.5±0.05 | 20.0±2.0 | 25.0±2.0 | 180 |
| SC2V7L205MH | 8.0±1.0 | 16.0±1.5 | 3.5±0.5 | 0.6±0.05 | 20.0±2.0 | 26.0±2.0 | 140 |
| SC2V7L205MH-1 | 8.0±1.0 | 20.0±1.5 | 3.5±0.5 | 0.6±0.05 | 20.0±2.0 | 26.0±2.0 | 120 |
| SC2V7L205MH-2 | 8.0±1.0 | 13.0±1.5 | 3.5±0.5 | 0.6±0.05 | 20.0±2.0 | 26.0±2.0 | 160 |
| SC2V7L305MH | 8.0±1.0 | 20.0±1.5 | 3.5±0.5 | 0.6±0.05 | 20.0±2.0 | 26.0±2.0 | 120 |
| SC2V7L305MH-1 | 8.0±1.0 | 16.0±1.5 | 3.5±0.5 | 0.6±0.05 | 20.0±2.0 | 26.0±2.0 | 140 |
| SC2V7L335MH | 8.0±1.0 | 20.0±1.5 | 3.5±0.5 | 0.6±0.05 | 20.0±2.0 | 26.0±2.0 | 120 |
| SC2V7L405MH | 8.0±1.0 | 16.0±1.5 | 3.5±0.5 | 0.6±0.05 | 20.0±2.0 | 26.0±2.0 | 140 |
| SC2V7L505MH | 8.0±1.0 | 24.0±1.5 | 3.5±0.5 | 0.6±0.05 | 20.0±2.0 | 26.0±2.0 | 100 |
| SC2V7L505MH-1 | 10.0±1.0 | 20.0±1.5 | 5.0±0.5 | 0.6±0.05 | 19.0±2.0 | 25.0±2.0 | 120 |
| SC2V7L605MH | 10.0±1.0 | 20.0±1.5 | 5.0±0.5 | 0.6±0.05 | 19.0±2.0 | 25.0±2.0 | 120 |
| SC2V7L705MH | 10.0±1.0 | 20.0±1.5 | 5.0±0.5 | 0.6±0.05 | 19.0±2.0 | 25.0±2.0 | 120 |
| SC2V7L106MH | 10.0±1.0 | 25.0±2.0 | 5.0±0.5 | 0.6±0.05 | 22.0±2.0 | 28.0±2.0 | 80 |
| SC2V7L106MH-1 | 12.5±1.0 | 20.0±2.0 | 5.0±0.5 | 0.6±0.05 | 23.0±2.0 | 29.0±2.0 | 64 |
| SC2V7L126MH | 12.5±1.0 | 20.0±2.0 | 5.0±0.5 | 0.6±0.05 | 23.0±2.0 | 29.0±2.0 | 64 |
| SC2V7L156MH | 12.5±1.0 | 25.0±2.0 | 5.0±0.5 | 0.6±0.05 | 22.0±2.0 | 28.0±2.0 | 60 |
| SC2V7L206MH | 12.5±1.0 | 25.0±2.0 | 5.0±0.5 | 0.6±0.05 | 22.0±2.0 | 28.0±2.0 | 60 |
| SC2V7L206MH-1 | 12.5±1.0 | 30.0±2.0 | 5.0±0.5 | 0.6±0.05 | 22.0±2.0 | 28.0±2.0 | 60 |
| SC2V7L256MH | 16.0±1.0 | 25.0±3.0 | 7.5±0.5 | 0.8±0.05 | 22.0±2.0 | 28.0±2.0 | 50 |
| SC2V7L256MH-1 | 12.5±1.0 | 30.0±2.0 | 5.0±0.5 | 0.6±0.05 | 22.0±2.0 | 28.0±2.0 | 60 |
| SC2V7L306MH | 16.0±1.0 | 30.0±3.0 | 7.5±0.5 | 0.8±0.05 | 22.0±2.0 | 28.0±2.0 | 50 |
| SC2V7L406MH | 18.0±1.0 | 30.0±3.0 | 7.5±0.5 | 0.8±0.05 | - | - | 44 |
| SC2V7L506MH | 18.0±1.0 | 40.0±3.0 | 7.5±0.5 | 0.8±0.05 | - | - | 26 |
| SC2V7L606MH | 18.0±1.0 | 40.0±3.0 | 7.5±0.5 | 0.8±0.05 | - | - | 26 |

## ■Environmental Characteristics

| Item | Requirement | | Test Condition |
|---|---|---|---|
| Operating Temperature Range | -40°C~+70°C@2.7V<br>+85°C@2.5V | | |
| Rated Operating Voltage | 2.7V DC | | |
| High Temperature Characteristics | △C | Less than or equal to 30% of the initial value | Place in the higher operating temperature environment for 16h and test in this environment |
| | ESR | Less than or equal to the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Low Temperature Characteristics | △C | Less than or equal to 30% of the initial value | Place in the lower operating temperature environment for 2h and test in this environment |
| | ESR | Less than or equal to 4 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Endurance | △C | Less than or equal to 30% of the initial value | Applied voltage：2.5V<br>Temperature：+85±2°C<br>Time：1000h |
| | ESR | Less than or equal to 4 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Cycle Life | △C | Less than or equal to 30% of the initial value | Capacitors cycles 500000 times between rated voltage and half rated voltage under constant current at 25°C . Shelf for 5s between each charge and discharge. |
| | ESR | Less than or equal to 4 times the initial value | |
| Humidity Characteristics | △C | Less than or equal to 30% of the initial value | Temperature：+40±2°C<br>Relative humidity：90~95%RH<br>Test time：240h |
| | ESR | Less than or equal to 4 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Temperature Cycle | △C | Less than or equal to 10% of the initial value | Temperature cycle：-40±2°C→normal temperature →+85±2°C→normal temperature<br>Cycles：5 |
| | Appearance | No leakage or mechanical damage | |
| Low Temperature Storage Characteristics | △C | Satisfies the range of 10% of the initial rating | Applied voltage：0V<br>Temperature：-40±2°C<br>Time：96h |
| | ESR | Less than or equal to 2 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| High Temperature Storage Characteristics | △C | Satisfies the range of 10% of the initial rating | Applied voltage：0V<br>Temperature：+85±2°C<br>Time：96h |
| | ESR | Less than or equal to 2 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Self Discharge Characteristics | The self-discharge cut-off voltage is greater than or equal to 80% of the rated voltage | | Charging process: normal temperature, no load, rated voltage charge 8h<br>Placement process: temperature less than or equal to 25°C, relative humidity less than 60% RH, open 24 h |
| Lead strength | No damage to the outlet | | DL/T 1652-2016 |
| Solder ability | More than 3/4 of the terminal surface is covered by a tin layer | | DL/T 1652-2016 |

**■Storage Temperature: -30~50℃; Relative Humidity:<60%RH, Max. Humidity<85%RH**

## ■Standard Combined Type Supercapacitor

**Specifications Value of Standard Product**

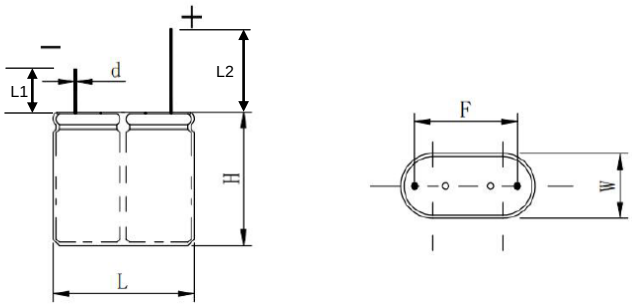
| Part No. | Rated Voltage (V) | Rated Capacitance (F) | Tolerance | Max. ESR 25℃ (mΩ) | Maximum Peak Current （25℃<1s, A） | Leakage Current (25℃72h, mA) | Store energy (mWh） | Sizs WxHxL (mm) |
|---|---|---|---|---|---|---|---|---|
| SC5V5Z224Z | 5.5 | 0.22 | +80%/-20% | 1000 | 0.48 | 0.008 | 0.92 | 6.5x13.8x13.5 |
| SC5V5Z334Z | 5.5 | 0.33 | +80%/-20% | 1000 | 0.68 | 0.008 | 1.39 | 6.5x13.8x13.5 |
| SC5V5Z3349-1 | 5.5 | 0.33 | +30%/-20% | 700 | 0.74 | 0.008 | 1.39 | 8.5x14.0x17.0 |
| SC5V5Z474M | 5.5 | 0.47 | ±20% | 1000 | 0.88 | 0.008 | 1.97 | 6.5x13.8x13.5 |
| SC5V5Z4749 | 5.5 | 0.47 | +30%/-10% | 600 | 1.01 | 0.010 | 1.97 | 8.5x14.0x17.0 |
| SC5V5Z504M | 5.5 | 0.50 | ±20% | 1000 | 0.88 | 0.008 | 2.10 | 6.5x13.8x13.5 |
| SC5V5Z504M-1 | 5.5 | 0.50 | ±20% | 600 | 1.06 | 0.010 | 2.1 | 8.5x14.0x17.0 |
| SC5V5Z105Z | 5.5 | 1.0 | +80%/-20% | 400 | 1.96 | 0.017 | 4.20 | 8.5x21.0x17.0 |
| SC5V5Z105M-1 | 5.5 | 1.0 | ±20% | 360 | 2.02 | 0.012 | 4.20 | 8.5x17.0x17.0 |
| SC5V5Z105M-2 | 5.5 | 1.0 | ±20% | 500 | 1.83 | 0.012 | 4.20 | 8.5x14.0x17.0 |
| SC5V5Z155M | 5.5 | 1.5 | ±20% | 270 | 3.03 | 0.017 | 6.30 | 8.5x21.0x17.0 |
| SC5V5Z155M-1 | 5.5 | 1.5 | ±20% | 300 | 2.84 | 0.016 | 6.30 | 8.5x17.0x17.0 |
| SC5V5Z205M | 5.5 | 2.0 | ±20% | 220 | 3.93 | 0.020 | 8.40 | 8.5x21.0x17.0 |
| SC5V5Z205M-1 | 5.5 | 2.0 | ±20% | 220 | 4.04 | 0.020 | 8.40 | 8.5x25.0x17.0 |
| SC5V5Z255M | 5.5 | 2.5 | ±20% | 170 | 4.91 | 0.020 | 10.50 | 8.5x25.0x17.0 |
| SC5V5Z255M-1 | 5.5 | 2.5 | ±20% | 200 | 5.00 | 0.020 | 10.50 | 10.0x21.0x21.0 |
| SC5V5Z305M | 5.5 | 3.0 | ±20 | 160 | 5.69 | 0.025 | 12.60 | 8.5x25.0x17.0 |
| SC5V5Z305M-1 | 5.5 | 3.0 | ±20 | 180 | 5.69 | 0.025 | 12.60 | 10.0x21.0x21.0 |
| SC5V5Z355M | 5.5 | 3.5 | ±20% | 160 | 6.31 | 0.030 | 14.70 | 10.0x21.0x21.0 |
| SC5V5Z505M | 5.5 | 5.0 | ±20% | 120 | 8.59 | 0.050 | 21.01 | 10.0x26.0x21.0 |
| SC5V5Z505M-1 | 5.5 | 5.0 | ±20% | 120 | 8.59 | 0.050 | 21.01 | 13.0x27.0x26.0 |
| SC5V5Z505M-2 | 5.5 | 5.0 | ±20% | 120 | 8.59 | 0.050 | 21.01 | 13.0x22.0x26.0 |
| SC5V5Z755M | 5.5 | 7.5 | ±20% | 120 | 10.86 | 0.065 | 31.51 | 13.0x22.0x26.0 |
| SC5V5Z106M | 5.5 | 10 | ±20% | 90 | 14.47 | 0.060 | 42.01 | 16.0x28.0x33.0 |
| SC5V5Z106M-1 | 5.5 | 10 | ±20% | 100 | 14.47 | 0.080 | 42.01 | 13.0x27.0x26.0 |
| SC5V5Z156M | 5.5 | 15 | ±20% | 70 | 20.12 | 0.078 | 63.02 | 16.0x33.0x33.0 |
| SC5V5Z256M | 5.5 | 25 | ±20% | 60 | 27.50 | 0.100 | 105.03 | 18.0x43.0x37.0 |

**■Maximum Peak Current：Is the current taking 1 sec. to discharge from $U_R$ to $1/2U_R$**

**■Body color：Blue**

## Supercapacitor

**Dimensions & Packaging Quantity**




| Part No. | L (mm) | W (mm) | H (mm) | F (mm) | d (mm) | L1 (mm) | L2 (mm) | Quantity (EA) Plastic Tray | Quantity (EA) Plastic Bag |
|---|---|---|---|---|---|---|---|---|---|
| SC5V5Z224Z | 13.5±1.0 | 6.5±1.0 | 13.8±2.0 | 9.0±0.5 | 0.5±0.05 | 19.0±2.0 | 24.0±2.0 | 80 | - |
| SC5V5Z334Z | 13.5±1.0 | 6.5±1.0 | 13.8±2.0 | 9.0±0.5 | 0.5±0.05 | 19.0±2.0 | 24.0±2.0 | 80 | |
| SC5V5Z3349-1 | 17.0±1.0 | 8.5±1.0 | 14.0±2.0 | 12.0±0.5 | 0.6±0.05 | 19.0±2.0 | 24.0±2.0 | 64 | |
| SC5V5Z474M | 13.5±1.0 | 6.5±1.0 | 13.8±2.0 | 9.0±0.5 | 0.5±0.05 | 19.0±2.0 | 24.0±2.0 | 80 | - |
| SC5V5Z4749 | 17.0±1.0 | 8.5±1.0 | 14.0±2.0 | 12.0±0.5 | 0.6±0.05 | 19.0±2.0 | 24.0±2.0 | 64 | - |
| SC5V5Z504M | 13.5±1.0 | 6.5±1.0 | 13.8±2.0 | 9.0±0.5 | 0.5±0.05 | 19.0±2.0 | 24.0±2.0 | 80 | |
| SC5V5Z504M-1 | 17.0±1.0 | 8.5±1.0 | 14.0±2.0 | 12.0±0.5 | 0.6±0.05 | 19.0±2.0 | 24.0±2.0 | 64 | |
| SC5V5Z105Z | 17.0±1.0 | 8.5±1.0 | 21.0±2.0 | 12.0±0.5 | 0.6±0.05 | 19.0±2.0 | 24.0±2.0 | 48 | - |
| SC5V5Z105M-1 | 17.0±1.0 | 8.5±1.0 | 17.0±2.0 | 12.0±0.5 | 0.6±0.05 | 19.0±2.0 | 24.0±2.0 | 48 | - |
| SC5V5Z105M-2 | 17.0±1.0 | 8.5±1.0 | 14.0±2.0 | 12.0±0.5 | 0.6±0.05 | 19.0±2.0 | 24.0±2.0 | 64 | |
| SC5V5Z155M | 17.0±1.0 | 8.5±1.0 | 21.0±2.0 | 12.0±0.5 | 0.6±0.05 | 19.0±2.0 | 24.0±2.0 | 48 | - |
| SC5V5Z155M-1 | 17.0±1.0 | 8.5±1.0 | 17.0±2.0 | 12.0±0.5 | 0.6±0.05 | 19.0±2.0 | 24.0±2.0 | 48 | |
| SC5V5Z205M | 17.0±1.0 | 8.5±1.0 | 21.0±2.0 | 12.0±0.5 | 0.6±0.05 | 19.0±2.0 | 24.0±2.0 | 48 | |
| SC5V5Z205M-1 | 17.0±1.0 | 8.5±1.0 | 25.0±2.0 | 12.0±0.5 | 0.6±0.05 | 19.0±2.0 | 24.0±2.0 | 48 | |
| SC5V5Z255M | 17.0±1.0 | 8.5±1.0 | 25.0±2.0 | 12.0±0.5 | 0.6±0.05 | 19.0±2.0 | 24.0±2.0 | 48 | - |
| SC5V5Z255M-1 | 21.0±1.0 | 10.0±1.0 | 21.0±2.0 | 15.5±0.5 | 0.6±0.05 | 19.0±2.0 | 24.0±2.0 | 40 | |
| SC5V5Z305M | 17.0±1.0 | 8.5±1.0 | 25.0±2.0 | 12.0±0.5 | 0.6±0.05 | 19.0±2.0 | 24.0±2.0 | 48 | |
| SC5V5Z305M-1 | 21.0±1.0 | 10.0±1.0 | 21.0±2.0 | 15.5±0.5 | 0.6±0.05 | 19.0±2.0 | 24.0±2.0 | 40 | |
| SC5V5Z355M | 21.0±1.0 | 10.0±1.0 | 21.0±2.0 | 15.5±0.5 | 0.6±0.05 | 19.0±2.0 | 24.0±2.0 | 40 | - |
| SC5V5Z505M | 21.0±1.0 | 10.0±1.0 | 26.0±2.0 | 15.5±0.5 | 0.6±0.05 | 21.0±2.0 | 27.0±2.0 | 30 | - |
| SC5V5Z505M-1 | 26.0±1.0 | 13.0±1.0 | 27.0±2.0 | 18.0±0.5 | 0.6±0.05 | 19.0±2.0 | 24.0±2.0 | 20 | - |
| SC5V5Z505M-3 | 26.0±1.0 | 13.0±1.0 | 22.0±2.0 | 18.0±0.5 | 0.6±0.05 | 22.0±2.0 | 28.0±2.0 | 32 | |
| SC5V5Z755M | 26.0±1.0 | 13.0±1.0 | 22.0±2.0 | 18.0±0.5 | 0.6±0.05 | 22.0±2.0 | 28.0±2.0 | 32 | |
| SC5V5Z106M | 33.0±1.0 | 16.0±1.0 | 28.0±2.0 | 24.0±0.5 | 0.8±0.05 | 21.0±2.0 | 27.0±2.0 | 20 | |
| SC5V5Z106M-1 | 26.0±1.0 | 13.0±1.0 | 27.0±2.0 | 18.0±0.5 | 0.6±0.05 | 21.0±2.0 | 27.0±2.0 | 20 | |
| SC5V5Z156M | 33.0±1.0 | 16.0±1.0 | 33.0±2.0 | 24.0±0.5 | 0.8±0.05 | 21.0±2.0 | 27.0±2.0 | 16 | - |
| SC5V5Z256M | 37.0±1.0 | 18.0±1.0 | 43.0±2.0 | 26.0±0.5 | 0.8±0.05 | 23.0±2.0 | 28.0±2.0 | - | 40 |

## ■Environmental Characteristics

| Item | Requirement | | Test Condition |
|---|---|---|---|
| Operating Temperature Range | -40°C~+70°C | | |
| Rated Operating Voltage | 5.5V DC | | |
| High Temperature Characteristics | △C | Less than or equal to 30% of the initial value | Place in the higher operating temperature environment for 16h and test in this environment |
| | ESR | Less than or equal to the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Low Temperature Characteristics | △C | Less than or equal to 30% of the initial value | Place in the lower operating temperature environment for 2h and test in this environment |
| | ESR | Less than or equal to 4 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Endurance | △C | Less than or equal to 30% of the initial value | Applied voltage：5.0V<br>Temperature：+65±2°C<br>Time：1000h |
| | ESR | Less than or equal to 4 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Cycle Life | △C | Less than or equal to 30% of the initial value | Capacitors cycles 500000 times between rated voltage and half rated voltage under constant current at 25°C . Shelf for 5s between each charge and discharge. |
| | ESR | Less than or equal to 4 times the initial value | |
| Humidity Characteristics | △C | Less than or equal to 30% of the initial value | Temperature：+40±2°C<br>Relative humidity：90~95%RH<br>Test time：240h |
| | ESR | Less than or equal to 4 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Temperature Cycle | △C | Less than or equal to 10% of the initial value | Temperature cycle：-40±2°C→normal temperature →+70±2°C→normal temperature<br>Cycles：5 |
| | Appearance | No leakage or mechanical damage | |
| Low Temperature Storage Characteristics | △C | Satisfies the range of 10% of the initial rating | Applied voltage：0V<br>Temperature：-40±2°C<br>Time：96h |
| | ESR | Less than or equal to 2 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| High Temperature Storage Characteristics | △C | Satisfies the range of 10% of the initial rating | Applied voltage：0V<br>Temperature：+70±2°C<br>Time：96h |
| | ESR | Less than or equal to 2 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Self Discharge Characteristics | The self-discharge cut-off voltage is greater than or equal to 80% of the rated voltage | | Charging process: normal temperature, no load, rated voltage charge 8h<br>Placement process: temperature less than or equal to 25°C, relative humidity less than 60% RH, open 24 h |
| Lead strength | No damage to the outlet | | DL/T 1652-2016 |
| Solder ability | More than 3/4 of the terminal surface is covered by a tin layer | | DL/T 1652-2016 |

**■Storage Temperature: -30~50℃; Relative Humidity:<60%RH, Max. Humidity<85%RH**

## ■High Voltage Combined Type Supercapacitor

**Specifications Value of Product**

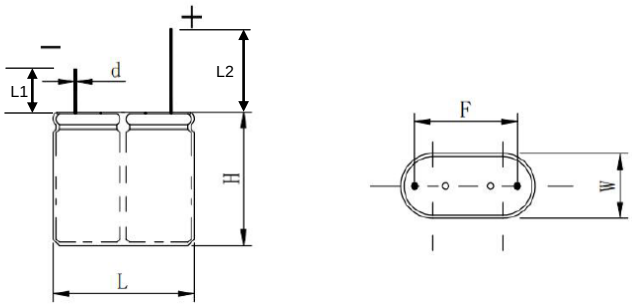
| Part No. | Rated Voltage (V) | Rated Capacitance (F) | Tolerance | Max. ESR 25℃ (mΩ) | Maximum Peak Current （25℃<1s, A） | Leakage Current (25℃72h, mA) | Store energy (mWh） | Sizs WxHxL (mm) |
|---|---|---|---|---|---|---|---|---|
| SC6V0Z224ZV | 6.0 | 0.22 | -20%~+80% | 1000 | 0.48 | 0.008 | 1.10 | 6.5x13.8x13.5 |
| SC6V0Z334ZV | 6.0 | 0.33 | -20%~+80% | 1000 | 0.68 | 0.008 | 1.65 | 6.5x13.8x13.5 |
| SC6V0Z3349V-1 | 6.0 | 0.33 | -10%~+30% | 700 | 0.74 | 0.008 | 1.65 | 8.5x14.0x17.0 |
| SC6V0Z474MV | 6.0 | 0.47 | ±20% | 1000 | 0.88 | 0.008 | 2.35 | 6.5x13.8x13.5 |
| SC6V0Z4749V-1 | 6.0 | 0.47 | -10%~+30% | 600 | 1.01 | 0.010 | 2.35 | 8.5x14.0x17.0 |
| SC6V0Z504MV | 6.0 | 0.5 | ±20% | 1000 | 0.88 | 0.008 | 2.50 | 6.5x13.8x13.5 |
| SC6V0Z504MV-2 | 6.0 | 0.5 | ±20% | 600 | 1.06 | 0.010 | 2.50 | 8.5x14.0x17.0 |
| SC6V0Z105ZV | 6.0 | 1 | -20%~+80% | 400 | 1.96 | 0.017 | 5.00 | 8.5x21.0x17.0 |
| SC6V0Z105MV-1 | 6.0 | 1 | ±20% | 480 | 1.83 | 0.012 | 5.00 | 8.5x14.0x17.0 |
| SC6V0Z105MV-2 | 6.0 | 1 | ±20% | 400 | 2.02 | 0.012 | 5.00 | 8.5x17.0x17.0 |
| SC6V0Z155MV | 6.0 | 1.5 | ±20% | 240 | 3.03 | 0.017 | 7.50 | 8.5x21.0x17.0 |
| SC6V0Z155MV-1 | 6.0 | 1.5 | ±20% | 320 | 2.84 | 0.016 | 7.50 | 8.5x17.0x17.0 |
| SC6V0Z205MV | 6.0 | 2.0 | ±20% | 180 | 4.04 | 0.020 | 10.00 | 8.5x25.0x17.0 |
| SC6V0Z255MV | 6.0 | 2.5 | ±20% | 160 | 4.91 | 0.020 | 12.50 | 8.5x25.0x17.0 |
| SC6V0Z255MV-1 | 6.0 | 2.5 | ±20% | 240 | 5.00 | 0.020 | 12.50 | 10.0x21.0x21.0 |
| SC6V0Z305MV | 6.0 | 3.0 | ±20% | 200 | 5.69 | 0.025 | 15.00 | 10.0x21.0x21.0 |
| SC6V0Z355MV | 6.0 | 3.5 | ±20% | 160 | 6.31 | 0.030 | 17.50 | 10.0x21.0x21.0 |
| SC6V0Z505MV | 6.0 | 5 | ±20% | 130 | 8.59 | 0.050 | 25.00 | 10.0x26.0x21.0 |
| SC6V0Z505MV-1 | 6.0 | 5 | ±20% | 140 | 8.59 | 0.050 | 25.00 | 13.0x22.0x26.0 |
| SC6V0Z505MV-2 | 6.0 | 5 | ±20% | 120 | 8.59 | 0.050 | 25.00 | 13.0x27.0x26.0 |
| SC6V0Z755MV | 6.0 | 7.5 | ±20% | 140 | 10.86 | 0.065 | 37.50 | 13.0x22.0x26.0 |
| SC6V0Z755MV-1 | 6.0 | 7.5 | ±20% | 110 | 11.30 | 0.065 | 37.50 | 13.0x27.0x26.0 |
| SC6V0Z106MV | 6.0 | 10 | ±20% | 90 | 14.47 | 0.080 | 50.00 | 13.0x27.0x26.0 |
| SC6V0Z106MV-1 | 6.0 | 10 | ±20% | 90 | 14.47 | 0.070 | 50.00 | 16.0x28.0x33.0 |
| SC6V0Z156MV | 6.0 | 15 | ±20% | 70 | 20.12 | 0.078 | 75.00 | 16.0x33.0x33.0 |

**■Maximum Peak Current：Is the current taking 1 sec. to discharge from $U_R$ to $1/2U_R$**

**■Body color：Blue**

## Supercapacitor

**Dimensions & Packaging Quantity**




| Part No. | L (mm) | W (mm) | H (mm) | F (mm) | d (mm) | L1 (mm) | L2 (mm) | Quantity(EA) Plastic Tray |
|---|---|---|---|---|---|---|---|---|
| SC6V0Z224ZV | 13.5±1.0 | 6.5±1.0 | 13.8±2.0 | 9.0±0.5 | 0.5±0.05 | 19.0±2.0 | 24.0±2.0 | 80 |
| SC6V0Z334ZV | 13.5±1.0 | 6.5±1.0 | 13.8±2.0 | 9.0±0.5 | 0.5±0.05 | 19.0±2.0 | 24.0±2.0 | 80 |
| SC6V0Z3349V-1 | 17.0±1.0 | 8.5±1.0 | 14.0±2.0 | 12.0±0.5 | 0.6±0.05 | 19.0±2.0 | 24.0±2.0 | 64 |
| SC6V0Z474MV | 13.5±1.0 | 6.5±1.0 | 13.8±2.0 | 9.0±0.5 | 0.5±0.05 | 19.0±2.0 | 24.0±2.0 | 80 |
| SC6V0Z4749V-1 | 17.0±1.0 | 8.5±1.0 | 14.0±2.0 | 12.0±0.5 | 0.6±0.05 | 19.0±2.0 | 24.0±2.0 | 64 |
| SC6V0Z504MV | 13.5±1.0 | 6.5±1.0 | 13.8±2.0 | 9.0±0.5 | 0.5±0.05 | 19.0±2.0 | 24.0±2.0 | 80 |
| SC6V0Z504MV-2 | 17.0±1.0 | 8.5±1.0 | 14.0±2.0 | 12.0±0.5 | 0.6±0.05 | 19.0±2.0 | 24.0±2.0 | 64 |
| SC6V0Z105ZV | 17.0±1.0 | 8.5±1.0 | 21.0±2.0 | 12.0±0.5 | 0.6±0.05 | 19.0±2.0 | 24.0±2.0 | 48 |
| SC6V0Z105MV-1 | 17.0±1.0 | 8.5±1.0 | 14.0±2.0 | 12.0±0.5 | 0.6±0.05 | 19.0±2.0 | 24.0±2.0 | 64 |
| SC6V0Z105MV-2 | 17.0±1.0 | 8.5±1.0 | 17.0±2.0 | 12.0±0.5 | 0.6±0.05 | 19.0±2.0 | 24.0±2.0 | 48 |
| SC6V0Z155MV | 17.0±1.0 | 8.5±1.0 | 21.0±2.0 | 12.0±0.5 | 0.6±0.05 | 19.0±2.0 | 24.0±2.0 | 48 |
| SC6V0Z155MV-1 | 17.0±1.0 | 8.5±1.0 | 17.0±2.0 | 12.0±0.5 | 0.6±0.05 | 19.0±2.0 | 24.0±2.0 | 48 |
| SC6V0Z205MV | 17.0±1.0 | 8.5±1.0 | 25.0±2.0 | 12.0±0.5 | 0.6±0.05 | 19.0±2.0 | 24.0±2.0 | 48 |
| SC6V0Z255MV | 17.0±1.0 | 8.5±1.0 | 25.0±2.0 | 12.0±0.5 | 0.6±0.05 | 19.0±2.0 | 24.0±2.0 | 48 |
| SC6V0Z255MV-1 | 21.0±1.0 | 10.0±1.0 | 21.0±2.0 | 15.5±0.5 | 0.6±0.05 | 19.0±2.0 | 24.0±2.0 | 40 |
| SC6V0Z305MV | 21.0±1.0 | 10.0±1.0 | 21.0±2.0 | 15.5±0.5 | 0.6±0.05 | 19.0±2.0 | 24.0±2.0 | 40 |
| SC6V0Z355MV | 21.0±1.0 | 10.0±1.0 | 21.0±2.0 | 15.5±0.5 | 0.6±0.05 | 19.0±2.0 | 24.0±2.0 | 40 |
| SC6V0Z505MV | 21.0±1.0 | 10.0±1.0 | 26.0±2.0 | 15.5±0.5 | 0.6±0.05 | 21.0±2.0 | 27.0±2.0 | 30 |
| SC6V0Z505MV-1 | 26.0±1.0 | 13.0±1.0 | 22.0±2.0 | 18.0±0.5 | 0.6±0.05 | 22.0±2.0 | 28.0±2.0 | 32 |
| SC6V0Z505MV-2 | 26.0±1.0 | 13.0±1.0 | 27.0±2.0 | 18.0±0.5 | 0.6±0.05 | 21.0±2.0 | 27.0±2.0 | 20 |
| SC6V0Z755MV | 26.0±1.0 | 13.0±1.0 | 22.0±2.0 | 18.0±0.5 | 0.6±0.05 | 22.0±2.0 | 28.0±2.0 | 32 |
| SC6V0Z755MV-1 | 26.0±1.0 | 13.0±1.0 | 27.0±2.0 | 18.0±0.5 | 0.6±0.05 | 21.0±2.0 | 27.0±2.0 | 20 |
| SC6V0Z106MV | 26.0±1.0 | 13.0±1.0 | 27.0±2.0 | 18.0±0.5 | 0.6±0.05 | 21.0±2.0 | 27.0±2.0 | 20 |
| SC6V0Z106MV-1 | 33.0±1.0 | 16.0±1.0 | 28.0±2.0 | 24.0±0.5 | 0.8±0.05 | 21.0±2.0 | 27.0±2.0 | 20 |
| SC6V0Z156MV | 33.0±1.0 | 16.0±1.0 | 33.0±2.0 | 24.0±0.5 | 0.8±0.05 | 21.0±2.0 | 27.0±2.0 | 16 |

## ■Environmental Characteristics

| Item | Requirement | | Test Condition |
|---|---|---|---|
| Operating Temperature Range | -40°C~+70°C | | |
| Rated Operating Voltage | 6.0V DC | | |
| High Temperature Characteristics | △C | Less than or equal to 30% of the initial value | Place in the higher operating temperature environment for 16h and test in this environment |
| | ESR | Less than or equal to the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Low Temperature Characteristics | △C | Less than or equal to 30% of the initial value | Place in the lower operating temperature environment for 2h and test in this environment |
| | ESR | Less than or equal to 4 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Endurance | △C | Less than or equal to 30% of the initial value | Applied voltage：5.0V<br>Temperature：+70±2°C<br>Time：1000h |
| | ESR | Less than or equal to 4 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Cycle Life | △C | Less than or equal to 30% of the initial value | Capacitors cycles 500000 times between rated voltage and half rated voltage under constant current at 25°C . Shelf for 5s between each charge and discharge. |
| | ESR | Less than or equal to 4 times the initial value | |
| Humidity Characteristics | △C | Less than or equal to 30% of the initial value | Temperature：+40±2°C<br>Relative humidity：90~95%RH<br>Test time：240h |
| | ESR | Less than or equal to 4 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Temperature Cycle | △C | Less than or equal to 10% of the initial value | Temperature cycle：-40±2°C→normal temperature →+70±2°C→normal temperature<br>Cycles：5 |
| | Appearance | No leakage or mechanical damage | |
| Low Temperature Storage Characteristics | △C | Satisfies the range of 10% of the initial rating | Applied voltage：0V<br>Temperature：-40±2°C<br>Time：96h |
| | ESR | Less than or equal to 2 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| High Temperature Storage Characteristics | △C | Satisfies the range of 10% of the initial rating | Applied voltage：0V<br>Temperature：+70±2°C<br>Time：96h |
| | ESR | Less than or equal to 2 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Self Discharge Characteristics | The self-discharge cut-off voltage is greater than or equal to 80% of the rated voltage | | Charging process: normal temperature, no load, rated voltage charge 8h<br>Placement process: temperature less than or equal to 25°C, relative humidity less than 60% RH, open 24 h |
| Lead strength | No damage to the outlet | | DL/T 1652-2016 |
| Solder ability | More than 3/4 of the terminal surface is covered by a tin layer | | DL/T 1652-2016 |

**■Storage Temperature: -30~50℃; Relative Humidity:<60%RH, Max. Humidity<85%RH**

## ■High Temperature Combined Type Supercapacitor

**Specifications Value of Product**

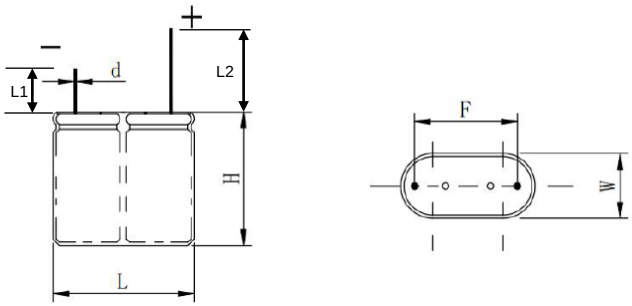
| Part No. | Rated Voltage (V) | Rated Capacitance (F) | Tolerance | Max. ESR DC 25℃ (mΩ) | Maximum Peak Current (25℃<1s, A) | Leakage Current (25℃ 72h, mA) | Store energy (mWh) | Sizs WxHxL (mm) |
|---|---|---|---|---|---|---|---|---|
| SC5V5Z224ZH | 5.5 | 0.22 | -20%~+80% | 1000 | 0.48 | 0.008 | 0.92 | 6.5x13.8x13.5 |
| SC5V5Z334ZH | 5.5 | 0.33 | -20%~+80% | 1000 | 0.68 | 0.008 | 1.39 | 6.5x13.8x13.5 |
| SC5V5Z474MH | 5.5 | 0.47 | ±20% | 1000 | 0.88 | 0.008 | 1.97 | 6.5x13.8x13.5 |
| SC5V5Z504MH | 5.5 | 0.5 | ±20% | 1000 | 0.88 | 0.008 | 2.10 | 6.5x13.8x13.5 |
| SC5V5Z105MH | 5.5 | 1.0 | ±20% | 360 | 1.96 | 0.013 | 4.20 | 8.5x17.0x17.0 |
| SC5V5Z155MH-2 | 5.5 | 1.5 | ±20% | 270 | 3.03 | 0.017 | 6.30 | 8.5x21.0x17.0 |
| SC5V5Z205MH | 5.5 | 2.0 | ±20% | 220 | 3.93 | 0.020 | 8.40 | 8.5x25.0x17.0 |
| SC5V5Z205MH-1 | 5.5 | 2.0 | ±20% | 220 | 3.72 | 0.020 | 8.40 | 8.5x21.0x17.0 |
| SC5V5Z255MH | 5.5 | 2.5 | ±20% | 170 | 4.74 | 0.020 | 10.50 | 8.5x25.0x17.0 |
| SC5V5Z255MH-1 | 5.5 | 2.5 | ±20% | 200 | 4.58 | 0.020 | 10.50 | 10.0x21.0x21.0 |
| SC5V5Z305MH | 5.5 | 3.0 | ±20% | 160 | 5.57 | 0.025 | 12.60 | 8.5x25.0x17.0 |
| SC5V5Z305MH-1 | 5.5 | 3.0 | ±20% | 180 | 5.36 | 0.025 | 12.60 | 10.0x21.0x21.0 |
| SC5V5Z355MH | 5.5 | 3.5 | ±20% | 160 | 6.31 | 0.030 | 14.70 | 10.0x21.0x21.0 |
| SC5V5Z505MH | 5.5 | 5.0 | ±20% | 120 | 7.86 | 0.050 | 21.01 | 13.0x22.0x26.0 |
| SC5V5Z505MH-2 | 5.5 | 5.0 | ±20% | 120 | 7.86 | 0.050 | 21.01 | 10.0x26.0x21.0 |
| SC5V5Z755MH | 7.5 | 5.0 | ±20% | 120 | 10.86 | 0.065 | 31.51 | 13.0x22.0x26.0 |
| SC5V5Z755MH-1 | 7.5 | 5.0 | ±20% | 110 | 10.06 | 0.065 | 31.51 | 13.0x27.0x26.0 |
| SC5V5Z106MH | 5.5 | 10 | ±20% | 90 | 13.75 | 0.060 | 42.01 | 16.0x28.0x33.0 |
| SC5V5Z106MH-1 | 5.5 | 10 | ±20% | 100 | 12.50 | 0.080 | 42.01 | 13.0x27.0x26.0 |
| SC5V5Z156MH | 5.5 | 15 | ±20% | 70 | 17.55 | 0.078 | 63.02 | 16.0x33.0x33.0 |
| SC5V5Z256MH | 5.5 | 25 | ±20% | 60 | 25.00 | 0.100 | 105.03 | 18.0x43.0x37.0 |

**■Maximum Peak Current：Is the current taking 1 sec. to discharge from $U_R$ to $1/2U_R$**

**■Body color：Black**

## Supercapacitor

**Dimensions & Packaging Quantity**



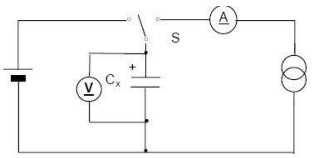
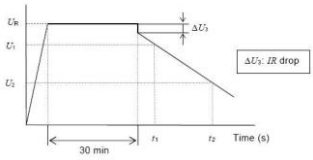
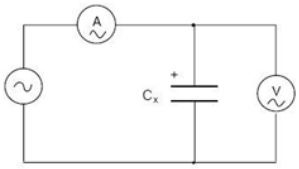
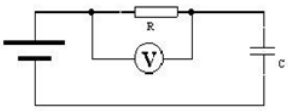
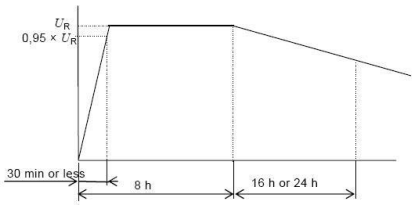

| Part No. | W (mm) | H (mm) | L (mm) | F (mm) | d (mm) | L1 (mm) | L2 (mm) | Quantity(EA) Plastic Tray | Quantity(EA) Plastic Bag |
|---|---|---|---|---|---|---|---|---|---|
| SC5V5Z224ZH | 6.5±1.0 | 13.8±2.0 | 13.5±1.0 | 9.0±0.5 | 0.5±0.05 | 19.0±2.0 | 24.0±2.0 | 80 | - |
| SC5V5Z334ZH | 6.5±1.0 | 13.8±2.0 | 13.5±1.0 | 9.0±0.5 | 0.5±0.05 | 19.0±2.0 | 24.0±2.0 | 80 | - |
| SC5V5Z474MH | 6.5±1.0 | 13.8±2.0 | 13.5±1.0 | 9.0±0.5 | 0.5±0.05 | 19.0±2.0 | 24.0±2.0 | 80 | - |
| SC5V5Z504MH | 6.5±1.0 | 13.8±2.0 | 13.5±1.0 | 9.0±0.5 | 0.5±0.05 | 19.0±2.0 | 24.0±2.0 | 80 | |
| SC5V5Z105MH | 8.5±1.0 | 17.0±2.0 | 17.0±1.0 | 12.0±0.5 | 0.6±0.05 | 19.0±2.0 | 24.0±2.0 | 48 | |
| SC5V5Z155MH-2 | 8.5±1.0 | 21.0±2.0 | 17.0±1.0 | 12.0±0.5 | 0.6±0.05 | 19.0±2.0 | 24.0±2.0 | 48 | |
| SC5V5Z205MH | 8.5±1.0 | 25.0±2.0 | 17.0±1.0 | 12.0±0.5 | 0.6±0.05 | 19.0±2.0 | 24.0±2.0 | 48 | - |
| SC5V5Z205MH-1 | 8.5±1.0 | 21.0±2.0 | 17.0±1.0 | 12.0±0.5 | 0.6±0.05 | 19.0±2.0 | 24.0±2.0 | 48 | |
| SC5V5Z255MH | 8.5±1.0 | 25.0±2.0 | 17.0±1.0 | 12.0±0.5 | 0.6±0.05 | 19.0±2.0 | 24.0±2.0 | 48 | - |
| SC5V5Z255MH-1 | 10.0±1.0 | 21.0±2.0 | 21.0±1.0 | 15.5±0.5 | 0.6±0.05 | 19.0±2.0 | 24.0±2.0 | 40 | |
| SC5V5Z305MH | 8.5±1.0 | 25.0±2.0 | 17.0±1.0 | 12.0±0.5 | 0.6±0.05 | 19.0±2.0 | 24.0±2.0 | 48 | |
| SC5V5Z305MH-1 | 10.0±1.0 | 21.0±2.0 | 21.0±1.0 | 15.5±0.5 | 0.6±0.05 | 19.0±2.0 | 24.0±2.0 | 40 | |
| SC5V5Z355MH | 10.0±1.0 | 21.0±2.0 | 21.0±1.0 | 15.5±0.5 | 0.6±0.05 | 19.0±2.0 | 24.0±2.0 | 40 | - |
| SC5V5Z505MH | 13.0±1.0 | 22.0±2.0 | 26.0±1.0 | 18.0±0.5 | 0.6±0.05 | 22.0±2.0 | 28.0±2.0 | 32 | - |
| SC5V5Z505MH-2 | 10.0±1.0 | 26.0±2.0 | 21.0±1.0 | 15.5±0.5 | 0.6±0.05 | 21.0±2.0 | 27.0±2.0 | 30 | |
| SC5V5Z755MH | 13.0±1.0 | 22.0±2.0 | 26.0±1.0 | 18.0±0.5 | 0.6±0.05 | 22.0±2.0 | 28.0±2.0 | 32 | |
| SC5V5Z755MH-1 | 13.0±1.0 | 27.0±2.0 | 26.0±1.0 | 18.0±0.5 | 0.6±0.05 | 21.0±2.0 | 27.0±2.0 | 20 | |
| SC5V5Z106MH | 16.0±1.0 | 28.0±2.0 | 33.0±1.0 | 24.0±0.5 | 0.8±0.05 | 21.0±2.0 | 27.0±2.0 | 20 | - |
| SC5V5Z106MH-1 | 13.0±1.0 | 27.0±2.0 | 26.0±1.0 | 18.0±0.5 | 0.6±0.05 | 21.0±2.0 | 27.0±2.0 | 20 | |
| SC5V5Z156MH | 16.0±1.0 | 33.0±2.0 | 33.0±1.0 | 24.0±0.5 | 0.8±0.05 | 21.0±2.0 | 27.0±2.0 | 16 | |
| SC5V5Z256MH | 18.0±1.0 | 43.0±2.0 | 37.0±1.0 | 26.0±0.5 | 0.8±0.05 | 23.0±2.0 | 28.0±2.0 | - | 40 |

## ■Environmental Characteristics

| Item | Requirement | | Test Condition |
|---|---|---|---|
| Operating Temperature Range | -40°C~+85°C | | |
| Rated Operating Voltage | 5.5V DC | | |
| High Temperature Characteristics | △C | Less than or equal to 30% of the initial value | Place in the higher operating temperature environment for 16h and test in this environment |
| | ESR | Less than or equal to the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Low Temperature Characteristics | △C | Less than or equal to 30% of the initial value | Place in the lower operating temperature environment for 2h and test in this environment |
| | ESR | Less than or equal to 4 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Endurance | △C | Less than or equal to 30% of the initial value | Applied voltage：5.0V<br>Temperature：+85±2°C<br>Time：1000h |
| | ESR | Less than or equal to 4 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Cycle Life | △C | Less than or equal to 30% of the initial value | Capacitors cycles 500000 times between rated voltage and half rated voltage under constant current at 25°C . Shelf for 5s between each charge and discharge. |
| | ESR | Less than or equal to 4 times the initial value | |
| Humidity Characteristics | △C | Less than or equal to 30% of the initial value | Temperature：+40±2°C<br>Relative humidity：90~95%RH<br>Test time：240h |
| | ESR | Less than or equal to 4 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Temperature Cycle | △C | Less than or equal to 10% of the initial value | Temperature cycle：-40±2°C→normal temperature →+85±2°C→normal temperature<br>Cycles：5 |
| | Appearance | No leakage or mechanical damage | |
| Low Temperature Storage Characteristics | △C | Satisfies the range of 10% of the initial rating | Applied voltage：0V<br>Temperature：-40±2°C<br>Time：96h |
| | ESR | Less than or equal to 2 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| High Temperature Storage Characteristics | △C | Satisfies the range of 10% of the initial rating | Applied voltage：0V<br>Temperature：+85±2°C<br>Time：96h |
| | ESR | Less than or equal to 2 times the initial value | |
| | Appearance | No leakage or mechanical damage | |
| Self Discharge Characteristics | The self-discharge cut-off voltage is greater than or equal to 80% of the rated voltage | | Charging process: normal temperature, no load, rated voltage charge 8h<br>Placement process: temperature less than or equal to 25°C, relative humidity less than 60% RH, open 24 h |
| Lead strength | No damage to the outlet | | DL/T 1652-2016 |
| Solder ability | More than 3/4 of the terminal surface is covered by a tin layer | | DL/T 1652-2016 |

**■Storage Temperature: -30~50℃; Relative Humidity:<60%RH, Max. Humidity<85%RH**

## ■Measuring Method

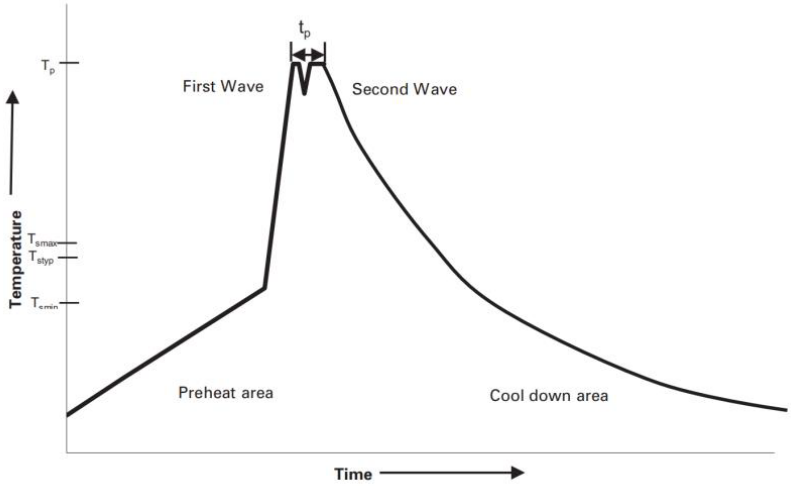
| | |
|---|---|
| Capacitance | Measurement by Permanent electrotransport :<br>1.DC voltage of constant current/constant voltage source is set as rated voltage (UR).<br>2.Set the constant current value of the constant current discharge device.<br>3.Switch the switch S to dc power supply, and charge at constant voltage for 30min after the constant current/constant voltage source reaches the rated voltage.<br>4.After charging for 30min, switch S is changed to the constant exile device to discharge with constant current.<br>5.Measure the time t1 and t2 of the voltage from U1 to U2 at both ends of the capacitor, as shown in the figure, and calculate the capacitance value according to the following equation<br>  <br><br>  <br><br>$C = \frac{I \times (t_2 - t_1)}{U_1 - U_2}$ |
| Resistance | AC impedance measurement<br>The circuit as shown in the figure below is used for measurement<br>  <br><br>Capacitor resistance Ra shall be computed by the type:<br>$R_a = \frac{U}{I}$<br>Ra ac impedance (Ω);<br>Effective value of U ac voltage (V R.M.S);<br>Effective value of I ac current (V R.M.S). |
| Leakage Current | DC leakage current measurement principle is as follows<br>  <br><br>1.Discharge: before the measurement begins, the capacitor should be fully discharged.The discharge process lasts from 1h to 24h.<br>2. Leakage current shall be measured at rated temperature and rated voltage (UR).The charging voltage reached 95% after the maximum 30min charging time. The charging time was selected from 30min ,1h , 2h , 4h , 8h , 12h , 24h , 48h , 72h and shall be specified in the detail specification<br>3.Stable power supply, such as dc stabilized power supply, should be used.<br>4. through the protection under 1000 Ω resistance to capacitor voltage |
| Self discharge | Before the measurement begins, the capacitor should be fully discharged. The discharge process lasts from 1h to 24h. The rated voltage U should be directly applied at both ends of the capacitor, without protection resistance. Capacitors should be placed at standard ambient temperature and pressure for 24 hours. DC voltmeter internal resistance should be greater than 1 MΩ.<br>  <br> |

## ■Soldering Condition

**1.** The welding condition of the proposed product is flow welding, heat shock will decrease electric performance of cell, even cause swelling, leakage or crack

2. Manual soldering temperature should not exceed 350°C, soldering time should not exceed 4s. The temperature of wave soldering is recommended to be lower than 260 ℃, and the maximum temperature of capacitor body in the welding process shall not exceed 120 ℃, and the duration shall be less than 10s, while preheating temperature should be limited to less than 105°C and maximum preheating time of 60 seconds for PC boards 0.8mm or thicker

3. Carry out low-temperature welding in accordance with the above welding conditions within a short time,as shown below：




## ■Cautions For Use

1.Polarity problem of supercapacitor

Unlike ordinary electrolytic capacitors or batteries, the anode and cathode of supercapacitors are made of the same material, so there is no polarity in theory. However, the polarity indicated by super capacitors is formulated by the manufacturer in the production process. When the capacitor is used carelessly in the short-term reverse operation, it will not cause substantial damage to the capacitor. If adjusted to a positive direction, it can be guaranteed to be used, but it cannot be used in the long-term reverse operation, which will result in the rapid attenuation of capacitor life characteristics.Unlike supercapacitors, lithium-ion capacitors have the same polarity as electrolytic capacitors or batteries. Careless short-term reverse use during use will cause substantial damage to lithium-ion capacitors, which may lead to gas production, leakage, explosion or other question.

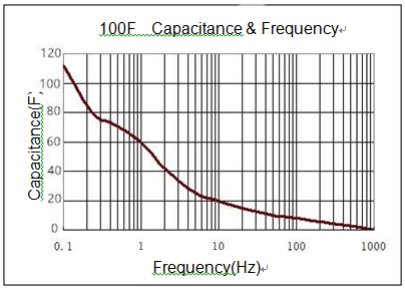
2.On the issue of supercapacitor charging

Charging of supercapacitors requires dc voltage which does not exceed rated voltage, and various charging methods such as current limit, constant current, constant power and constant voltage can be adopted. Supercapacitors can be charged by lowering the voltage of the charging power supply until the capacitors are full enough to maintain voltage balance. Lithium-ion capacitors capacitors can be charged in various ways such as current limiting, constant current, constant power, and constant voltage. During charging, the charging power supply voltage may be pulled down until the capacitor is fully charged to maintain voltage balance.

3.The problem of internal resistance and capacity of supercapacitors

In the process of charging and discharging, super capacitor resistance caused by the IR drop, lose efficiency of capacitor charging and discharging, so the size of capacitor resistance to a certain extent, determines the actor bad of character of capacitor, due to the internal resistance of the super capacitor than normal capacitors, in the process of communication charge and discharge circuit or high frequency, capacitor will fever, cause life decay quickly, which is the cause of the super capacitor only commonly used in dc.

Compared with ordinary capacitors, supercapacitors have a larger time constant, so the charge-discharge time is relatively long, and because of this, it is not suitable for continuous large current to work frequently, which will cause rapid attenuation of the heating performance. The frequency characteristic of supercapacitors is that the response time of positive and negative ions in the micro pores of carbon electrode is long at high frequency. Instead of measuring capacitors' ac capacity, the mAh method based on battery measurement is used.



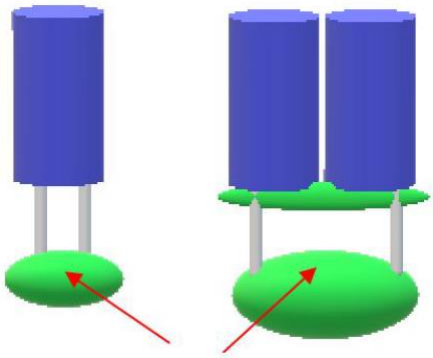

**Expcept Lithium ion**

4.Transport and storage

Should prevent products be affected with damp be affected with damp in product transportation, storage temperature should be - 30 ℃ to 50 ℃, relative humidity less than 60%, the maximum humidity no more than 85%, otherwise it will cause capacitance performance degradation of be affected with damp be affected with damp or rust.
Lithium ion :The Super Capacitor should be stored at room temperature, charged to about 50% ~ 80% of capacity; We recommend that Asymmetry Super Capacitor be charged about once per half a year to prevent over discharge.
Should prevent products be affected with damp be affected with damp in product transportation, storage temperature should be -20 ℃ to 50 ℃, relative humidity less than 65%, the maximum humidity no more than 65%, otherwise it will cause capacitance performance degradation of be affected with damp be affected with damp or rust.

5.Installation and welding

When the supercapacitor is used on the double-sided circuit board, it should be noted that the connection cannot pass through the reach of the capacitor, otherwise the product will be short circuit overvoltage and the capacitor will be damaged. During installation and after installation, do not twist or tilt the capacitor by force. Do not pull the lead by force. Break the needle and weld after bending. In the welding process to avoid overheating of the capacitor (1.6 mm of printed circuit board, the welding should be 260 ℃, when time is not more than 5 s), after welding, circuit board and the capacitor to clean in the net.



try not to wire here

6.Short circuit judgment of supercapacitor

The short circuit capacitance shall not be charged or discharged. The dc voltage shall be applied between the positive and negative terminals of the capacitance. The capacitance voltage shall not be increased When charging, it is normal to use ohm gauge (short circuit block) indicator as short circuit state. Capacitance is short circuit and it cannot be determined. It should be observed whether the resistance value increases or not.

7.Series and parallel operation problem
When the same super capacitor is used in series, the total voltage = series number * monomer withstand voltage; Total capacity = unit capacity Total energy = series number x monomer capacity, total internal resistance = series number x monomer resistance.
There is a problem of voltage balancing between three or more monomers in series, so it is necessary to consider adopting equalizing circuit to ensure that the capacitance cannot be used over voltage during long-term use, thus causing capacitor life attenuation and damage.
Supercapacitors of different specifications cannot be used in series.
When the super capacitors are used in parallel, they can be connected in parallel with different capacitance values and charged by the same voltage. However, it is necessary to pay attention to the current balance between the capacitors and to isolate each other, so as to avoid reverse charging due to the potential difference after discharge.

8.For other problems in use, please consult the manufacturer or refer to the relevant technical data of the instructions for the use of supercapacitors.

9.Handling of leakage situation
Skin contact: rinse skin thoroughly with soap and water;
Eye contact: flush with flowing water or normal saline and seek medical advice; Absorb: immediately rinse with water and seek medical advice;
If the supercapacitor is found to be overheating or smelling, the power supply and load connected to the supercapacitor should be disconnected immediately to cool it, and the supercapacitor should be treated properly so that no face or hand contact with the supercapacitor is allowed.