Data Sheet

Customer:	
Product:	**Supercapacitor — SC Series**
Rated Voltage.:	**2.7V / 3.0V / 3.6V / 3.8V / 5.5V / 6.0V**
Issued Date:	**28-Jul-23**
Edition:	**REV.A7**

RoHS Compliant

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28-Jul-23	28-Jul-23	28-Jul-23	28-Jul-23	
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Supercapacitor

■Features

■For Standard Coin Type / High Temperature Coin Type

- Green, meet RoHS requirements.
- Long charge-discharge cycle life.
- Low leakage current, suitable for keeping the clock chip data.
- Wide operating temperature range.

Coin Type

Lithium Ion Type

■For Lithium Ion Type

- Lithium ion capacitor is a new type of energy storage element which combines the high power density of double layer capacitor and the high energy density of lithium ion battery, the application prospect is broad.
- Wide operating temperature range -40℃ rechargeable, 85℃ available for discharge.
- Green, meet RoHs requirements

Cylindrical Type

Combined Type

■For Standard Cylindrical Type / Low ESR Cylindrical Type / High Voltage Cylindrical Type / High Temperature Cylindrical Type / Standard Combined Type / High Voltage Combined Type / High Temperature 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

■Applications

■For Standard Coin Type / High Temperature Coin Type

- Working current from uA~10mA, working time from seconds to months.
- Can be used for Hand-cranked flashlight, Electric meter, The clock to keep, Electrical home appliances control, Toys, etc.

■For Lithium Ion Type

- Intelligent Instrument, Automobile Data Recorder, Illumination Lamp
- ETC, Fiscal Cash Register, Digital Camera, Power Tools
- Wireless Energy Saving Mouse, Wireless Handwriting Board, SSD Solid State Drive

■For Standard Cylindrical Type / Low ESR Cylindrical Type / High Voltage Cylindrical Type / High Temperature Cylindrical Type / Standard Combined Type / High Voltage Combined Type / High Temperature Combined Type

- Intelligent instrument, automobile data recorder, illumination lamp
- Fiscal cash register, digital camera, power tools
- Wireless energy saving mouse, wireless handwriting board, SSD solid state drive

■Product Identification

SC	2V7	L	105	M		-1
Product Type	Rated Voltage	Shape Type	Capacitance	Capacitance Tolerance	Series Code	Special
	2V7: 2.7V 3V0: 3.0V 3V6: 3.6V 3V8: 3.8V 5V5: 5.5V 6V0: 6.0V	C: Coin & C Type H: Coin & H Type V: Coin & V Type M: Lithium Ion Type L: Cylindrical & Radial Type Z: Combined Type	104: 0.1F 105: 1F 106: 10F	M: ±20% Z: +80/-20% 9: +30/-10%	: Standard LR: Low ESR V: High Voltage H: High Temperature	

■Standard Coin Type Supercapacitor

Specifications

Performance	Performance Characteristics	Notes
Capacitance Range	0.1~1.5F	I=10mA/F
Capacitance Tolerance	+80/-20%	@25℃
Rated Operating Voltage	5.5V	DC
Operating Temperature Range	-25℃~+70℃	

Specifications Value of Product：Coin & C Type

Part No.	Nominal Voltage DC(V)	Capacitance (F)	Max ESR 1kHz@25℃ (Ω)	Nominal Current (25℃, A)	Leakage Current (25℃24h, mA)	Max. stored energy (mWh)	Energy Density (Wh/kg)
SC5V5C104Z	5.5	0.10	50	0.05	0.003	0.42	0.13
SC5V5C224Z	5.5	0.22	50	0.12	0.003	0.92	0.29
SC5V5C334Z	5.5	0.33	50	0.18	0.004	1.39	0.43
SC5V5C474Z	5.5	0.47	40	0.26	0.004	1.97	0.61
SC5V5C684Z	5.5	0.68	30	0.37	0.006	2.86	0.38
SC5V5C105Z	5.5	1.00	15	0.55	0.006	4.20	0.52
SC5V5C155Z	5.5	1.50	15	0.82	0.010	6.30	0.70

Specifications Value of Product：Coin & H Type

Part No.	Nominal Voltage DC(V)	Capacitance (F)	Max ESR 1kHz@25℃ (Ω)	Nominal Current (25℃, A)	Leakage Current (25℃24h, mA)	Max. stored energy (mWh)	Energy Density (Wh/kg)
SC5V5H104Z	5.5	0.10	50	0.05	0.003	0.42	0.28
SC5V5H224Z	5.5	0.22	50	0.12	0.003	0.92	0.62
SC5V5H334Z	5.5	0.33	50	0.18	0.004	1.39	0.92
SC5V5H474Z	5.5	0.47	40	0.26	0.004	1.97	1.32
SC5V5H684Z	5.5	0.68	30	0.37	0.006	2.86	0.68
SC5V5H105Z	5.5	1.00	15	0.55	0.006	4.20	1.00
SC5V5H155Z	5.5	1.50	15	0.82	0.010	6.30	1.40

Specifications Value of Product：Coin & V Type

Part No.	Nominal Voltage DC(V)	Capacitance (F)	Max ESR 1kHz@25℃ (Ω)	Nominal Current (25℃, A)	Leakage Current (25℃24h, mA)	Max. stored energy (mWh)	Energy Density (Wh/kg)
SC5V5V104Z	5.5	0.10	50	0.05	0.003	0.42	0.28
SC5V5V224Z	5.5	0.22	50	0.12	0.003	0.92	0.61
SC5V5V334Z	5.5	0.33	50	0.18	0.004	1.39	0.91
SC5V5V474Z	5.5	0.47	40	0.26	0.004	1.97	1.32
SC5V5V684Z	5.5	0.68	30	0.37	0.006	2.86	0.49
SC5V5V105Z	5.5	1.00	15	0.55	0.006	4.20	0.72
SC5V5V155Z	5.5	1.50	15	0.82	0.010	6.30	1.09

■Body color：≤0.47F Gold；＞0.47F Black

Dimensions

Part No.	Figure	D (mm)	P (mm)	C (mm)	h (mm)	H (mm)	B (mm)
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
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
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
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
SC5V5C684Z	1	21.0±0.5	5.5±0.5	0.8±0.15	7.5±0.5	12.5±1.0	0.5±0.10
SC5V5C105Z	1	21.0±0.5	5.5±0.5	0.8±0.15	7.5±0.5	12.5±1.0	0.5±0.10
SC5V5C155Z	1	21.0±0.5	5.5±0.5	0.8±0.15	7.5±0.5	12.5±1.0	0.5±0.10
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
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
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
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
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
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
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
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
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
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
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
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
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
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

Outline and Dimensions

Fig.1

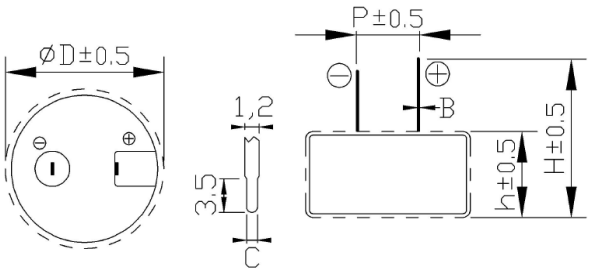


Fig.2

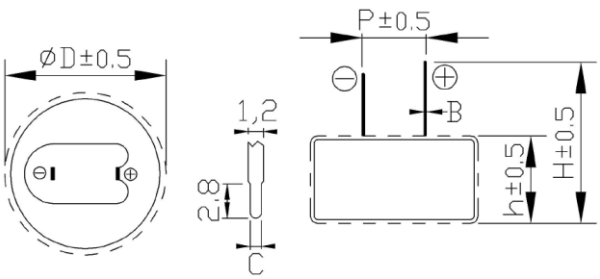


Fig.3

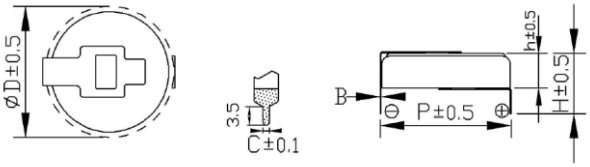


Fig.4

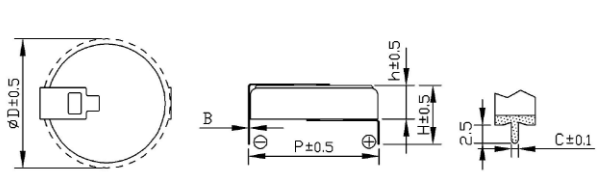


Fig.5

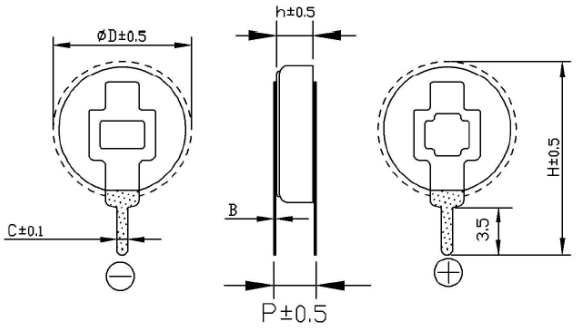
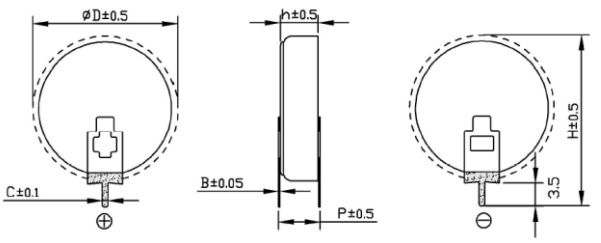


Fig.6



■The actual size and tolerance shall be subject to the parameter table.

Packaging Quantity

Part No.	Quantity (EA)
	Plastic Tray
SC5V5C104Z	117
SC5V5C224Z	117
SC5V5C334Z	117
SC5V5C474Z	117
SC5V5C684Z	70
SC5V5C105Z	70
SC5V5C155Z	70
SC5V5H104Z	168
SC5V5H224Z	168
SC5V5H334Z	168
SC5V5H474Z	168
SC5V5H684Z	70
SC5V5H105Z	70
SC5V5H155Z	70
SC5V5V104Z	196
SC5V5V224Z	196
SC5V5V334Z	196
SC5V5V474Z	196
SC5V5V684Z	70
SC5V5V105Z	70
SC5V5V155Z	70

■Environmental Characteristics

Item	Requirement			Test Condition
Characteristics in different temperature	Step 2	△C	Less than or equal to 30% of the initial value	Step 1：+25℃±2℃ Step 2：-25℃±2℃ Step 3：+70℃±2℃ Step 4：+25℃±2℃
		ESR	Less than or equal to 400% of the initial value	
	Step 3	△C	Less than or equal to 30% of the initial value	
		ESR	Less than or equal to the initial value	
	Step 4	△C	Satisfies the range of 20% of the initial rating	
		ESR	Satisfies the initial value	
Endurance	△C		Less than or equal to 30% of the initial value	Applied voltage：Rated voltage Temperature：Upper limit temperature 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	At 25°C, charge to the rated voltage with constant current, stand for 5s, discharge to 50% voltage with constant current, stand for 5s, cycle 100000.
	ESR		Less than or equal to 3 times the initial value	
Humidity Characteristics	△C		Satisfies the range of 30% of the initial rating	Temperature：+40℃±2℃ Relative humidity：90~95%RH 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：Lower limit temperature →normal temperature →Upper limit temperature →normal temperature 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 Temperature：Lower limit temperature 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 Temperature：Upper limit temperature Time：96h
	ESR		Less than or equal to 2 times the initial value	
	Appearance		No leakage or mechanical damage	
Self discharge characteristics (voltage holding characteristics)	Voltage between positive and negative poles≥80%U_R			Charging process: normal temperature, no load, rated voltage charge 8h 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			
Solder ability	More than 3/4 of the terminal surface is covered by a tin layer			

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

■Citation standards:IEC62391-1 &DL/T 1652-2016

■High Temperature Coin Type Supercapacitor

Specifications

Performance	Performance Characteristics	Notes
Capacitance Range	0.1~1.5F	I=10mA/F
Capacitance Tolerance	+80/-20%	@25℃
Rated Operating Voltage	3.6V, 5.5V	DC
Operating Temperature Range	-40℃~+85℃	

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

Part No.	Nominal Voltage DC(V)	Capacitance (F)	Max ESR 1kHz@25℃ (Ω)	Nominal Current (25℃, A)	Leakage Current (25℃24h, mA)	Max. stored energy (mWh)	Energy Density (Wh/kg)
SC3V6C224ZH	3.6	0.22	50	0.008	0.003	0.40	0.12

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

Part No.	Nominal Voltage DC(V)	Capacitance (F)	Max ESR 1kHz@25℃ (Ω)	Nominal Current (25℃, A)	Leakage Current (25℃24h, mA)	Max. stored energy (mWh)	Energy Density (Wh/kg)
SC5V5C104ZH	5.5	0.10	50	0.05	0.003	0.42	0.13
SC5V5C224ZH	5.5	0.22	50	0.12	0.003	0.92	0.29
SC5V5C105ZH	5.5	1.00	15	0.55	0.006	4.20	0.52

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

Part No.	Nominal Voltage DC(V)	Capacitance (F)	Max ESR 1kHz@25℃ (Ω)	Nominal Current (25℃, A)	Leakage Current (25℃24h, mA)	Max. stored energy (mWh)	Energy Density (Wh/kg)
SC3V6H224ZH	3.6	0.22	50	0.08	0.003	0.40	0.26
SC3V6H105ZH	3.6	1.00	15	0.36	0.006	1.80	0.43
SC3V6H155ZH	3.6	1.50	15	0.54	0.010	2.70	0.60

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

Part No.	Nominal Voltage DC(V)	Capacitance (F)	Max ESR 1kHz@25℃ (Ω)	Nominal Current (25℃, A)	Leakage Current (25℃24h, mA)	Max. stored energy (mWh)	Energy Density (Wh/kg)
SC5V5H104ZH	5.5	0.10	50	0.05	0.003	0.42	0.28
SC5V5H105ZH	5.5	1.00	15	0.55	0.006	4.20	1.00

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

Part No.	Nominal Voltage DC(V)	Capacitance (F)	Max ESR 1kHz@25℃ (Ω)	Nominal Current (25℃, A)	Leakage Current (25℃24h, mA)	Max. stored energy (mWh)	Energy Density (Wh/kg)
SC3V6V105ZH	3.6	1.00	15	0.36	0.006	1.80	0.43

■Body color：≤0.47F Gold；＞0.47F Black

Dimensions

Part No.	Figure	D (mm)	P (mm)	C (mm)	h (mm)	H (mm)	B (mm)
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
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
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
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
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
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
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
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
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
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

Outline and Dimensions

Fig.1

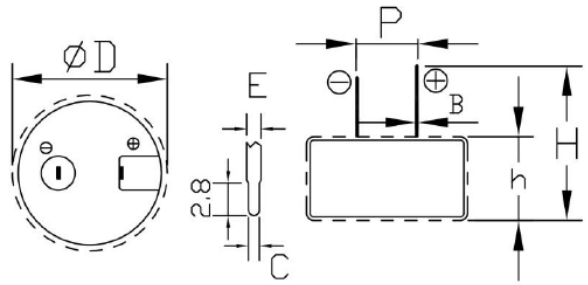


Fig.2

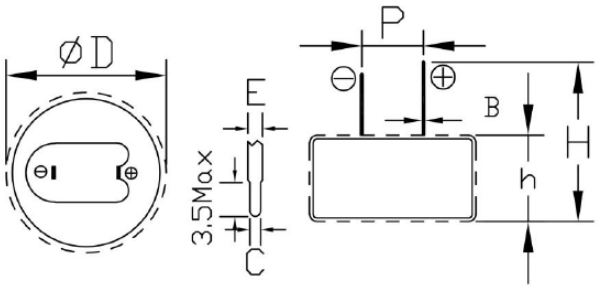


Fig.3

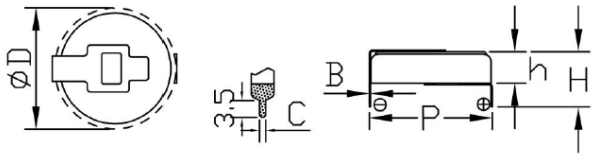


Fig.4

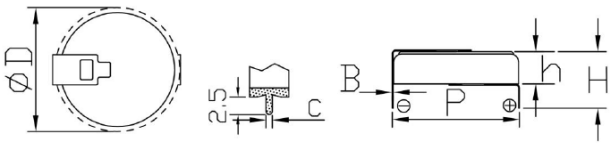
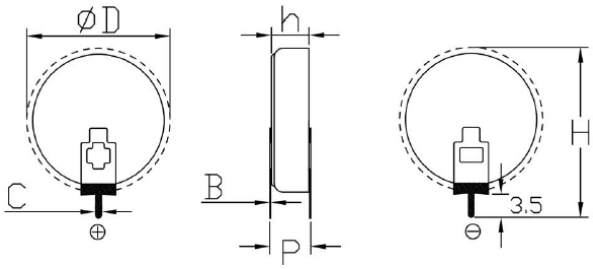


Fig.5



■The actual size and tolerance shall be subject to the parameter table.

Packaging Quantity

Part No.	Quantity (EA)
	Plastic Tray
SC3V6C224ZH	117
SC5V5C104ZH	117
SC5V5C224ZH	117
SC5V5C105ZH	70
SC3V6H224ZH	168
SC3V6H105ZH	70
SC3V6H155ZH	70
SC5V5H104ZH	168
SC5V5H105ZH	70
SC3V6V105ZH	70

■Environmental Characteristics

Item	Requirement			Test Condition
Characteristics in different temperature	Step 2	△C	Less than or equal to 30% of the initial value	Step 1：+25℃±2℃ Step 2：-25℃±2℃ Step 3：+85℃±2℃ Step 4：+25℃±2℃
		ESR	Less than or equal to 400% of the initial value	
	Step 3	△C	Less than or equal to 30% of the initial value	
		ESR	Less than or equal to the initial value	
	Step 4	△C	Satisfies the range of 20% of the initial rating	
		ESR	Satisfies the initial value	
Endurance	△C		Less than or equal to 30% of the initial value	Applied voltage：Rated voltage Temperature：Upper limit temperature 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	At 25°C, charge to the rated voltage with constant current, stand for 5s, discharge to 50% voltage with constant current, stand for 5s, cycle 100000.
	ESR		Less than or equal to 3 times the initial value	
Humidity Characteristics	△C		Satisfies the range of 30% of the initial rating	Temperature：+40℃±2℃ Relative humidity：90~95%RH 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：Lower limit temperature → normal Temperature →Upper limit temperature → normal temperature 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 Temperature：Upper limit temperature 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 Temperature：Upper limit temperature Time：96h
	ESR		Less than or equal to 2 times the initial value	
	Appearance		No leakage or mechanical damage	
Self discharge characteristics (voltage holding characteristics)	Voltage between positive and negative poles≥80% U_R			Charging process: normal temperature, no load, rated voltage charge 8h 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			
Solder ability	More than 3/4 of the terminal surface is covered by a tin layer			

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

■Citation standards:IEC62391-1 &DL/T 1652-2016

■Lithium Ion Type Supercapacitor

Specifications

Performance	Performance Characteristics	Notes
Capacitance Range	20~120F	$I=5xC_Rx(U_R-U_{min})/3.6$(mA)
Capacitance Tolerance	+80/-20%	@25℃
Operating Voltage Range	3.8V	DC
Mix Voltage	2.5V	
Operating Temperature Range	-20℃~+65℃	

Specifications Value of Standard Product

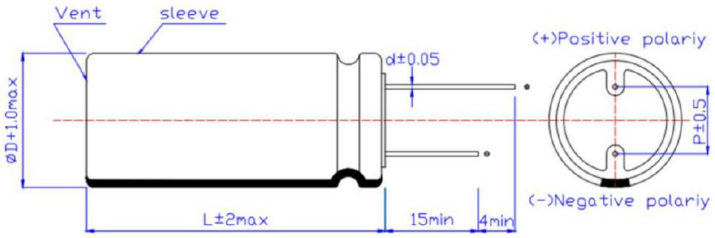
Part No.	Rated Voltage DC (V)	Capacitance		MAX ESR AC,1KHz,3.8V (mΩ)	Max charge current @4.0 V （mA）	Discharge	
		(F)	25℃ (mAh)			Maximum Continuous Discharge Current (mA)	Pulse (1 sec) (A)
SC3V8M206Z	3.8	20	7.5	500	200	100	0.5
SC3V8M406Z	3.8	40	15	200	300	200	1.0
SC3V8M706Z	3.8	70	30	175	500	250	3.0
SC3V8M806Z	3.8	80	28	150	560	300	3.0

■**Body color：Green**

Dimensions

Part No.	D (mm)	L (mm)	P (mm)	d (mm)
SC3V8M206Z	8±1.5	13±1.5	3.5±0.5	0.6±0.1
SC3V8M406Z	8±1.5	20±1.5	3.5±0.5	0.6±0.1
SC3V8M706Z	12.5±1.5	13±1.5	5.0±0.5	0.6±0.1
SC3V8M806Z	10±1.5	20±1.5	5.0±0.5	0.6±0.1

Outline and Dimensions



■**The actual size and tolerance shall be subject to the parameter table.**

Packaging Quantity

Part No.	Quantity (EA)
	Plastic Tray
SC3V8M206Z	50
SC3V8M406Z	50
SC3V8M706Z	50
SC3V8M806Z	40

■Environmental Characteristics

Item	Requirement	Test Condition
Optimum storage condition	-10 ~ 50℃, ≦65%RH	
Characteristics in different temperature	Step 2 △C: 20F: Less than or equal to 50% of the initial value; 40F/70F/80F/120F: Less than or equal to 30% of the initial value Step 2 ESR: Less than or equal to 1000% of the specified value Step 3 △C: Less than or equal to 30% of the initial value Step 3 ESR: Less than or equal to 200% of the specified value Step 4 △C: Satisfies the range of 20% of the initial rating Step 4 ESR: Satisfies the initial value	Step 1：+25℃±2℃ Step 2：-20℃±2℃ Step 3：+65℃±2℃ Step 4：+25℃±2℃
Endurance	△C: Satisfies the range of 30% of the initial value ESR: Less than or equal to 400% of the specified value Appearance: No leakage or mechanical damage	Temperature：+65℃±2℃(20F); +55±2℃ (40F/70F/80F/120F) Time：1000h
Cycle life	△C: Satisfies the range of 30% of the initial value ESR: Less than or equal to 400% of the specified value	3.1V ~ 3.7V 20F: 75mA 40F: 150mA 70F: 250mA 80F: 280mA 120F: 450mA Temperature：+25℃±2℃ Cycles：100000
Forced Discharge	No fire No explosion	Recharge the Asymmetry Super Capacitor by standard charge, discharge at a current of 75mA(20F)/200mA(40F)/250mA(70F)/300mA (80F)/500mA(120F) for 2.5h.
Vibration Test	No leakage No fire	After standard charging, fixed the cell to vibration table and subjected to vibration cycling that the frequency is to be varied at the rate of 1 Hz per minute between 10Hz ~ 55Hz, the excursion of the vibration is 1.6mm. The cell shall be vibrated for 30 minutes per axis of XYZ axes.
Drop	No leakage No fire No burst or explosion	After standard charging. Drop the product from the height of 1.0m to a hardwood of 20mm thick, and fall down the X,Y,Z respectively for one time.
Impact	No fire No explosion Allows for deformation	Place the product on the impact table, with a diameter of 15.8mm. the 10-kilogram weight of the weight is freely falling from 1m, and the impact has been fixed in the fixture.
Low Temperature	No fire No explosion 20F: The discharge capacity is more than 50% of the initial capacity. 40F/70F/80F/120F: The discharge capacity is more than 70% of the initial capacity.	Recharge the Asymmetry Super Capacitor by standard charge, Place the cell in low temperature -40℃(20F) / -20℃(40F/70F/80F/120F), 4h. environment, Then 75mA(20F)/200mA(40F)/250mA (70F)/300mA(80F)/500mA(120F) is then discharged to 3.0V

■Standard Cylindrical Type Supercapacitor

Specifications

Performance	Performance Characteristics	Notes
Capacitance Range	0.5~400F	$I=8*CU_R(mA)$
Capacitance Tolerance	±20%	@25℃
Rated Voltage	2.7V	DC
Operating Temperature Range	-40℃~+70℃	

Specifications Value of Standard Product：Cylindrical & Radial Type

Part No.	Rated Voltage (V)	Rated Capacitance (F)	Max. ESR DC 25℃ (mΩ)	Nominal Current (25℃, A)	Maximum Peak Current (25℃<1s, A)	Leakage Current (25℃ 72h, mA)	Store energy (mWh)	Energy density (Wh/kg)	Power density (kW/kg)
SC2V7L504M	2.7	0.5	500	0.13	0.54	0.010	0.51	0.72	2.60
SC2V7L105M	2.7	1	350	0.25	1.00	0.010	1.01	1.58	4.07
SC2V7L105M-1	2.7	1	350	0.25	1.00	0.010	1.01	1.13	2.89
SC2V7L205M	2.7	2	180	0.50	1.99	0.010	2.03	1.70	4.25
SC2V7L305M	2.7	3	120	0.76	2.98	0.010	3.04	2.34	5.84
SC2V7L335M	2.7	3.3	120	0.83	3.19	0.010	3.34	2.39	5.42
SC2V7L505M	2.7	5	80	1.25	4.82	0.020	5.06	2.38	7.59
SC2V7L505M-1	2.7	5	75	1.26	4.91	0.020	5.06	2.88	6.90
SC2V7L605M	2.7	6	75	1.49	5.59	0.020	6.08	3.16	6.33
SC2V7L705M	2.7	7	70	1.72	6.34	0.030	7.09	3.30	6.05
SC2V7L106M	2.7	10	65	2.39	8.18	0.030	10.13	3.92	5.43
SC2V7L156M	2.7	15	55	3.48	11.10	0.050	15.19	4.11	4.49
SC2V7L206M	2.7	20	45	4.58	14.21	0.060	20.25	6.53	6.53
SC2V7L256M	2.7	25	30	5.87	19.29	0.070	25.31	4.14	4.97
SC2V7L306M	2.7	30	30	6.86	21.32	0.078	30.38	4.29	4.29
SC2V7L506M	2.7	50	25	10.80	30.00	0.100	50.63	4.71	3.39
SC2V7L606M	2.7	60	25	12.46	32.40	0.120	60.75	4.87	2.92

■**Nominal Current：Is the current taking 5 sec. to discharge from U_R to 1/2U_R.**

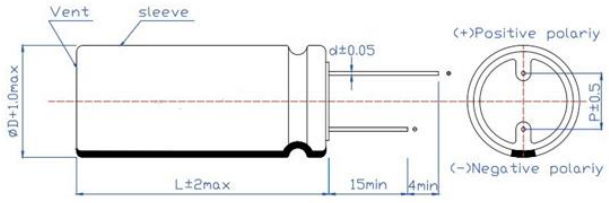
■**Maximum Peak Current：Is the current taking 1 sec. to discharge from U_R to 1/2U_R**

■**Body color：Blue**

Dimensions & Packaging Quantity

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

Outline and Dimensions



■**The actual size and tolerance shall be subject to the parameter table.**

■Environmental Characteristics

Item	Requirement			Test Condition
Characteristics in different temperature	Step 2	△C	Less than or equal to 30% of the initial value	Step 1：+25℃±2℃ Step 2：-25℃±2℃ Step 3：+70℃±2℃ Step 4：+25℃±2℃
		ESR	Less than or equal to 400% of the initial value	
	Step 3	△C	Less than or equal to 30% of the initial value	
		ESR	Less than or equal to the initial value	
	Step 4	△C	Satisfies the range of 20% of the initial rating	
		ESR	Satisfies the initial value	
Endurance	△C		Less than or equal to 30% of the initial value	Applied voltage：Rated voltage Temperature：Upper limit temperature 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	At 25°C, charge to the rated voltage with constant current, stand for 5s, discharge to 50% voltage with constant current, stand for 5s, cycle 100000
	Appearance		Less than or equal to 3 times the initial value	
Humidity Characteristics	△C		Satisfies the range of 30% of the initial rating	Temperature：+40℃±2℃ Relative humidity：90~95%RH 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：Lower limit temperature → normal temperature →Upper limit temperature → normal temperature 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 Temperature：Lower limit temperature 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 Temperature：Upper limit temperature Time：96h
	ESR		Less than or equal to 2 times the initial value	
	Appearance		No leakage or mechanical damage	
Self discharge characteristics (voltage holding characteristics)	Voltage between positive and negative poles≥80%U_R			Charging process: normal temperature, no load, rated voltage charge24h 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			
Solder ability	More than 3/4 of the terminal surface is covered by a tin layer			

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

■Citation standards:IEC62391-1 &DL／T 1652-2016

■Low ESR Cylindrical Type Supercapacitor

Specifications

Performance	Performance Characteristics	Notes
Capacitance Range	0.5~10F	$I=8*CU_R(mA)$
Capacitance Tolerance	±20%	@25℃
Rated Voltage	2.7V	DC
Operating Temperature Range	-40℃~+70℃	

Specifications Value of Product：Cylindrical & Radial Type

Part No.	Rated Voltage (V)	Capacitance (F)	Max. ESR DC 25℃ (mΩ)	Nominal Current (25℃, A)	Maximum Peak Current (25℃<1s, A)	Leakage Current (25℃72h, mA)	Store energy (mWh)	Energy density (Wh/kg)	Power density (kW/kg)
SC2V7L504MLR	2.7	0.5	280	0.13	0.59	0.013	0.51	0.72	4.65
SC2V7L105MLR	2.7	1	240	0.26	1.09	0.016	1.01	1.58	5.93
SC2V7L105MLR-1	2.7	1	200	0.26	1.13	0.016	1.01	0.99	4.47
SC2V7L205MLR	2.7	2	140	0.51	2.11	0.018	2.03	0.96	3.10
SC2V7L335MLR	2.7	3.3	80	0.85	3.52	0.021	3.34	1.57	5.35
SC2V7L505MLR	2.7	5	60	1.27	5.19	0.030	5.06	1.43	4.29
SC2V7L505MLR-1	2.7	5	60	1.27	5.19	0.030	5.06	1.00	3.00
SC2V7L605MLR	2.7	6	55	1.52	6.09	0.036	6.08	1.20	3.27
SC2V7L705MLR	2.7	7	50	1.77	7.00	0.042	7.09	1.14	2.93
SC2V7L106MLR	2.7	10	45	2.48	9.31	0.050	10.13	1.00	2.00

■**Nominal Current：Is the current taking 5 sec. to discharge from U_R to 1/2U_R.**

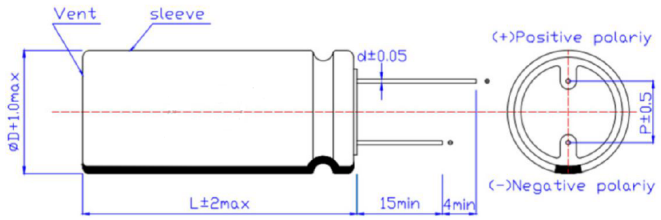
■**Maximum Peak Current：Is the current taking 1 sec. to discharge from U_R to 1/2U_R**

■**Body color：Blue**

Dimensions & Packaging Quantity

Part No.	D (mm)	L (mm)	P (mm)	d (mm)	Quantity(EA)
					Plastic Tray
SC2V7L504MLR	6.3±1.0	12.5±1.5	2.5±0.5	0.5±0.05	180
SC2V7L105MLR	6.3±1.0	12.5±1.5	2.5±0.5	0.5±0.05	180
SC2V7L105MLR-1	8±1.0	13±1.5	3.5±0.5	0.6±0.05	160
SC2V7L205MLR	8±1.0	20±1.5	3.5±0.5	0.6±0.05	120
SC2V7L335MLR	8±1.0	20±1.5	3.5±0.5	0.6±0.05	120
SC2V7L505MLR	8±1.0	24±1.5	3.5±0.5	0.6±0.05	100
SC2V7L505MLR-1	10±1.0	20±1.5	5.0±0.5	0.6±0.05	120
SC2V7L605MLR	10±1.0	20±1.5	5.0±0.5	0.6±0.05	120
SC2V7L705MLR	10±1.0	20±1.5	5.0±0.5	0.6±0.05	120
SC2V7L106MLR	10±1.0	25±2.0	5.0±0.5	0.6±0.05	80

Outline and Dimensions



■**The actual size and tolerance shall be subject to the parameter table.**

■Environmental Characteristics

Item	Requirement			Test Condition
Characteristics in different temperature	Step 2	△C	Less than or equal to 30% of the initial value	Step 1：+25℃±2℃ Step 2：-25℃±2℃ Step 3：+70℃±2℃ Step 4：+25℃±2℃
		ESR	Less than or equal to 400% of the initial value	
	Step 3	△C	Less than or equal to 30% of the initial value	
		ESR	Less than or equal to the initial value	
	Step 4	△C	Satisfies the range of 20% of the initial rating	
		ESR	Satisfies the initial value	
Endurance	△C		Less than or equal to 30% of the initial value	Applied voltage：Rated voltage Temperature：Upper limit temperature 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	At 25°C, charge to the rated voltage with constant current, stand for 5s, discharge to 50% voltage with constant current, stand for 5s, cycle 100000.
	ESR		Less than or equal to 3 times the initial value	
Humidity Characteristics	△C		Satisfies the range of 30% of the initial rating	Temperature：+40℃±2℃ Relative humidity：90~95%RH 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：Lower limit temperature → normal temperature →Upper limit temperature →normal temperature 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 Temperature：Lower limit temperature 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 Temperature：Upper limit temperature Time：96h
	ESR		Less than or equal to 2 times the initial value	
	Appearance		No leakage or mechanical damage	
Self discharge characteristics (voltage holding characteristics)	Voltage between positive and negative poles≥80%U_R			Charging process: normal temperature, no load, rated voltage charge24h 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			
Solder ability	More than 3/4 of the terminal surface is covered by a tin layer			

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

■Citation standards:IEC62391-1 &DL／T 1652-2016

■High Voltage Cylindrical Type Supercapacitor

Specifications

Performance	Performance Characteristics	Notes
Capacitance Range	1~100F	I=8*CU_R(mA)
Capacitance Tolerance	±20%, +30%/-10%	@25℃
Rated Voltage	3.0V	DC
Operating Temperature Range	-40℃~+70℃	

Specifications Value of Product

Part No.	Rated Voltage (V)	Capacitance (F)	Max. ESR DC 25℃ (mΩ)	Nominal Current (25℃, A)	Maximum Peak Current (25℃<1s, A)	Leakage Current (25℃72h, mA)	Store energy (mWh)	Energy density (Wh/kg)	Power Densitk (W/kg)
SC3V0L105MV	3.0	1	350	0.28	1.11	0.008	1.25	1.37	3.53
SC3V0L305MV	3.0	3	120	0.84	3.31	0.013	3.75	2.82	4.05
SC3V0L335MV	3.0	3.3	120	0.92	3.55	0.013	4.13	1.77	4.02
SC3V0L505MV	3.0	5	80	1.39	5.36	0.016	6.25	4.40	9.90
SC3V0L505MV-1	3.0	5	75	1.40	5.45	0.016	6.25	4.03	9.68
SC3V0L605MV	3.0	6	75	1.65	6.21	0.024	7.50	4.21	8.43
SC3V0L6059V	3.0	6	75	1.65	6.21	0.024	7.50	4.21	8.43
SC3V0L106MV	3.0	10	65	2.65	9.09	0.032	12.50	5.71	7.90
SC3V0L156MV	3.0	15	55	3.86	12.33	0.052	18.75	7.08	7.72
SC3V0L256MV	3.0	25	30	6.52	21.43	0.075	31.25	5.04	6.05
SC3V0L2569V	3.0	25	30	6.52	21.43	0.075	31.25	5.04	6.05
SC3V0L306MV	3.0	30	30	7.63	23.68	0.075	37.50	5.15	5.15
SC3V0L606MV	3.0	60	25	13.85	36.00	0.120	75.00	5.67	3.40
SC3V0L107MV	3.0	100	18	22.06	53.57	0.300	125.00	7.33	3.66

■Nominal Current：Is the current taking 5 sec. to discharge from U_R to 1/2U_R.

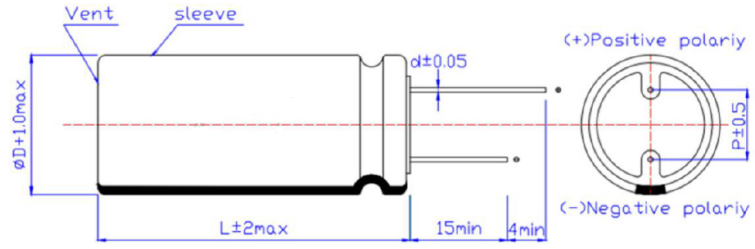
■Maximum Peak Current：Is the current taking 1 sec. to discharge from U_R to 1/2U_R

■Body color：Blue

Dimensions & Packaging Quantity

Part No.	D (mm)	L (mm)	P (mm)	d (mm)	Quantity(EA) Plastic Tray
SC3V0L105MV	8±1.0	13±1.5	3.5±0.5	0.6±0.05	160
SC3V0L305MV	8±1.0	20±1.5	3.5±0.5	0.6±0.05	120
SC3V0L335MV	8±1.0	20±1.5	3.5±0.5	0.6±0.05	120
SC3V0L505MV	8±1.0	24±1.0	3.5±0.5	0.6±0.05	100
SC3V0L505MV-1	10±1.0	20±1.5	5.0±0.5	0.6±0.05	120
SC3V0L605MV	10±1.0	20±1.5	5.0±0.5	0.6±0.05	120
SC3V0L6059V	10±1.0	20±1.5	5.0±0.5	0.6±0.05	120
SC3V0L106MV	10±1.0	25±2.0	5.0±0.5	0.6±0.05	80
SC3V0L156MV	12.5±1.0	25±2.0	5.0±0.5	0.6±0.05	60
SC3V0L256MV	16±1.0	25±2.0	7.5±0.5	0.8±0.05	50
SC3V0L2569V	16±1.0	25±2.0	7.5±0.5	0.8±0.05	50
SC3V0L306MV	16±1.0	30±2.0	7.5±0.5	0.8±0.05	50
SC3V0L606MV	18±1.0	40±2.0	7.5±0.5	0.8±0.05	26
SC3V0L107MV	18±1.0	60±2.0	7.5±0.5	0.8±0.05	18

Outline and Dimensions



■The actual size and tolerance shall be subject to the parameter table.

■Environmental Characteristics

Item	Requirement			Test Condition
Characteristics in different temperature	Step 2	△C	Less than or equal to 30% of the initial value	Step 1：+25℃±2℃ Step 2：-25℃±2℃ Step 3：+70℃±2℃ Step 4：+25℃±2℃
		ESR	Less than or equal to 400% of the initial value	
	Step 3	△C	Less than or equal to 30% of the initial value	
		ESR	Less than or equal to the initial value	
	Step 4	△C	Satisfies the range of 20% of the initial rating	
		ESR	Satisfies the initial value	
Endurance	△C		Less than or equal to 30% of the initial value	Applied voltage：Rated voltage Temperature：Upper limit temperature 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	At 25°C, charge to the rated voltage with constant current, stand for 5s, discharge to 50% voltage with constant current, stand for 5s, cycle 100000
	ESR		Less than or equal to 3 times the initial value	
Humidity Characteristics	△C		Less than or equal to 30% of the initial value	Temperature：+40℃±2℃ Relative humidity：90~95%RH 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：Lower limit temperature →normal temperature →Upper limit temperature →normal temperature 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 Temperature：Lower limit temperature 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 Temperature：Upper limit temperature Time：96h
	ESR		Less than or equal to 2 times the initial value	
	Appearance		No leakage or mechanical damage	
Self discharge characteristics (voltage holding characteristics)	Voltage between positive and negative poles≥80%U_R			Charging process: normal temperature, no load, rated voltage charge24h 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			
Solder ability	More than 3/4 of the terminal surface is covered by a tin layer			

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

■Citation standards:IEC62391-1 &DL／T 1652-2016

■High Temperature Cylindrical Type Supercapacitor

Specifications

Performance	Performance Characteristics	Notes
Capacitance Range	0.5~25F	I=8*CU_R(mA)
Capacitance Tolerance	±20%	@25℃
Rated Voltage	2.7V	DC
Operating Temperature Range	-40℃~+85℃	

Specifications Value of Product

Part No.	Rated Voltage (V)	Capacitance (F)	Max. ESR DC 25℃ (mΩ)	Nominal Current (25℃, A)	Maximum Peak Current (25℃<1s, A)	Leakage Current (25℃72h, mA)	Store energy (mWh)	Energy density (Wh/kg)	Power density (kW/kg)
SC2V7L504MH	2.7	0.5	500	0.13	0.54	0.008	0.51	1.13	4.05
SC2V7L105MH	2.7	1	350	0.25	1.00	0.008	1.01	1.14	2.93
SC2V7L205MH	2.7	2	180	0.50	1.99	0.012	2.03	1.67	4.18
SC2V7L205MH-1	2.7	2	260	0.49	1.78	0.013	2.03	1.81	3.13
SC2V7L305MH	2.7	3	120	0.76	2.98	0.013	3.04	2.27	5.67
SC2V7L335MH	2.7	3.3	120	0.83	3.19	0.015	3.34	1.45	3.29
SC2V7L505MH	2.7	5	80	1.25	4.82	0.016	5.06	3.54	6.97
SC2V7L605MH	2.7	6	75	1.25	4.91	0.016	6.08	3.51	7.02
SC2V7L705MH	2.7	7	70	1.72	6.34	0.028	7.09	3.83	7.04
SC2V7L106MH	2.7	10	65	2.39	8.18	0.030	20.25	5.77	5.77
SC2V7L256MH	2.7	25	30	5.87	19.29	0.070	25.31	4.30	5.16

■**Note 1:Nominal Current：Is the current taking 5 sec. to discharge from U_R to 1/2U_R.**

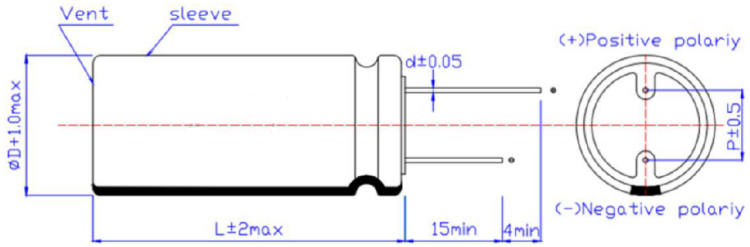
■**Note 2:Maximum Peak Current：Is the current taking 1 sec. to discharge from U_R to 1/2U_R**

■**Body color：Black**

Dimensions & Packaging Quantity

Part No.	D (mm)	L (mm)	P (mm)	d (mm)	Quantity(EA) Plastic Tray
SC2V7L504MH	6.3±1.0	12.5±1.5	2.5±0.5	0.5±0.05	180
SC2V7L105MH	8.0±1.0	13.0±1.5	3.5±0.5	0.6±0.05	160
SC2V7L205MH	8.0±1.0	16.0±1.5	3.5±0.5	0.6±0.05	140
SC2V7L205MH-1	8.0±1.0	20.0±1.5	3.5±0.5	0.6±0.05	120
SC2V7L305MH	8.0±1.0	20.0±1.5	3.5±0.5	0.6±0.05	120
SC2V7L335MH	8.0±1.0	20.0±1.5	3.5±0.5	0.6±0.05	120
SC2V7L505MH	8.0±1.0	24.0±1.5	3.5±0.5	0.6±0.05	100
SC2V7L605MH	10.0±1.0	20.0±1.5	5.0±0.5	0.6±0.05	120
SC2V7L705MH	10.0±1.0	20.0±1.5	5.0±0.5	0.6±0.05	120
SC2V7L106MH	10.0±1.0	25.0±2.0	5.0±0.5	0.6±0.05	80
SC2V7L256MH	16.0±1.0	25.0±2.0	7.5±0.5	0.8±0.05	50

Outline and Dimensions



■**The actual size and tolerance shall be subject to the parameter table.**

■Environmental Characteristics

Item	Requirement			Test Condition
Characteristics in different temperature	Step 2	△C	Less than or equal to 30% of the initial value	Step 1：+25℃±2℃ Step 2：-25℃±2℃ Step 3：+85℃±2℃ Step 4：+25℃±2℃
		ESR	Less than or equal to 400% of the initial value	
	Step 3	△C	Less than or equal to 30% of the initial value	
		ESR	Less than or equal to the initial value	
	Step 4	△C	Satisfies the range of 20% of the initial rating	
		ESR	Satisfies the initial value	
Endurance	△C		Less than or equal to 30% of the initial value	Applied voltage：Rated voltage Temperature：Upper limit temperature 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	At 25°C, charge to the rated voltage with constant current, stand for 5s, discharge to 50% voltage with constant current, stand for 5s, cycle 100000
	ESR		Less than or equal to 3 times the initial value	
Humidity Characteristics	△C		Less than or equal to 30% of the initial value	Temperature：+40℃±2℃ Relative humidity：90~95%RH 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：Lower limit temperature →normal temperature →Upper limit temperature →normal temperature 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 Temperature：Lower limit temperature 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 Temperature：Upper limit temperature Time：96h
	ESR		Less than or equal to 2 times the initial value	
	Appearance		No leakage or mechanical damage	
Self discharge characteristics (voltage holding characteristics)	Voltage between positive and negative poles≥80%U_R			Charging process: normal temperature, no load, rated voltage charge24h 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			
Solder ability	More than 3/4 of the terminal surface is covered by a tin layer			

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

■Citation standards:IEC62391-1 &DL／T 1652-2016

■Standard Combined Type Supercapacitor

Specifications

Performance	Performance Characteristics	Notes
Capacitance Range	0.22~25F	$I=8*CU_R(mA)$
Capacitance Tolerance	±20%, +80/-20%, +30/-10%	@25℃
Rated Voltage	5.5V	DC
Operating Temperature Range	-40℃~+70℃	

Specifications Value of Standard Product

Part No.	Rated Voltage (V)	Capacitance (F)	Max. ESR DC 25℃ (mΩ)	Nominal Current (25℃, A)	Maximum Peak Current (25℃<1s, A)	Leakage Current (25℃72h, mA)	Store energy (mWh)	Energy density (Wh/kg)	Power density (kW/kg)
SC5V5Z224Z	5.5	0.22	1200	0.11	0.48	0.006	0.92	1.02	3.46
SC5V5Z474M	5.5	0.47	500	0.25	1.05	0.010	1.97	2.10	8.05
SC5V5Z4749	5.5	0.47	500	0.25	1.05	0.010	1.97	2.10	8.05
SC5V5Z105Z	5.5	1	400	0.51	1.96	0.013	4.20	2.33	5.25
SC5V5Z155M	5.5	1.5	220	0.77	3.10	0.015	6.30	2.85	5.70
SC5V5Z255M	5.5	2.5	160	1.27	4.91	0.016	10.50	3.22	7.25
SC5V5Z355M	5.5	3.5	150	1.74	6.31	0.028	14.70	3.08	5.27
SC5V5Z505M	5.5	5	120	2.46	8.59	0.030	21.01	3.83	5.75
SC5V5Z505M-1	5.5	5	120	2.46	8.59	0.030	21.01	3.83	5.75
SC5V5Z156M	5.5	15	100	6.35	16.50	0.078	63.02	4.12	2.47
SC5V5Z256M	5.5	25	40	11.46	34.38	0.096	105.03	5.76	5.18

■Nominal Current：Is the current taking 5 sec. to discharge from U_R to 1/2U_R.

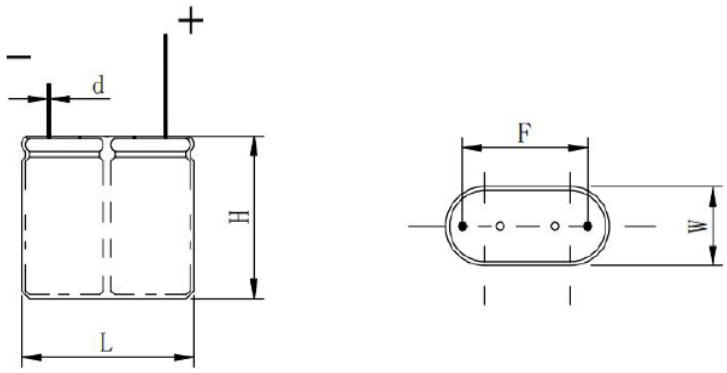
■Maximum Peak Current：Is the current taking 1 sec. to discharge from U_R to 1/2U_R

■Body color：Blue

Dimensions

Part No.	L (mm)	W (mm)	H (mm)	F (mm)	d (mm)
SC5V5Z224Z	13.5±1.0	6.5±1.0	13.8±2.0	9.0±0.5	0.5±0.05
SC5V5Z474M	13.5±1.0	6.5±1.0	13.8±2.0	9.0±0.5	0.5±0.05
SC5V5Z4749	17.0±1.0	8.5±1.0	14.0±2.0	12.0±0.5	0.6±0.05
SC5V5Z105Z	17.0±1.0	8.5±1.0	21.0±2.0	12.0±0.5	0.6±0.05
SC5V5Z155M	17.0±1.0	8.5±1.0	21.0±2.0	12.0±0.5	0.6±0.05
SC5V5Z255M	17.0±1.0	8.5±1.0	25.0±2.0	12.0±0.5	0.6±0.05
SC5V5Z355M	21.0±1.0	10.0±1.0	21.0±2.0	15.5±0.5	0.6±0.05
SC5V5Z505M	21.0±1.0	10.0±1.0	26.0±2.0	15.5±0.5	0.6±0.05
SC5V5Z505M-1	26.0±1.0	13.0±1.0	27.0±2.0	18.0±0.5	0.6±0.05
SC5V5Z156M	32.0±1.0	16.0±1.0	32.0±2.0	24.0±0.5	0.8±0.05
SC5V5Z256M	36.0±1.0	18.0±1.0	43.0±2.0	26.0±0.5	0.8±0.05

Outline and Dimensions



■The actual size and tolerance shall be subject to the parameter table.

Packaging Quantity

Part No.	Quantity(EA)
	Plastic Bag
SC5V5Z224Z	1000
SC5V5Z474M	1000
SC5V5Z4749	600
SC5V5Z105Z	500
SC5V5Z155M	500
SC5V5Z255M	400
SC5V5Z355M	350
SC5V5Z505M	300
SC5V5Z505M-1	200
SC5V5Z156M	100
SC5V5Z256M	40

■Environmental Characteristics

Item	Requirement			Test Condition
Characteristics in different temperature	Step 2	△C	Less than or equal to 30% of the initial value	Step 1：+25℃±2℃ Step 2：-25℃±2℃ Step 3：+70℃±2℃ Step 4：+25℃±2℃
		ESR	Less than or equal to 400% of the initial value	
	Step 3	△C	Less than or equal to 30% of the initial value	
		ESR	Less than or equal to the initial value	
	Step 4	△C	Satisfies the range of 20% of the initial rating	
		ESR	Satisfies the initial value	
Endurance	△C		Less than or equal to 30% of the initial value	Applied voltage：Rated voltage Temperature：Upper limit temperature 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	At 25°C, charge to the rated voltage with constant current, stand for 5s, discharge to 50% voltage with constant current, stand for 5s, cycle 100000
	ESR		Less than or equal to 3 times the initial value	
Humidity Characteristics	△C		Less than or equal to 30% of the initial value	Temperature：+40℃±2℃ Relative humidity：90~95%RH 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：Lower limit temperature →normal temperature →Upper limit temperature →normal temperature 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 Temperature：Lower limit temperature 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 Temperature：Upper limit temperature Time：96h
	ESR		Less than or equal to 2 times the initial value	
	Appearance		No leakage or mechanical damage	
Self discharge characteristics (voltage holding characteristics)	Voltage between positive and negative poles≥80%U_R			Charging process: normal temperature, no load, rated voltage charge24h 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			
Solder ability	More than 3/4 of the terminal surface is covered by a tin layer			

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

■Citation standards:IEC62391-1 &DL / T 1652-2016

■High Voltage Combined Type Supercapacitor

Specifications

Performance	Performance Characteristics	Notes
Capacitance Range	0.5~5F	$I=8*CU_R(mA)$
Capacitance Tolerance	±20%	@25℃
Rated Voltage	6.0V	DC
Operating Temperature Range	-40℃~+70℃	

Specifications Value of Product

Part No.	Rated Voltage (V)	Capacitance (F)	Max. ESR DC 25℃ (mΩ)	Nominal Current (25℃, A)	Maximum Peak Current (25℃<1s, A)	Leakage Current (25℃72h, mA)	Store energy (mWh)	Energy density (Wh/kg)	Power density (kW/kg)
SC6V0Z504MV	6.0	0.5	800	0.28	1.15	0.010	2.03	1.81	3.13
SC6V0Z105MV	6.0	1	500	0.55	2.00	0.013	3.34	1.45	3.29
SC6V0Z505MV	6.0	5	150	2.61	8.57	0.032	2.50	1.07	2.41

■**Nominal Current：Is the current taking 5 sec. to discharge from U_R to 1/2U_R.**

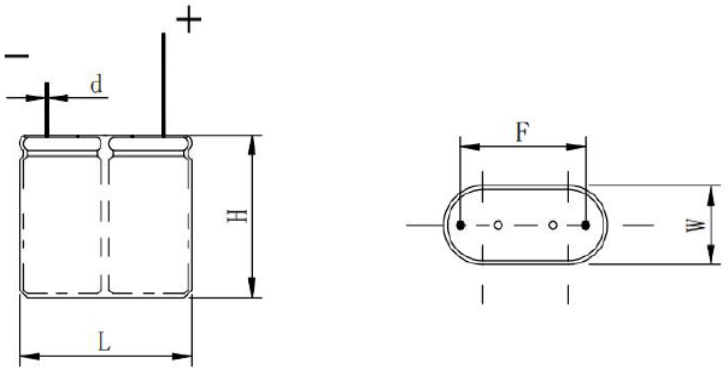
■**Maximum Peak Current：Is the current taking 1 sec. to discharge from U_R to 1/2U_R**

■**Body color：Blue**

Dimensions

Part No.	L (mm)	W (mm)	H (mm)	F (mm)	d (mm)
SC6V0Z504MV	13.5±1.0	6.5±0.5	13.8±1.0	9.0±0.5	0.5±0.05
SC6V0Z105MV	17.0±1.0	8.5±0.5	21.0±1.0	12.0±0.5	0.6±0.05
SC6V0Z505MV	21.0±1.0	10.0±1.0	26.0±1.5	15.5±0.5	0.6±0.05

Outline and Dimensions



■**The actual size and tolerance shall be subject to the parameter table.**

Packaging Quantity

Part No.	Quantity (EA)
	Plastic Bag
SC6V0Z504MV	1000
SC6V0Z105MV	500
SC6V0Z505MV	300

■Environmental Characteristics

Item	Requirement			Test Condition
Characteristics in different temperature	Step 2	△C	Less than or equal to 30% of the initial value	Step 1：+25℃±2℃ Step 2：-25℃±2℃ Step 3：+70℃±2℃ Step 4：+25℃±2℃
		ESR	Less than or equal to 400% of the initial value	
	Step 3	△C	Less than or equal to 30% of the initial value	
		ESR	Less than or equal to the initial value	
	Step 4	△C	Satisfies the range of 20% of the initial rating	
		ESR	Satisfies the initial value	
Endurance	△C		Less than or equal to 30% of the initial value	Applied voltage：Rated voltage Temperature：Upper limit temperature 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	At 25°C, charge to the rated voltage with constant current, stand for 5s, discharge to 50% voltage with constant current, stand for 5s, cycle 100000
	ESR		Less than or equal to 3 times the initial value	
Humidity Characteristics	△C		Less than or equal to 30% of the initial value	Temperature：+40℃±2℃ Relative humidity：90~95%RH 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：Lower limit temperature →normal temperature →Upper limit temperature →normal temperature 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 Temperature：Lower limit temperature 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 Temperature：Upper limit temperature Time：96h
	ESR		Less than or equal to 2 times the initial value	
	Appearance		No leakage or mechanical damage	
Self discharge characteristics (voltage holding characteristics)	Voltage between positive and negative poles≥80%U_R			Charging process: normal temperature, no load, rated voltage charge24h 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			
Solder ability	More than 3/4 of the terminal surface is covered by a tin layer			

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

■Citation standards:IEC62391-1 &DL／T 1652-2016

■High Temperature Combined Type Supercapacitor

Specifications

Performance	Performance Characteristics	Notes
Capacitance Range	0.47~25F	I=8*CU_R(mA)
Capacitance Tolerance	±20%	@25℃
Rated Voltage	5.5V	DC
Operating Temperature Range	-40℃~+85℃	

Specifications Value of Product

Part No.	Rated Voltage (V)	Capacitance (F)	Max. ESR DC 25℃ (mΩ)	Nominal Current (25℃, A)	Maximum Peak Current (25℃<1s, A)	Leakage Current (25℃ 72h, mA)	Store energy (mWh)	Energy density (Wh/kg)	Power density (kW/kg)
SC5V5Z474MH	5.5	0.47	600	0.24	1.01	0.010	2.03	1.08	3.46
SC5V5Z155MH	5.5	1.5	280	0.76	2.90	0.015	-	-	-
SC5V5Z205MH	5.5	2	200	1.02	3.93	0.016	5.03	3.15	7.08
SC5V5Z255MH	5.5	2.5	180	1.26	4.74	0.018	6.03	3.62	7.24
SC5V5Z355MH	5.5	3.5	150	1.74	6.31	0.028	7.03	3.77	6.46
SC5V5Z405MH	5.5	4	140	1.98	7.05	0.032	8.03	4.10	6.59
SC5V5Z505MH	5.5	5	140	2.41	8.09	0.036	9.06	4.86	6.25
SC5V5Z106MH	5.5	10	100	4.58	13.75	0.064	8.96	4.69	4.22
SC5V5Z256MH	5.5	25	70	10.19	25.00	0.120	11.03	7.40	3.80

■**Nominal Current：Is the current taking 5 sec. to discharge from U_R to 1/2U_R.**

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

■**Body color：Black**

Dimensions

Part No.	Figure	L (mm)	W (mm)	H (mm)	F (mm)	d (mm)
SC5V5Z474MH	1	13.5±1.0	6.5±1.0	13.8±2.0	9.0±0.5	0.5±0.05
SC5V5Z155MH	2	18.6±1.0	10.0±1.0	24.0±1.5	12.0±0.5	0.6±0.05
SC5V5Z205MH	1	17.0±1.0	8.5±1.0	25.0±2.0	12.0±0.5	0.6±0.05
SC5V5Z255MH	1	17.0±1.0	8.5±1.0	25.0±2.0	12.0±0.5	0.6±0.05
SC5V5Z355MH	1	21.0±1.0	10.0±1.0	21.0±2.0	15.5±0.5	0.6±0.05
SC5V5Z405MH	1	21.0±1.0	10.0±1.0	26.0±1.5	15.5±0.5	0.6±0.05
SC5V5Z505MH	1	25.0±1.0	12.5±1.0	21.0±2.0	18.0±0.5	0.6±0.05
SC5V5Z106MH	1	32.0±1.0	16.0±1.0	27.0±2.0	24.0±0.5	0.8±0.05
SC5V5Z256MH	1	36.0±1.0	18.0±1.0	43.0±2.0	28.0±0.5	0.8±0.05

Outline and Dimensions

Fig.1

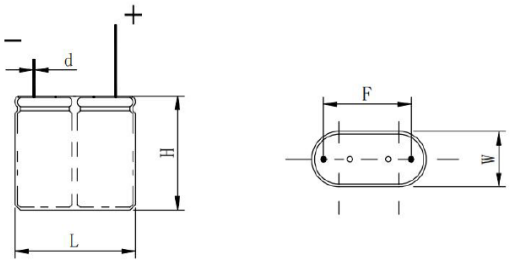
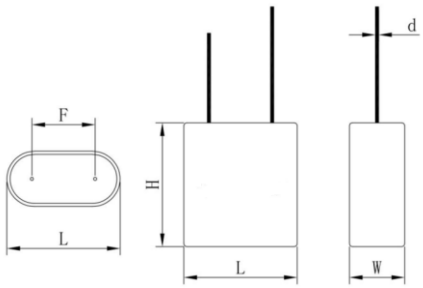


Fig.2



■**The actual size and tolerance shall be subject to the parameter table.**

Packaging Quantity

Part No.	Quantity(EA)
	Plastic Bag
SC5V5Z474MH	1000
SC5V5Z155MH	400
SC5V5Z205MH	400
SC5V5Z255MH	400
SC5V5Z355MH	350
SC5V5Z405MH	300
SC5V5Z505MH	250
SC5V5Z106MH	125
SC5V5Z256MH	40

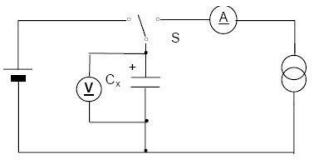
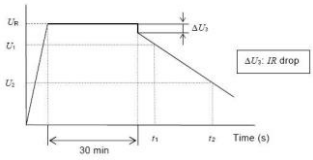
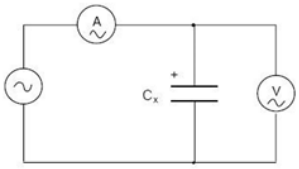
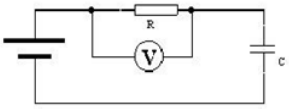
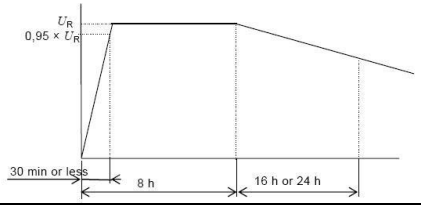
■Environmental Characteristics

Item	Requirement			Test Condition
Characteristics in different temperature	Step 2	△C	Less than or equal to 30% of the initial value	Step 1：+25℃±2℃ Step 2：-25℃±2℃ Step 3：+85℃±2℃ Step 4：+25℃±2℃
		ESR	Less than or equal to 400% of the initial value	
	Step 3	△C	Less than or equal to 30% of the initial value	
		ESR	Less than or equal to the initial value	
	Step 4	△C	Satisfies the range of 20% of the initial rating	
		ESR	Satisfies the initial value	
Endurance	△C		Less than or equal to 30% of the initial value	Applied voltage：Rated voltage Temperature：Upper limit temperature 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	At 25°C, charge to the rated voltage with constant current, stand for 5s, discharge to 50% voltage with constant current, stand for 5s, cycle 100000
	ESR		Less than or equal to 3 times the initial value	
Humidity Characteristics	△C		Less than or equal to 30% of the initial value	Temperature：+40℃±2℃ Relative humidity：90~95%RH 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：Lower limit temperature →normal temperature →Upper limit temperature →normal temperature 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 Temperature：Lower limit temperature 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 Temperature：Upper limit temperature Time：96h
	ESR		Less than or equal to 2 times the initial value	
	Appearance		No leakage or mechanical damage	
Self discharge characteristics (voltage holding characteristics)	Voltage between positive and negative poles≥80%U_R			Charging process: normal temperature, no load, rated voltage charge24h 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			
Solder ability	More than 3/4 of the terminal surface is covered by a tin layer			

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

■Citation standards:IEC62391-1 &DL / T 1652-2016

■Measuring Method

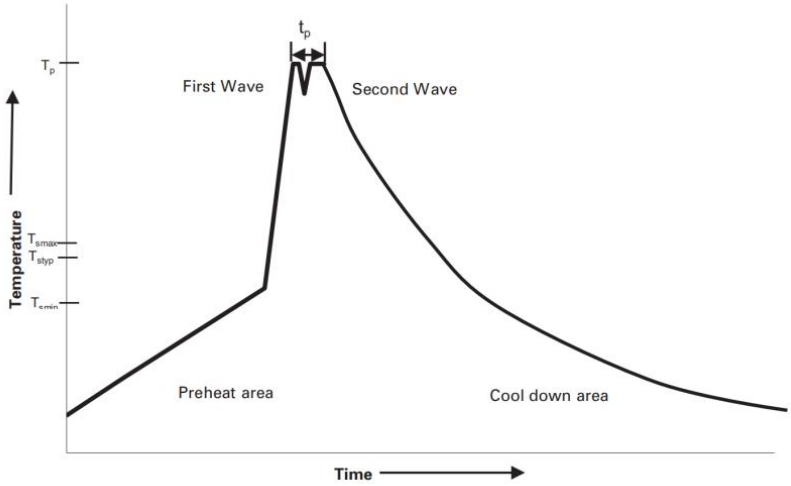
Capacitance	Measurement by Permanent electrotransport : 1.DC voltage of constant current/constant voltage source is set as rated voltage (UR). 2.Set the constant current value of the constant current discharge device. 3.Switch the switch S to dc power supply, and charge at constant voltage for 30min after the constant current/constant voltage source reaches the rated voltage. 4.After charging for 30min, switch S is changed to the constant exile device to discharge with constant current. 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   $C = \frac{I \times (t_2 - t_1)}{U_1 - U_2}$
Resistance	AC impedance measurement The circuit as shown in the figure below is used for measurement  Capacitor resistance Ra shall be computed by the type: $R_a = \frac{U}{I}$ Ra ac impedance (Ω); Effective value of U ac voltage (V R.M.S); Effective value of I ac current (V R.M.S).
Leakage Current	DC leakage current measurement principle is as follows  1.Discharge: before the measurement begins, the capacitor should be fully discharged.The discharge process lasts from 1h to 24h. 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 3.Stable power supply, such as dc stabilized power supply, should be used. 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. 

■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.

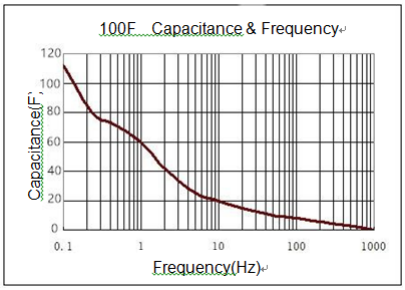
2.On the issue of supercapacitor charging

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.



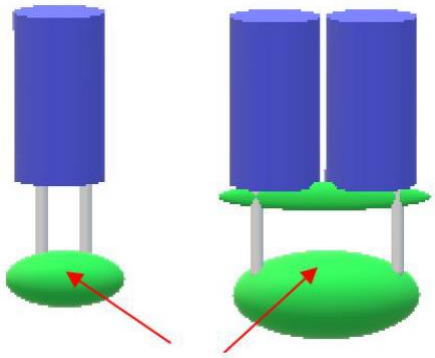
Expcept Lithium ion

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.