

IXSCA Series

Super Capacitor

❖ Features

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

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°C ~ +70°C
- High operating voltage (4.2V); operating temperature range -40°C ~ +65°C
- Green environmental protection, high security, reliability and maintenance-free



Coin Type



Lithium-Ion Type



Cylindrical Type



Combined Type

❖ Application

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

❖ Part Numbering

IXSCA	M	2V7	104	M	V	-1
Type	Shape Type	Rated Voltage	Capacitance	Tolerance	Series Code	Internal code
	C: Coin & C Type H: Coin & H Type V: Coin & V Type M: Lithium-Ion Type L: Cylindrical & Radial Type Z: Combined Type	2V7: 2.7V 3V0: 3.0V 3V6: 3.6V 3V8: 3.8V 4V2: 4.2V 5V5: 5.5V 6V0: 6.0V	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 -1, -2, -3: Custom

❖ Standard Coin Type Supercapacitor

Specifications Value of Product: Coin & C-Type

Part No.	Rated Voltage (V)	Rated Capacitance (F)	Tolerance	Max ESR 1kHz@ 25°C (Ω)	Nominal Current (25°C, A)	Leakage Current (25°C24h, mA)	Max. stored energy (mWh)	Energy Density (Wh/kg)
IXSCAC5V5104Z	5.5	0.10	+80%/-20%	50	0.05	0.003	0.42	0.13
IXSCAC5V5224Z	5.5	0.22	+80%/-20%	50	0.12	0.003	0.92	0.29
IXSCAC5V5334Z	5.5	0.33	+80%/-20%	50	0.18	0.004	1.39	0.43
IXSCAC5V5474Z	5.5	0.47	+80%/-20%	40	0.26	0.004	1.97	0.61
IXSCAC5V5684Z	5.5	0.68	+80%/-20%	30	0.37	0.006	2.86	0.38
IXSCAC5V5105Z	5.5	1.00	+80%/-20%	15	0.55	0.006	4.20	0.52
IXSCAC5V5155Z	5.5	1.50	+80%/-20%	15	0.82	0.010	6.30	0.70

Specifications Value of Product: Coin & H-Type

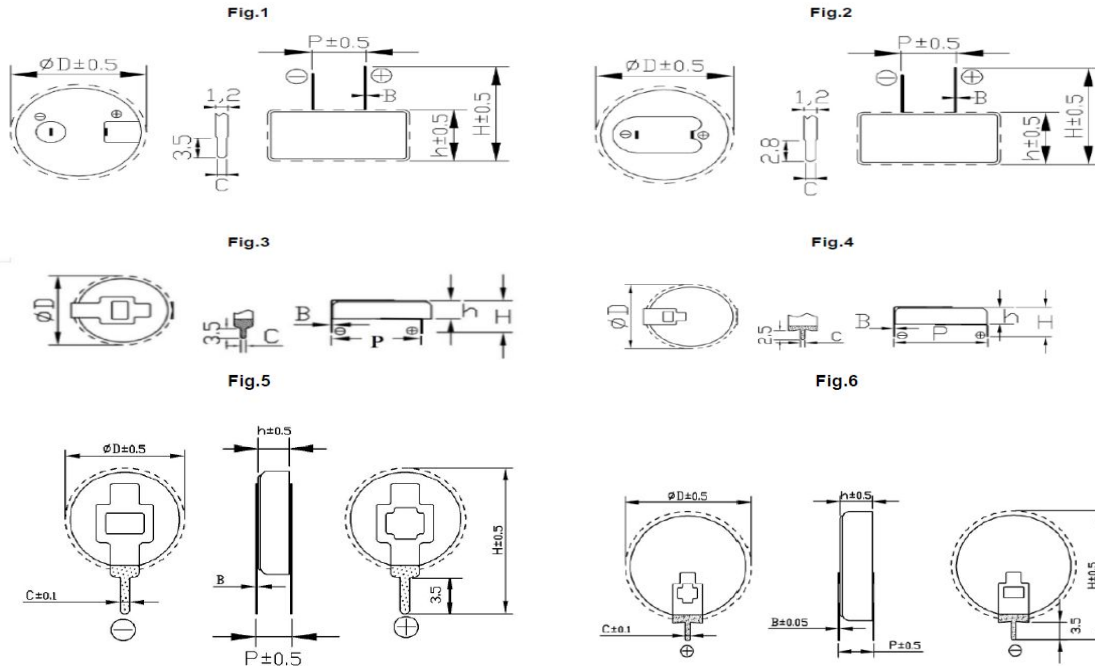
Part No.	Rated Voltage(V)	Rated Capacitance (F)	Tolerance	Max ESR AC@25°C (Ω)	Leakage Current (25°C24h, mA)	Test Current (mA)	Max. stored energy (mWh)
IXSCAH5V5104Z	5.5	0.10	+80%/-20%	50	0.003	1.0	0.42
IXSCAH5V5224Z	5.5	0.22	+80%/-20%	50	0.003	2.2	0.92
IXSCAH5V5334Z	5.5	0.33	+80%/-20%	50	0.004	3.3	1.39
IXSCAH5V5474Z	5.5	0.47	+80%/-20%	40	0.004	4.7	1.97
IXSCAH5V5684Z	5.5	0.68	+80%/-20%	30	0.006	6.8	2.86
IXSCAH5V5105Z	5.5	1.00	+80%/-20%	15	0.006	10	4.20
IXSCAH5V5155Z	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 1kHz@ 25°C (Ω)	Nominal Current (25°C, A)	Leakage Current (25°C24h, mA)	Max. stored energy (mWh)	Energy Density (Wh/kg)
IXSCAV5V5104Z	5.5	0.10	+80%/-20%	50	0.05	0.003	0.42	0.28
IXSCAV5V5224Z	5.5	0.22	+80%/-20%	50	0.12	0.003	0.92	0.61
IXSCAV5V5334Z	5.5	0.33	+80%/-20%	50	0.18	0.004	1.39	0.91
IXSCAV5V5474Z	5.5	0.47	+80%/-20%	40	0.26	0.004	1.97	1.32
IXSCAV5V5684Z	5.5	0.68	+80%/-20%	30	0.37	0.006	2.86	0.49
IXSCAV5V5105Z	5.5	1.00	+80%/-20%	15	0.55	0.006	4.20	0.72
IXSCAV5V5155Z	5.5	1.50	+80%/-20%	15	0.82	0.010	6.30	1.09

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

❖ Dimensions & Packaging Quantity



Part No.	Figure	D (mm)	P (mm)	C (mm)	h (mm)	H (mm)	B (mm)	Quantity (EA)
								Plastic Tray
IXSCAC5V5104Z	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
IXSCAC5V5224Z	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
IXSCAC5V5334Z	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
IXSCAC5V5474Z	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
IXSCAC5V5684Z	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	70
IXSCAC5V5105Z	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	70
IXSCAC5V5155Z	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	70
IXSCAH5V5104Z	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
IXSCAH5V5224Z	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
IXSCAH5V5334Z	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
IXSCAH5V5474Z	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
IXSCAH5V5684Z	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
IXSCAH5V5105Z	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
IXSCAH5V5155Z	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
IXSCAV5V5104Z	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
IXSCAV5V5224Z	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
IXSCAV5V5334Z	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
IXSCAV5V5474Z	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
IXSCAV5V5684Z	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
IXSCAV5V5105Z	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
IXSCAV5V5155Z	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			
Characteristics in different temperature	Step 2	ΔC	Less than or equal to 30% of the initial value	Step 1: +25°C±2°C Step 2: -25°C±2°C Step 3: +70°C±2°C Step 4: +25°C±2°C
		ESR	Less than or equal to 400% of the initial value	
	Step 3	ΔC	Less than or equal to 30% of the initial value	
		ESR	Less than or equal to the initial value	
	Step 4	ΔC	Satisfies the range of 20% of the initial rating	
		ESR	Satisfies the initial value	
Endurance	ΔC	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	ΔC	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 3 times the initial value		
Humidity Characteristics	ΔC	Satisfies the range of 30% of the initial rating	Temperature: +40°C±2°C	
	ESR	Less than or equal to 4 times the initial value	Relative humidity: 90~95%RH	
	Appearance	No leakage or mechanical damage	Test time: 240h	
Temperature cycle	ΔC	Less than or equal to 10% of the initial value	Temperature cycle: Lower limit temperature →normal temperature →Upper limit temperature →normaltemperature Cycles: 5	
	Appearance	No mechanical damage or leakage		
Low temperature storage characteristics	ΔC	Satisfies the range of 10% of the initial rating	Applied voltage: 0V	
	ESR	Less than or equal to 2 times the initial value	Temperature: Lower limit temperature	
	Appearance	No leakage or mechanical damage	Time: 96h	
High temperature storage characteristics	ΔC	Satisfies the range of 10% of the initial rating	Applied voltage: 0V	
	ESR	Less than or equal to 2 times the initial value	Temperature: Upper limit temperature	
	Appearance	No leakage or mechanical damage	Time: 96h	
Self-discharge characteristics (voltage holding characteristics)	Voltage between positive and negative poles≥80%UR		Charging process: normal temperature, no load, rated voltage charge 8h Placement process: temperature less than or equal to 25 °C, relative humidityless 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°C; Relative Humidity:<60%RH, Max. Humidity<85%RH

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

❖ 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 1kHz@25°C (Ω)	Nominal Current (25°C, A)	Leakage Current (25°C24h, mA)	Max. stored energy (mWh)	Energy Density (Wh/kg)
IXSCAC3V6224ZH	3.6	0.22	+80%/-20%	50	0.008	0.003	0.40	0.12

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

Part No.	Rated Voltage (V)	Rated Capacitance (F)	Tolerance	Max ESR AC 25°C (Ω)	Leakage Current (25°C24h, mA)	Test Current (mA)	Max stored Energy (mWh)	Energy Density (Wh/kg)
IXSCAC5V5104ZH	5.5	0.10	+80%/-20%	50	0.003	1.0	0.42	0.13
IXSCAC5V5224ZH	5.5	0.22	+80%/-20%	50	0.003	2.2	0.92	0.29
IXSCAC5V5334ZH	5.5	0.33	+80%/-20%	50	0.004	3.3	1.39	0.43
IXSCAC5V5474ZH	5.5	0.47	+80%/-20%	50	0.004	4.7	1.97	0.61
IXSCAC5V5684ZH	5.5	0.68	+80%/-20%	30	0.006	6.8	2.86	0.38
IXSCAC5V5105ZH	5.5	1.00	+80%/-20%	15	0.006	10	4.20	0.52
IXSCAC5V5155ZH	5.5	1.50	+80%/-20%	15	0.010	15	6.30	0.71

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

Part No.	Rated Voltage (V)	Rated Capacitance (F)	Tolerance	Max ESR 1kHz@25°C (Ω)	Nominal Current (25°C, A)	Leakage Current (25°C24h, mA)	Max. stored energy (mWh)	Energy Density (Wh/kg)
IXSCAH3V6224ZH	3.6	0.22	+80%/-20%	50	0.08	0.003	0.40	0.26
IXSCAH3V6105ZH	3.6	1.00	+80%/-20%	15	0.36	0.006	1.80	0.43
IXSCAH3V6155ZH	3.6	1.50	+80%/-20%	15	0.54	0.010	2.70	0.60

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

Part No.	Rated Voltage (V)	Rated Capacitance (F)	Tolerance	Max ESR AC 25°C (Ω)	Leakage Current (25°C24h, mA)	Test Current (mA)	Max. stored energy (mWh)
IXSCAH5V5104ZH	5.5	0.10	+80%/-20%	50	0.003	1.0	0.42
IXSCAH5V5224ZH	5.5	0.22	+80%/-20%	50	0.003	2.2	0.92
IXSCAH5V5334ZH	5.5	0.33	+80%/-20%	50	0.004	3.3	1.39
IXSCAH5V5474ZH	5.5	0.47	+80%/-20%	50	0.004	4.7	1.97
IXSCAH5V5684ZH	5.5	0.68	+80%/-20%	30	0.006	6.8	2.86
IXSCAH5V5105ZH	5.5	1.00	+80%/-20%	15	0.006	10	4.20
IXSCAH5V5155ZH	5.5	1.50	+80%/-20%	15	0.010	15	6.30

❖ High Temperature Coin Type Supercapacitor

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

Part No.	Rated Voltage (V)	Rated Capacitance (F)	Tolerance	Max ESR 1kHz@25°C (Ω)	Nominal Current (25°C, A)	Leakage Current (25°C24h, mA)	Max. stored energy (mWh)	Energy Density (Wh/kg)
IXSCAV3V6224ZH	3.6	0.22	+80%/-20%	50	-	0.003	0.40	-
IXSCAV3V6105ZH	3.6	1.00	+80%/-20%	15	0.36	0.006	1.80	0.43

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

Part No.	Rated Voltage (V)	Rated Capacitance (F)	Tolerance	Max ESR AC 25°C (Ω)	Leakage Current (25°C24h, mA)	Test Current (mA)	Max. stored energy (mWh)	Energy Density (Wh/kg)
IXSCAV5V5104ZH	5.5	0.10	+80%/-20%	50	0.003	1.0	0.42	0.28
IXSCAV5V5224ZH	5.5	0.22	+80%/-20%	50	0.003	2.2	0.92	0.61
IXSCAV5V5334ZH	5.5	0.33	+80%/-20%	50	0.004	3.3	1.39	0.91
IXSCAV5V5474ZH	5.5	0.47	+80%/-20%	50	0.004	4.7	1.97	1.32
IXSCAV5V5684ZH	5.5	0.68	+80%/-20%	30	0.006	6.8	2.86	0.41
IXSCAV5V5105ZH	5.5	1.00	+80%/-20%	15	0.006	10	4.20	0.61
IXSCAV5V5155ZH	5.5	1.50	+80%/-20%	15	0.010	15	6.30	0.91

- Body color : ≤0.47F Gold ; > 0.47F Black

❖ Dimensions & Packaging Quantity

Fig.1

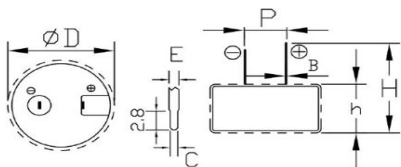


Fig.3

Fig.2

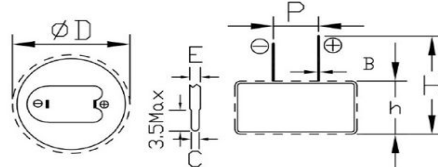


Fig.4

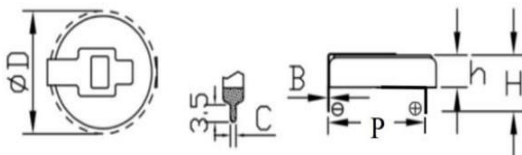


Fig.5

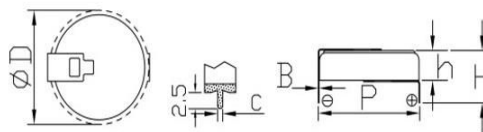
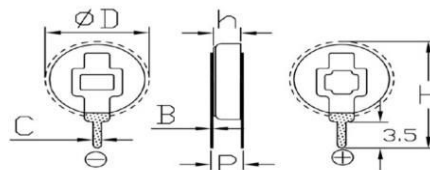
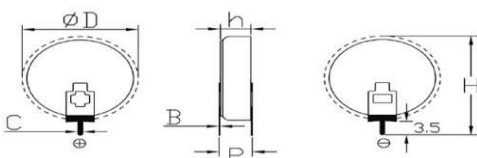


Fig.6





Part No.	Figure	D (mm)	P (mm)	C (mm)	h (mm)	H (mm)	B (mm)	E (mm)	Quantity (EA)
									Plastic Tray
IXSCAC3V6224ZH	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
IXSCAC5V5104ZH	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
IXSCAC5V5224ZH	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
IXSCAC5V5334ZH	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
IXSCAC5V5474ZH	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
IXSCAC5V5684ZH	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
IXSCAC5V5105ZH	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
IXSCAC5V5155ZH	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
IXSCAH3V6224ZH	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
IXSCAH3V6105ZH	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
IXSCAH3V6155ZH	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
IXSCAH5V5104ZH	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
IXSCAH5V5224ZH	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
IXSCAH5V5334ZH	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
IXSCAH5V5474ZH	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
IXSCAH5V5684ZH	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
IXSCAH5V5105ZH	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
IXSCAH5V5155ZH	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
IXSCAV3V6224ZH	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
IXSCAV3V6105ZH	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
IXSCAV5V5104ZH	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	-	168 / 196
IXSCAV5V5224ZH	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
IXSCAV5V5334ZH	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
IXSCAV5V5474ZH	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
IXSCAV5V5684ZH	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
IXSCAV5V5105ZH	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
IXSCAV5V5155ZH	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	ΔC	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	ΔC	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	ΔC	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	ΔC	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 3 times the initial value	
Humidity Characteristics	ΔC	Satisfies the range of 30% of the initial rating	Temperature: +40°C±2°C
	ESR	Less than or equal to 4 times the initial value	Relative humidity: 90~95%RH
	Appearance	No leakage or mechanical damage	Test time: 240h
Temperature cycle	ΔC	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	ΔC	Satisfies the range of 10% of the initial rating	Applied voltage: 0V
	ESR	Less than or equal to 2 times the initial value	Temperature: Lower limit temperature
	Appearance	No leakage or mechanical damage	Time: 96h
High temperature storage characteristics	ΔC	Satisfies the range of 10% of the initial rating	Applied voltage: 0V
	ESR	Less than or equal to 2 times the initial value	Temperature: Upper limit temperature
	Appearance	No leakage or mechanical damage	Time: 96h
Self-discharge characteristics (voltage holding characteristics)	Voltage between positive and negative poles≥80% UR		Charging process: normal temperature, no load, rated voltage charge 8h 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		
Solder ability	More than 3/4 of the terminal surface is covered by a tin layer		

- Storage Temperature: -30 ~+50°C; Relative Humidity:<60%RH, Max. Humidity<85%RH
- Citation standards: IEC62391-1 &DL/T 1652-2016

❖ Lithium Ion Type Supercapacitor

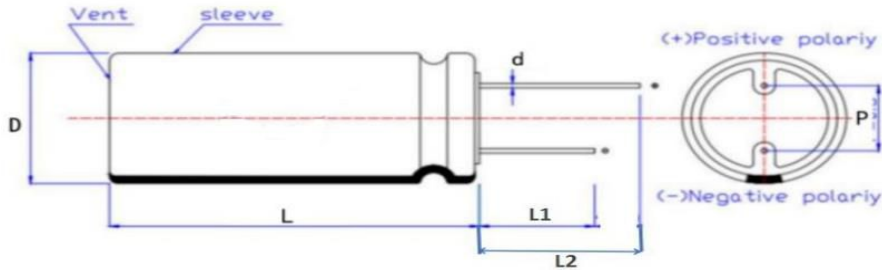
Specifications Value of Standard Product

- Body color: Green

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)	Size DxL (mm)
IXSCAM3V8206Z	3.8	20	+80%/-20%	500	0.10	0.8	40.11	8.0x13.0
IXSCAM3V8306Z	3.8	30	+80%/-20%	250	0.20	2.0	60.17	8.0x20.0
IXSCAM3V8306Z-1	3.8	30	+80%/-20%	250	0.15	1.0	60.17	10.0x13.5
IXSCAM3V8406Z	3.8	40	+80%/-20%	200	0.20	2.0	80.22	8.0x20.0
IXSCAM3V8406Z-1	3.8	40	+80%/-20%	200	0.20	2.0	80.22	10.0x13.5
IXSCAM3V8506Z	3.8	50	+80%/-20%	250	0.20	2.5	100.28	8.0x25.0
IXSCAM3V8706Z	3.8	70	+80%/-20%	175	0.25	2.5	140.39	12.5x13.0
IXSCAM3V8706Z-1	3.8	70	+80%/-20%	250	0.50	2.5	140.39	8.0x25.0
IXSCAM3V8806Z	3.8	80	+80%/-20%	150	0.25	3.5	160.44	10.0x20.0
IXSCAM3V8127Z-2	3.8	120	+80%/-20%	100	0.50	6.0	240.67	10.0x30.0
IXSCAM3V8127Z-3	3.8	120	+80%/-20%	100	0.50	5.0	240.67	12.5x20.0
IXSCAM3V8257Z	3.8	250	+80%/-20%	50	0.80	9.0	501.39	12.5x35.0
IXSCAM3V8257Z-1	3.8	250	+80%/-20%	50	1.00	7.0	501.39	16.0x21.0
IXSCAM3V8307Z	3.8	300	+80%/-20%	50	1.00	10	601.67	12.5x40.0
IXSCAM3V8507Z	3.8	500	+80%/-20%	40	2.00	16	1002.78	16.0x41.0
IXSCAM3V8757Z	3.8	750	+80%/-20%	35	3.00	16	1504.17	18.0x41.0
IXSCAM3V8108Z	3.8	1000	+80%/-20%	35	6.00	20	2005.56	18.0x41.0

- Test current I(mA)= $5 \times C_{R \times} (U_R - U_{min}) / 3.6$

❖ Dimensions & Packaging Quantity



Part No.	D (mm)	L (mm)	P (mm)	d (mm)	L1 (mm)	L2 (mm)	Quantity (EA)
							Plastic Tray
IXSCAM3V8206Z	8±1.5	13±1.5	3.5±0.5	0.6±0.1	22.5±1.5	28.5±1.5	50
IXSCAM3V8306Z	8±1.5	20±1.5	3.5±0.5	0.6±0.1	21.0±1.5	27.0±1.5	50
IXSCAM3V8306Z-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
IXSCAM3V8406Z	8±1.5	20±1.5	3.5±0.5	0.6±0.1	21.0±1.5	27.0±1.5	50
IXSCAM3V8406Z-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
IXSCAM3V8506Z	8±1.5	25±1.5	3.5±0.5	0.6±0.1	20.0±1.5	26.0±1.5	60
IXSCAM3V8706Z	12.5±1.5	13±1.5	5.0±0.5	0.6±0.1	23.0±1.5	29.0±1.5	50
IXSCAM3V8706Z-1	8±1.5	25±1.5	3.5±0.5	0.6±0.1	20.0±1.5	26.0±1.5	60
IXSCAM3V8806Z	10±1.5	20±1.5	5.0±0.5	0.6±0.1	21.0±1.5	27.0±1.5	40
IXSCAM3V8127Z-2	10±1.5	30±1.5	5.0±0.5	0.6±0.1	20.0±1.5	26.0±1.5	40
IXSCAM3V8127Z-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
IXSCAM3V8257Z	12.5±1.5	35±1.5	5.0±0.5	0.6±0.1	20.5±1.5	27.0±1.5	40
IXSCAM3V8257Z-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
IXSCAM3V8307Z	12.5±1.5	40±1.5	5.0±0.5	0.6±0.1	20.0±1.5	26.5±1.5	40
IXSCAM3V8507Z	16.0±1.5	41±1.5	7.5±0.5	0.8±0.1	24.0±1.5	28.5±1.5	40
IXSCAM3V8757Z	18.0±1.5	41±1.5	7.5±0.5	0.8±0.1	25.0±1.5	27.5±1.5	40
IXSCAM3V8108Z	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 ESR is less than 4 times of the specified value.	
Low Temperature Characteristics	Capacity Change ≤50% of the value at 25°C. ESR is less than 20 times of the specified value	Tmin±2°C, 2h
High Temperature Characteristics	Capacity Change ≤30% of the value at 25°C. ESR is less than 2 times of the value at 25°C.	Tmax±2°C, 16h
High Temperature Load Life	Capacity Change ≤ 30% of the initial value. ESR is less than 4 times of the specified value. Appearance no remarkable defects.	1000h, 55±2°C @UR
High Temperature Storage	Capacity Change ≤ 30% of the initial value. ESR is less than 2 times of the specified value.	1000h, Tmax±2°C, 3.6V, No charging
Humidity Characteristics	Capacity Change ≤ 30% of the initial value. ESR is less than 2 times of the specified value.	240h, 40°C, 90±2%RH

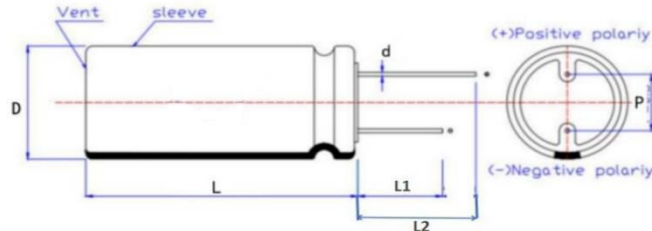
❖ Lithium Ion Type Supercapacitor

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)	Size DxL (mm)
IXSCAM4V2906Z	4.2	90	+80%/-20%	250	0.5	2.5	220.5	8.0x25.0
IXSCAM4V2197Z	4.2	190	+80%/-20%	100	0.9	5.0	465.5	10.0x30.0
IXSCAM4V2257Z	4.2	250	+80%/-20%	100	1.2	6.0	512.5	12.5x20.0
IXSCAM4V2307Z	4.2	300	+80%/-20%	90	2.0	10	735.0	12.5x30.0
IXSCAM4V2407Z	4.2	400	+80%/-20%	80	2.0	10	980.0	16.0x21.0
IXSCAM4V2557Z	4.2	550	+80%/-20%	80	3.0	15	1347.0	12.5x40.0
IXSCAM4V2807Z	4.2	800	+80%/-20%	60	4.0	15	1960.0	16.0x41.0
IXSCAM4V2108Z	4.2	1000	+80%/-20%	35	6.0	20	2450.0	18.0x40.0

- Body color: Green
- Test current I(mA)= 5xC_RX (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
IXSCAM4V2906Z	8±1.5	25.0±1.5	3.5±0.5	0.6±0.1	20.0±1.5	26.0±1.5	60
IXSCAM4V2197Z	10±1.5	30±1.5	5.0±0.5	0.6±0.1	20.5±1.5	26.5±1.5	40
IXSCAM4V2257Z	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
IXSCAM4V2307Z	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
IXSCAM4V2407Z	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
IXSCAM4V2557Z	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
IXSCAM4V2807Z	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
IXSCAM4V2108Z	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 ESR is less than 4 times of the specified value.	
Low Temperature Characteristics	Capacity Change ≤50% of the value at 25°C. ESR is less than 20 times of the specified value	Tmin±2°C, 16h
High Temperature Characteristics	Capacity Change ≤30% of the value at 25°C. ESR is less than 2 times of the value at 25°C.	Tmax±2°C, 16h
High Temperature Load Life	Capacity Change ≤ 30% of the initial value. ESR is less than 4 times of the specified value. Appearance no remarkable defects.	1000h, 55±2°C @UR
High Temperature Storage	Capacity Change ≤ 30% of the initial value. ESR is less than 2 times of the specified value.	1000h, Tmax±2°C, 4.0V, No charging
Humidity Characteristics	Capacity Change ≤ 30% of the initial value. ESR is less than 2 times of the specified value.	240h, 40°C, 90±2%RH

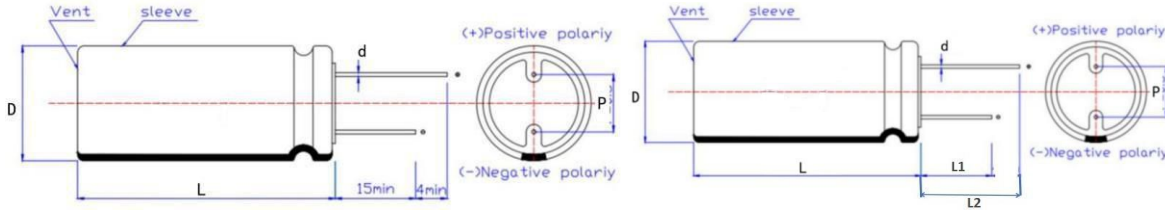
❖ Standard Cylindrical Type Supercapacitor

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)	Size DxL (mm)
IXSCAL2V7504M	2.7	0.5	±20%	500	0.54	0.008	0.51	6.3x12.5
IXSCAL2V7105M	2.7	1	±20%	500	0.90	0.008	1.01	6.3x12.5
IXSCAL2V7105M-1	2.7	1	±20%	350	1.00	0.008	1.01	8.0x13.0
IXSCAL2V7155M	2.7	1.5	±20%	500	1.16	0.008	1.52	6.3x12.5
IXSCAL2V7155M-1	2.7	1.5	±20%	350	1.33	0.010	1.52	8.0x13.0
IXSCAL2V7205M	2.7	2	±20%	200	1.99	0.012	2.03	8.0x16.0
IXSCAL2V7205M-1	2.7	2	±20%	240	1.93	0.012	2.03	8.0x13.0
IXSCAL2V7305M	2.7	3	±20%	160	2.98	0.017	3.04	8.0x20.0
IXSCAL2V7335M	2.7	3.3	±20%	160	3.19	0.017	3.34	8.0x20.0
IXSCAL2V7505M	2.7	5	±20%	120	4.82	0.020	5.06	8.0x24.0
IXSCAL2V7505M-1	2.7	5	±20%	120	4.91	0.020	5.06	10.0x20.0
IXSCAL2V7605M	2.7	6	±20%	100	5.59	0.025	6.08	10.0x20.0
IXSCAL2V7705M	2.7	7	±20%	80	6.34	0.030	7.09	10.0x20.0
IXSCAL2V7106M	2.7	10	±20%	65	8.18	0.050	10.13	10.0x25.0
IXSCAL2V7106M-1	2.7	10	±20%	70	7.94	0.050	10.13	12.5x20.0
IXSCAL2V7126M	2.7	12	±20%	65	9.01	0.050	12.15	12.5x20.0
IXSCAL2V7156M	2.7	15	±20%	55	11.10	0.065	15.19	12.5x25.0
IXSCAL2V7206M	2.7	20	±20%	50	14.21	0.080	20.25	12.5x25.0
IXSCAL2V7256M	2.7	25	±20%	45	19.29	0.070	25.31	16.0x25.0
IXSCAL2V7306M	2.7	30	±20%	30	21.32	0.078	30.38	16.0x30.0
IXSCAL2V7406M	2.7	40	±20%	30	25.47	0.088	40.50	18.0x30.0
IXSCAL2V7506M	2.7	50	±20%	25	30.00	0.100	50.63	18.0x40.0
IXSCAL2V7606M	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: Blue

❖ Dimensions & Packaging Quantity



Part No.	D (mm)	L (mm)	P (mm)	D (mm)	L1 (mm)	L2 (mm)	Quantity (EA)
							Plastic Tray
IXSCAL2V7504M	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
IXSCAL2V7105M	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
IXSCAL2V7105M-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
IXSCAL2V7155M	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
IXSCAL2V7155M-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
IXSCAL2V7205M	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
IXSCAL2V7205M-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
IXSCAL2V7305M	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
IXSCAL2V7335M	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
IXSCAL2V7505M	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
IXSCAL2V7505M-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
IXSCAL2V7605M	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
IXSCAL2V7705M	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
IXSCAL2V7106M	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
IXSCAL2V7106M-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
IXSCAL2V7126M	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
IXSCAL2V7156M	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
IXSCAL2V7206M	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
IXSCAL2V7256M	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
IXSCAL2V7306M	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
IXSCAL2V7406M	18.0±1.0	30.0±3.0	7.5±0.5	0.8±0.05	-	-	44
IXSCAL2V7506M	18.0±1.0	40.0±3.0	7.5±0.5	0.8±0.05	-	-	26
IXSCAL2V7606M	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 +70°C@2.5V		
Rated Operating Voltage	2.7V DC		
High Temperature Characteristics	ΔC	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	ΔC	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	ΔC	Less than or equal to 30% of the initial value	Applied voltage : 2.7V Temperature : +65±2°C Time : 1000h
	ESR	Less than or equal to 4 times the initial value	
	Appearance	No leakage or mechanical damage	
Cycle life	ΔC	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	ΔC	Satisfies the range of 30% of the initial rating	Temperature: +40°C±2°C 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	ΔC	Less than or equal to 10% of the initial value	Temperature cycle : -25±2°C → normal temperature → +70±2°C → normal temperature Cycles : 5
	Appearance	No mechanical damage or leakage	
Low temperature storage characteristics	ΔC	Satisfies the range of 10% of the initial rating	Applied voltage: 0V Temperature: -40±2°C Time: 96h
	ESR	Less than or equal to 2 times the initial value	
	Appearance	No leakage or mechanical damage	
High temperature storage characteristics	ΔC	Satisfies the range of 10% of the initial rating	Applied voltage: 0V Temperature: -70±2°C 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 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

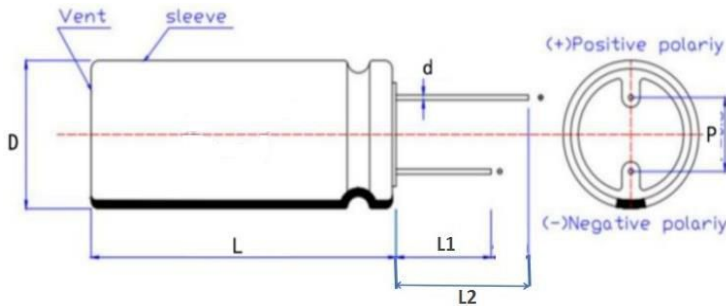
❖ Low ESR Cylindrical Type Supercapacitor

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)	Size DxDL (mm)
IXSCAL2V7105MLR	2.7	1	±20%	240	1.12	0.008	1.01	6.3x12.5
IXSCAL2V7105MLR-1	2.7	1	±20%	200	1.12	0.008	1.01	8.0x13.0
IXSCAL2V7205MLR	2.7	2	±20%	160	2.04	0.012	2.03	8.0x13.0
IXSCAL2V7405MLR	2.7	4	±20%	120	3.64	0.015	4.05	8.0x16.0
IXSCAL2V7505MLR	2.7	5	±20%	100	4.50	0.020	5.06	8.0x24.0
IXSCAL2V7505MLR-1	2.7	5	±20%	100	4.50	0.020	5.06	10.0x20.0
IXSCAL2V7705MLR	2.7	7	±20%	60	6.65	0.030	7.09	10.0x20.0
IXSCAL2V7106MLR	2.7	10	±20%	50	9.00	0.050	10.13	10.0x25.0
IXSCAL2V7156MLR	2.7	15	±20%	45	12.08	0.065	15.19	12.5x25.0
IXSCAL2V7206MLR	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
IXSCAL2V7105MLR	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
IXSCAL2V7105MLR-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
IXSCAL2V7205MLR	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
IXSCAL2V7405MLR	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
IXSCAL2V7505MLR	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
IXSCAL2V7505MLR-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
IXSCAL2V7705MLR	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
IXSCAL2V7106MLR	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
IXSCAL2V7156MLR	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
IXSCAL2V7206MLR	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 +70°C@2.5V		
Rated Operating Voltage	2.7V DC		
High Temperature Characteristics	ΔC	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	ΔC	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	ΔC	Less than or equal to 30% of the initial value	Applied voltage : 2.7V Temperature : +65±2°C Time : 1000h
	ESR	Less than or equal to 4 times the initial value	
	Appearance	No leakage or mechanical damage	
Cycle life	ΔC	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	ΔC	Satisfies the range of 30% of the initial rating	Temperature: +40°C±2°C 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	ΔC	Less than or equal to 10% of the initial value	Temperature cycle : -25±2°C → normal temperature → +70±2°C → normal temperature Cycles : 5
	Appearance	No mechanical damage or leakage	
Low temperature storage characteristics	ΔC	Satisfies the range of 10% of the initial rating	Applied voltage: 0V Temperature: -40±2°C Time: 96h
	ESR	Less than or equal to 2 times the initial value	
	Appearance	No leakage or mechanical damage	
High temperature storage characteristics	ΔC	Satisfies the range of 10% of the initial rating	Applied voltage: 0V Temperature: -70±2°C 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 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

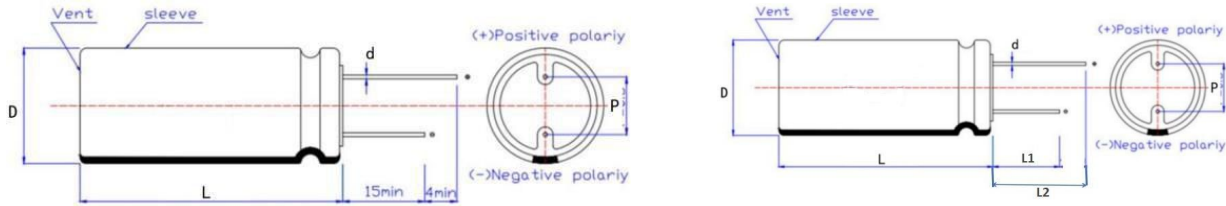
❖ High Voltage Cylindrical Type Supercapacitor

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)	Size DxL (mm)
IXSCAL3V0504MV	3.0	0.5	±20%	500	0.54	0.008	0.63	6.3x12.5
IXSCAL3V0105MV	3.0	1.0	±20%	350	1.00	0.008	1.25	8.0x13.0
IXSCAL3V0105MV-1	3.0	1.0	±20%	500	0.90	0.008	1.25	6.3x12.5
IXSCAL3V0155MV	3.0	1.5	±20%	500	1.16	0.008	1.88	6.3x12.5
IXSCAL3V0155MV-1	3.0	1.5	±20%	350	1.33	0.010	1.88	8.0x13.0
IXSCAL3V0205MV	3.0	2.0	±20%	240	1.93	0.012	2.50	8.0x13.0
IXSCAL3V0205MV-1	3.0	2.0	±20%	200	1.99	0.012	2.50	8.0x16.0
IXSCAL3V0305MV	3.0	3.0	±20%	160	2.98	0.013	3.75	8.0x20.0
IXSCAL3V0335MV	3.0	3.3	±20%	160	3.19	0.013	4.13	8.0x20.0
IXSCAL3V0505MV	3.0	5.0	±20%	120	4.82	0.016	6.25	8.0x24.0
IXSCAL3V0505MV-1	3.0	5.0	±20%	120	4.91	0.016	6.25	10.0x20.0
IXSCAL3V0605MV	3.0	6.0	±20%	100	5.59	0.024	7.50	10.0x20.0
IXSCAL3V06059V	3.0	6.0	+30%/-10%	100	5.59	0.024	7.50	10.0x20.0
IXSCAL3V0705MV	3.0	7.0	±20%	80	6.34	0.028	8.75	10.0x20.0
IXSCAL3V0106MV	3.0	10	±20%	65	8.18	0.030	12.50	10.0x25.0
IXSCAL3V0106MV-1	3.0	10	±20%	70	7.94	0.030	12.50	12.5x20.0
IXSCAL3V0126MV	3.0	12	±20%	65	9.01	0.032	15.00	12.5x20.0
IXSCAL3V0156MV	3.0	15	±20%	55	11.10	0.050	18.75	12.5x25.0
IXSCAL3V0156MV-1	3.0	15	±20%	70	10.97	0.050	18.75	12.5x20.0
IXSCAL3V0206MV	3.0	20	±20%	70	11.25	0.065	25.00	12.5x30.0
IXSCAL3V0206MV-1	3.0	20	±20%	50	14.21	0.060	25.00	12.5x25.0
IXSCAL3V0256MV	3.0	25	±20%	45	19.29	0.070	31.25	16.0x25.0
IXSCAL3V02569V	3.0	25	+30%/-10%	45	19.29	0.070	31.25	16.0x25.0
IXSCAL3V0306MV	3.0	30	±20%	30	21.32	0.078	37.50	16.0x30.0
IXSCAL3V0406MV	3.0	40	±20%	30	25.47	0.088	50.00	18.0x30.0
IXSCAL3V0506MV	3.0	50	±20%	25	30.00	0.100	62.50	18.0x40.0
IXSCAL3V0606MV	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
IXSCAL3V0504MV	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
IXSCAL3V0105MV	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
IXSCAL3V0105MV-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
IXSCAL3V0155MV	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
IXSCAL3V0155MV-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
IXSCAL3V0205MV	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
IXSCAL3V0205MV-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
IXSCAL3V0305MV	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
IXSCAL3V0335MV	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
IXSCAL3V0505MV	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
IXSCAL3V0505MV-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
IXSCAL3V0605MV	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
IXSCAL3V06059V	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
IXSCAL3V0705MV	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
IXSCAL3V0106MV	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
IXSCAL3V0106MV-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
IXSCAL3V0126MV	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
IXSCAL3V0156MV	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
IXSCAL3V0156MV-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
IXSCAL3V0206MV	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
IXSCAL3V0206MV-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
IXSCAL3V0256MV	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
IXSCAL3V02569V	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
IXSCAL3V0306MV	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
IXSCAL3V0406MV	18.0±1.0	30.0±3.0	7.5±0.5	0.8±0.05	-	-	44
IXSCAL3V0506MV	18.0±1.0	40.0±3.0	7.5±0.5	0.8±0.05	-	-	26
IXSCAL3V0606MV	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 +70°C@2.7V		
Rated Operating Voltage	3.0V DC		
High Temperature Characteristics	ΔC	Less than or equal to 30% of the initial value	Place in the higher operating temperature environment for 16hand test in this environment.
	ESR	Less than or equal to the initial value	
	Appearance	No leakage or mechanical damage	
Low Temperature Characteristics	ΔC	Less than or equal to 30% of the initial value	Place in the higher operating temperature environment for 2hand test in this environment.
	ESR	Less than or equal to 4 times the initial value	
	Appearance	No leakage or mechanical damage	
Endurance	ΔC	Less than or equal to 30% of the initial value	Applied voltage : 3.0V Temperature : +65±2°C Time : 1000h
	ESR	Less than or equal to 4 times the initial value	
	Appearance	No leakage or mechanical damage	
Cycle Life	ΔC	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	ΔC	Less than or equal to 30% of the initial value	Temperature: +40±2°C 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	ΔC	Less than or equal to 10% of the initial value	Temperature cycle : -25±2°C → Normal temperature → +70±2°C → normal temperature Cycles : 5
	Appearance	No leakage or mechanical damage	
Low Temperature Storage Characteristics	ΔC	Satisfies the range of 10% of the initial rating	Applied voltage : 0V Temperature : - 40±2°C Time : 96h
	ESR	Less than or equal to 2 times the initial value	
	Appearance	No leakage or mechanical damage	
High Temperature Storage Characteristics	ΔC	Satisfies the range of 10% of the initial rating	Applied voltage : 0V Temperature : +70±2° C 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 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

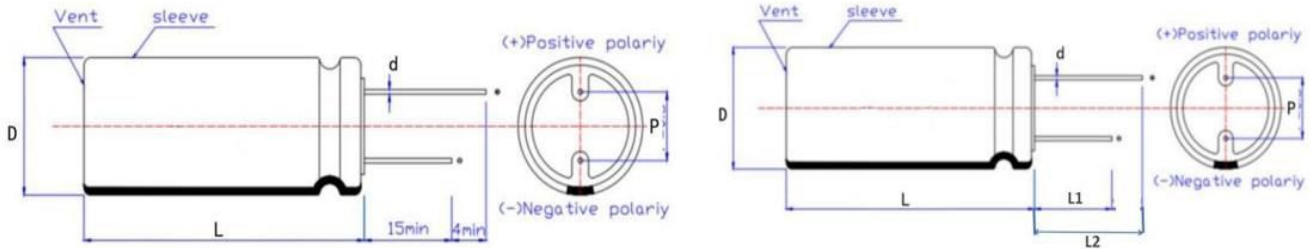
❖ High Temperature Cylindrical Type Supercapacitor

Specifications Value of Product

Part No.	Rated Voltage (V)	Rated Capacitance (F)	Tolerance	Max. ESR 25°C (mΩ)	Maximum Peak Current (25°C<1s, A)	Leakage Current (25°C 72h, mA)	Store energy (mWh)	Size DxL (mm)
IXSCAL2V7504MH	2.7	0.5	±20%	500	0.54	0.008	0.51	6.3x12.5
IXSCAL2V7105MH	2.7	1.0	±20%	350	1.00	0.008	1.01	8.0x13.0
IXSCAL2V7105MH -1	2.7	1.0	±20%	500	0.90	0.008	1.01	6.3x12.5
IXSCAL2V7155MH	2.7	1.5	±20%	350	1.33	0.010	1.52	8.0x13.0
IXSCAL2V7155MH-1	2.7	1.5	±20%	500	1.16	0.008	1.52	6.3x12.5
IXSCAL2V7205MH	2.7	2.0	±20%	200	1.99	0.012	2.03	8.0x16.0
IXSCAL2V7205MH-1	2.7	2.0	±20%	200	1.92	0.012	2.03	8.0x20.0
IXSCAL2V7205MH-2	2.7	2.0	±20%	240	1.93	0.012	2.03	8.0x13.0
IXSCAL2V7305MH	2.7	3.0	±20%	160	2.98	0.017	3.04	8.0x20.0
IXSCAL2V7305MH-1	2.7	3.0	±20%	160	2.74	0.015	3.04	8.0x16.0
IXSCAL2V7335MH	2.7	3.3	±20%	160	3.19	0.017	3.34	8.0x20.0
IXSCAL2V7405MH	2.7	4.0	±20%	150	3.38	0.015	4.05	8.0x16.0
IXSCAL2V7505MH	2.7	15.0	±20%	120	4.82	0.020	5.06	8.0x24.0
IXSCAL2V7505MH-1	2.7	5.0	±20%	120	4.91	0.020	5.06	10.0x20.0
IXSCAL2V7605MH	2.7	6.0	±20%	100	5.59	0.025	6.08	10.0x20.0
IXSCAL2V7705MH	2.7	7.0	±20%	80	6.34	0.030	7.09	10.0x20.0
IXSCAL2V7106MH	2.7	10	±20%	65	8.18	0.050	10.13	10.0x25.0
IXSCAL2V7106MH-1	2.7	10	±20%	70	7.94	0.050	10.13	12.5x20.0
IXSCAL2V7126MH	2.7	12	±20%	65	9.01	0.050	12.15	12.5x20.0
IXSCAL2V7156MH	2.7	15	±20%	55	11.10	0.065	15.19	12.5x25.0
IXSCAL2V7206MH	2.7	20	±20%	50	14.21	0.080	20.25	12.5x25.0
IXSCAL2V7206MH-1	2.7	20	±20%	70	11.25	0.065	20.25	12.5x30.0
IXSCAL2V7256MH	2.7	25	±20%	45	19.29	0.070	25.31	16.0x25.0
IXSCAL2V7256MH-1	2.7	25	±20%	65	12.86	0.070	25.31	12.5x30.0
IXSCAL2V7306MH	2.7	30	±20%	30	21.32	0.078	30.38	16.0x30.0
IXSCAL2V7406MH	2.7	40	±20%	30	25.47	0.088	40.50	18.0x30.0
IXSCAL2V7506MH	2.7	50	±20%	25	30.00	0.100	50.63	18.0x40.0
IXSCAL2V7606MH	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

❖ Dimensions & Packaging Quantity



Part No.	D (mm)	L (mm)	P (mm)	d (mm)	L1 (mm)	L2 (mm)	Quantity (EA)
							Plastic Tray
IXSCAL2V7504MH	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
IXSCAL2V7105MH	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
IXSCAL2V7105MH -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
IXSCAL2V7155MH	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
IXSCAL2V7155MH-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
IXSCAL2V7205MH	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
IXSCAL2V7205MH-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
IXSCAL2V7205MH-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
IXSCAL2V7305MH	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
IXSCAL2V7305MH-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
IXSCAL2V7335MH	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
IXSCAL2V7405MH	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
IXSCAL2V7505MH	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
IXSCAL2V7505MH-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
IXSCAL2V7605MH	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
IXSCAL2V7705MH	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
IXSCAL2V7106MH	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
IXSCAL2V7106MH-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
IXSCAL2V7126MH	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
IXSCAL2V7156MH	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
IXSCAL2V7206MH	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
IXSCAL2V7206MH-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
IXSCAL2V7256MH	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
IXSCAL2V7256MH-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
IXSCAL2V7306MH	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
IXSCAL2V7406MH	18.0±1.0	30.0±3.0	7.5±0.5	0.8±0.05	-	-	44
IXSCAL2V7506MH	18.0±1.0	40.0±3.0	7.5±0.5	0.8±0.05	-	-	26
IXSCAL2V7606MH	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 +85°C@2.5V		
Rated Operating Voltage	2.7V DC		
High Temperature Characteristics	ΔC	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	ΔC	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	ΔC	Less than or equal to 30% of the initial value	Applied voltage : 2.5V Temperature : +85±2°C Time : 1000h
	ESR	Less than or equal to 4 times the initial value	
	Appearance	No leakage or mechanical damage	
Cycle life	ΔC	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	ΔC	Satisfies the range of 30% of the initial rating	Temperature: +40°C±2°C 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	ΔC	Less than or equal to 10% of the initial value	Temperature cycle : -40±2°C→normal temperature →+85±2°C→normal temperature Cycles : 5
	Appearance	No mechanical damage or leakage	
Low temperature storage characteristics	ΔC	Satisfies the range of 10% of the initial rating	Applied voltage: 0V Temperature: -40±2°C Time: 96h
	ESR	Less than or equal to 2 times the initial value	
	Appearance	No leakage or mechanical damage	
High temperature storage characteristics	ΔC	Satisfies the range of 10% of the initial rating	Applied voltage: 0V Temperature: +85±2°C 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 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**

❖ Standard Combined Type Supercapacitor

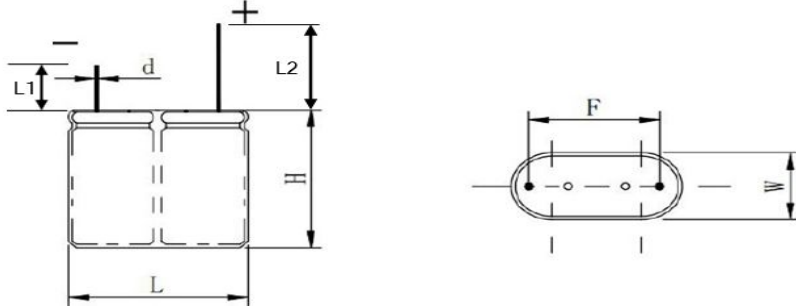
Specifications Value of Standard Product

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)	Size DxL (mm)
IXSCAZ5V5224Z	5.5	0.22	+80%/-20%	1000	0.48	0.008	0.92	6.5x13.8x13.5
IXSCAZ5V5334Z	5.5	0.33	+80%/-20%	1000	0.68	0.008	1.39	6.5x13.8x13.5
IXSCAZ5V53349-1	5.5	0.33	+30%/-20%	700	0.74	0.008	1.39	8.5x14.0x17.0
IXSCAZ5V5474M	5.5	0.47	±20%	1000	0.88	0.008	1.97	6.5x13.8x13.5
IXSCAZ5V54749	5.5	0.47	+30%/-10%	600	1.01	0.010	1.97	8.5x14.0x17.0
IXSCAZ5V5504M	5.5	0.50	±20%	1000	0.88	0.008	2.10	6.5x13.8x13.5
IXSCAZ5V5504M-1	5.5	0.50	±20%	600	1.06	0.010	2.1	8.5x14.0x17.0
IXSCAZ5V5105Z	5.5	1.0	+80%/-20%	400	1.96	0.017	4.20	8.5x21.0x17.0
IXSCAZ5V5105M-1	5.5	1.0	±20%	360	2.02	0.012	4.20	8.5x17.0x17.0
IXSCAZ5V5105M-2	5.5	1.0	±20%	500	1.83	0.012	4.20	8.5x14.0x17.0
IXSCAZ5V5155M	5.5	1.5	±20%	270	3.03	0.017	6.30	8.5x21.0x17.0
IXSCAZ5V5155M-1	5.5	1.5	±20%	300	2.84	0.016	6.30	8.5x17.0x17.0
IXSCAZ5V5205M	5.5	2.0	±20%	220	3.93	0.020	8.40	8.5x21.0x17.0
IXSCAZ5V5205M-1	5.5	2.0	±20%	220	4.04	0.020	8.40	8.5x25.0x17.0
IXSCAZ5V5255M	5.5	2.5	±20%	170	4.91	0.020	10.50	8.5x25.0x17.0
IXSCAZ5V5255M-1	5.5	2.5	±20%	200	5.00	0.020	10.50	10.0x21.0x21.0
IXSCAZ5V5305M	5.5	3.0	±20	160	5.69	0.025	12.60	8.5x25.0x17.0
IXSCAZ5V5305M-1	5.5	3.0	±20	180	5.69	0.025	12.60	10.0x21.0x21.0
IXSCAZ5V5355M	5.5	3.5	±20%	160	6.31	0.030	14.70	10.0x21.0x21.0
IXSCAZ5V5505M	5.5	5.0	±20%	120	8.59	0.050	21.01	10.0x26.0x21.0
IXSCAZ5V5505M-1	5.5	5.0	±20%	120	8.59	0.050	21.01	13.0x27.0x26.0
IXSCAZ5V5505M-2	5.5	5.0	±20%	120	8.59	0.050	21.01	13.0x22.0x26.0
IXSCAZ5V5755M	5.5	7.5	±20%	120	10.86	0.065	31.51	13.0x22.0x26.0
IXSCAZ5V5106M	5.5	10	±20%	90	14.47	0.060	42.01	16.0x28.0x33.0
IXSCAZ5V5106M-1	5.5	10	±20%	100	14.47	0.080	42.01	13.0x27.0x26.0
IXSCAZ5V5156M	5.5	15	±20%	70	20.12	0.078	63.02	16.0x33.0x33.0
IXSCAZ5V5256M	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

❖ Dimensions & Packaging Quantity



Part No.	L (mm)	W (mm)	H (mm)	F (mm)	d (mm)	L1 (mm)	L2 (mm)	Quantity (EA)	Quantity (EA)
								Plastic Tray	Plastic Bag
IXSCAZ5V5224Z	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	-
IXSCAZ5V5334Z	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	-
IXSCAZ5V53349-1	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	-
IXSCAZ5V5474M	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	-
IXSCAZ5V54749	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	-
IXSCAZ5V5504M	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	-
IXSCAZ5V5504M-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	-
IXSCAZ5V5105Z	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	-
IXSCAZ5V5105M-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	-
IXSCAZ5V5105M-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	-
IXSCAZ5V5155M	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	-
IXSCAZ5V5155M-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	-
IXSCAZ5V5205M	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	-
IXSCAZ5V5205M-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	-
IXSCAZ5V5255M	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	-
IXSCAZ5V5255M-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	-
IXSCAZ5V5305M	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	-
IXSCAZ5V5305M-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	-
IXSCAZ5V5355M	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	-
IXSCAZ5V5505M	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	-
IXSCAZ5V5505M-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	-
IXSCAZ5V5505M-2	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	-
IXSCAZ5V5755M	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	-
IXSCAZ5V5106M	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	-
IXSCAZ5V5106M-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	-
IXSCAZ5V5156M	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	-
IXSCAZ5V5256M	37.0±1.0	18.0±1.0	43.0±2.0	26.0±0.5	0.8±0.05	-	-	-	40

❖ Environmental Characteristics

Item	Requirement		Test Condition
Operating Temperature Range	-40°C~+70°C		
Rated Operating Voltage	5.5V DC		
High Temperature Characteristics	ΔC	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	ΔC	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	ΔC	Less than or equal to 30% of the initial value	Applied voltage : 5.0V Temperature : +65±2°C Time : 1000h
	ESR	Less than or equal to 4 times the initial value	
	Appearance	No leakage or mechanical damage	
Cycle life	ΔC	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	ΔC	Satisfies the range of 30% of the initial rating	Temperature: +40°C±2°C
	ESR	Less than or equal to 4 times the initial value	Relative humidity: 90~95%RH
	Appearance	No leakage or mechanical damage	Test time: 240h
Temperature cycle	ΔC	Less than or equal to 10% of the initial value	Temperature cycle : -40±2°C→normal temperature →+70±2°C→normal temperature Cycles : 5
	Appearance	No mechanical damage or leakage	
Low temperature storage characteristics	ΔC	Satisfies the range of 10% of the initial rating	Applied voltage: 0V
	ESR	Less than or equal to 2 times the initial value	Temperature: -40±2°C
	Appearance	No leakage or mechanical damage	Time: 96h
High temperature storage characteristics	ΔC	Satisfies the range of 10% of the initial rating	Applied voltage: 0V
	ESR	Less than or equal to 2 times the initial value	Temperature: +70±2°C
	Appearance	No leakage or mechanical damage	Time: 96h
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 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 Voltage Combined Type Supercapacitor

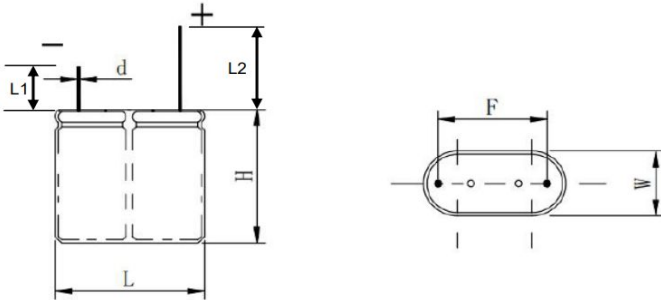
Specifications Value of Product

Part No.	Rated Voltage (V)	Rated Capacitance (F)	Tolerance	Max. ESR 25°C (mΩ)	Maximum Peak Current (25°C<1s, A)	Leakage Current (25°C72h, mA)	Store energy (mWh)	Sizes WxHxL (mm)
IXSCAZ6V0224ZV	6.0	0.22	-20%~+80%	1000	0.48	0.008	1.10	6.5x13.8x13.5
IXSCAZ6V0334ZV	6.0	0.33	-20%~+80%	1000	0.68	0.008	1.65	6.5x13.8x13.5
IXSCAZ6V03349V-1	6.0	0.33	-10%~+30%	700	0.74	0.008	1.65	8.5x14.0x17.0
IXSCAZ6V0474MV	6.0	0.47	±20%	1000	0.88	0.008	2.35	6.5x13.8x13.5
IXSCAZ6V04749V-1	6.0	0.47	-10%~+30%	600	1.01	0.010	2.35	8.5x14.0x17.0
IXSCAZ6V0504MV	6.0	0.5	±20%	1000	0.88	0.008	2.50	6.5x13.8x13.5
IXSCAZ6V0504MV-2	6.0	0.5	±20%	600	1.06	0.010	2.50	8.5x14.0x17.0
IXSCAZ6V0105Z	6.0	1	-20%~+80%	400	1.96	0.017	5.00	8.5x21.0x17.0
IXSCAZ6V0155MV	6.0	1.5	±20%	240	3.03	0.017	7.50	8.5x21.0x17.0
IXSCAZ6V0155MV-1	6.0	1.5	±20%	320	2.84	0.016	7.50	8.5x17.0x17.0
IXSCAZ6V0505MV	6.0	5	±20%	130	8.59	0.050	25.00	10.0x26.0x21.0
IXSCAZ6V0505MV-1	6.0	5	±20%	140	8.59	0.050	25.00	13.0x22.0x26.0
IXSCAZ6V0505MV-2	6.0	5	±20%	120	8.59	0.050	25.00	13.0x27.0x26.0
IXSCAZ6V0755MV	6.0	7.5	±20%	140	10.86	0.065	37.50	13.0x22.0x26.0
IXSCAZ6V0755MV-1	6.0	7.5	±20%	110	11.30	0.065	37.50	13.0x27.0x26.0
IXSCAZ6V0106MV	6.0	10	±20%	90	14.47	0.080	50.00	13.0x27.0x26.0
IXSCAZ6V0106MV-1	6.0	10	±20%	90	14.47	0.070	50.00	16.0x28.0x33.0
IXSCAZ6V0156MV	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

❖ Dimensions & Packaging Quantity



Part No.	L (mm)	W (mm)	H (mm)	F (mm)	d (mm)	L1 (mm)	L2 (mm)	Quantity (EA)
								Plastic Tray
IXSCAZ6V0224ZV	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
IXSCAZ6V0334ZV	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
IXSCAZ6V03349V-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
IXSCAZ6V0474MV	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
IXSCAZ6V04749V-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
IXSCAZ6V0504MV	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
IXSCAZ6V0504MV-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
IXSCAZ6V0105Z	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
IXSCAZ6V0155MV	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
IXSCAZ6V0155MV-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
IXSCAZ6V0505MV	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
IXSCAZ6V0505MV-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
IXSCAZ6V0505MV-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
IXSCAZ6V0755MV	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
IXSCAZ6V0755MV-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
IXSCAZ6V0106MV	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
IXSCAZ6V0106MV-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
IXSCAZ6V0156MV	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	ΔC	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	ΔC	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	ΔC	Less than or equal to 30% of the initial value	Applied voltage : 5.0V Temperature : +70±2°C Time : 1000h
	ESR	Less than or equal to 4 times the initial value	
	Appearance	No leakage or mechanical damage	
Cycle Life	ΔC	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	ΔC	Less than or equal to 30% of the initial value	Temperature : +40±2°C 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	ΔC	Less than or equal to 10% of the initial value	Temperature cycle : -40±2°C→normal temperature →+70±2°C→normal temperature Cycles : 5
	Appearance	No leakage or mechanical damage	
Low Temperature Storage Characteristics	ΔC	Satisfies the range of 10% of the initial rating	Applied voltage : 0V Temperature : -40±2°C Time : 96h
	ESR	Less than or equal to 2 times the initial value	
	Appearance	No leakage or mechanical damage	
High Temperature Storage Characteristics	ΔC	Satisfies the range of 10% of the initial rating	Applied voltage : 0V Temperature : +70±2°C 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 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 Combined Type Supercapacitor

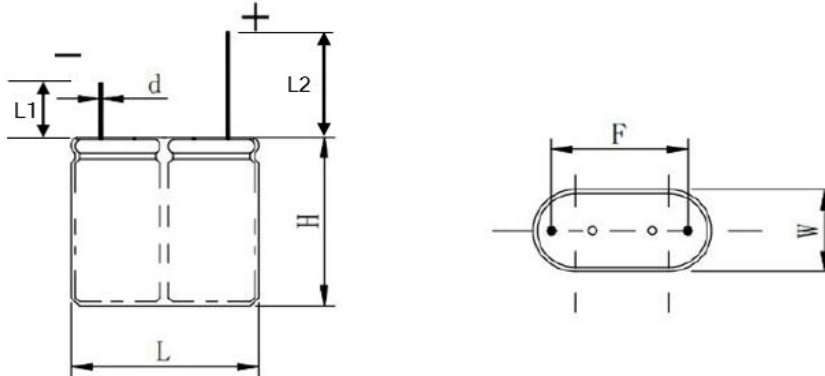
Specifications Value of Product

Part No.	Rated Voltage (V)	Rated Capacitance (F)	Tolerance	Max. ESR DC 25°C (mΩ)	Maximum Peak Current (25°C<1s, A)	Leakage Current (25°C 72h, mA)	Store energy (mWh)	Size WxHxL (mm)
IXSCAZ5V5224ZH	5.5	0.22	-20%~+80%	1000	0.48	0.008	0.92	6.5x13.8x13.5
IXSCAZ5V5334ZH	5.5	0.33	-20%~+80%	1000	0.68	0.008	1.39	6.5x13.8x13.5
IXSCAZ5V5474MH	5.5	0.47	±20%	1000	0.88	0.008	1.97	6.5x13.8x13.5
IXSCAZ5V5504MH	5.5	0.5	±20%	1000	0.88	0.008	2.10	6.5x13.8x13.5
IXSCAZ5V5105MH	5.5	1.0	±20%	360	1.96	0.013	4.20	8.5x17.0x17.0
IXSCAZ5V5155MH-2	5.5	1.5	±20%	270	3.03	0.017	6.30	8.5x21.0x17.0
IXSCAZ5V5205MH	5.5	2.0	±20%	220	3.93	0.020	8.40	8.5x25.0x17.0
IXSCAZ5V5205MH-1	5.5	2.0	±20%	220	3.72	0.020	8.40	8.5x21.0x17.0
IXSCAZ5V5255MH	5.5	2.5	±20%	170	4.74	0.020	10.50	8.5x25.0x17.0
IXSCAZ5V5255MH-1	5.5	2.5	±20%	200	4.58	0.020	10.50	10.0x21.0x21.0
IXSCAZ5V5305MH	5.5	3.0	±20%	160	5.57	0.025	12.60	8.5x25.0x17.0
IXSCAZ5V5305MH-1	5.5	3.0	±20%	180	5.36	0.025	12.60	10.0x21.0x21.0
IXSCAZ5V5355MH	5.5	3.5	±20%	160	6.31	0.030	14.70	10.0x21.0x21.0
IXSCAZ5V5505MH	5.5	5.0	±20%	120	7.86	0.050	21.01	13.0x22.0x26.0
IXSCAZ5V5505MH-2	5.5	5.0	±20%	120	7.86	0.050	21.01	10.0x26.0x21.0
IXSCAZ5V5755MH	7.5	5.0	±20%	120	10.86	0.065	31.51	13.0x22.0x26.0
IXSCAZ5V5755MH-1	7.5	5.0	±20%	110	10.06	0.065	31.51	13.0x27.0x26.0
IXSCAZ5V5106MH	5.5	10	±20%	90	13.75	0.060	42.01	16.0x28.0x33.0
IXSCAZ5V5106MH-1	5.5	10	±20%	100	12.50	0.080	42.01	13.0x27.0x26.0
IXSCAZ5V5156MH	5.5	15	±20%	70	17.55	0.078	63.02	16.0x33.0x33.0
IXSCAZ5V5256MH	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

❖ Dimensions & Packaging Quantity



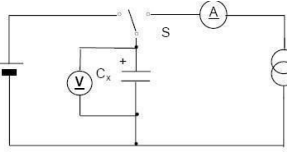
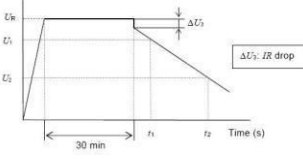
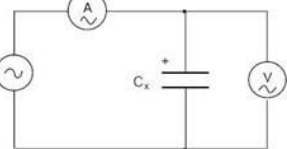
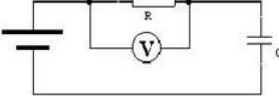
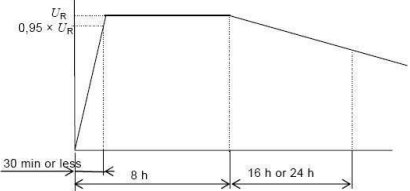
Part No.	W (mm)	H (mm)	L (mm)	F (mm)	d (mm)	L1 (mm)	L2 (mm)	Quantity (EA)	
								Plastic Tray	Plastic Bag
IXSCAZ5V5224ZH	6.5±1.0	13.8±2.0	13.5±1.0	9.0±0.5	0.5±0.05	19.0±2.0	24.0±2.0	80	-
IXSCAZ5V5334ZH	6.5±1.0	13.8±2.0	13.5±1.0	9.0±0.5	0.5±0.05	19.0±2.0	24.0±2.0	80	-
IXSCAZ5V5474MH	6.5±1.0	13.8±2.0	13.5±1.0	9.0±0.5	0.5±0.05	19.0±2.0	24.0±2.0	80	-
IXSCAZ5V5504MH	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	-
IXSCAZ5V5105MH	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	-
IXSCAZ5V5155MH-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	-
IXSCAZ5V5205MH	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	-
IXSCAZ5V5205MH-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	-
IXSCAZ5V5255MH	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	-
IXSCAZ5V5255MH-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	-
IXSCAZ5V5305MH	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	-
IXSCAZ5V5305MH-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	-
IXSCAZ5V5355MH	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	-
IXSCAZ5V5505MH	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	-
IXSCAZ5V5505MH-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	-
IXSCAZ5V5755MH	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	-
IXSCAZ5V5755MH-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	-
IXSCAZ5V5106MH	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	-
IXSCAZ5V5106MH-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	-
IXSCAZ5V5156MH	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	-
IXSCAZ5V5256MH	18.0±1.0	43.0±2.0	37.0±1.0	68.0±0.5	0.8±0.05	-	-	-	40

❖ Environmental Characteristics

Item	Requirement		Test Condition
Operating Temperature Range	-40°C~+85°C		
Rated Operating Voltage	5.5V DC		
High Temperature Characteristics	ΔC	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	ΔC	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	ΔC	Less than or equal to 30% of the initial value	Applied voltage : 5.0V Temperature : +85±2°C Time : 1000h
	ESR	Less than or equal to 4 times the initial value	
	Appearance	No leakage or mechanical damage	
Cycle Life	ΔC	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	ΔC	Less than or equal to 30% of the initial value	Temperature : +40±2°C 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	ΔC	Less than or equal to 10% of the initial value	Temperature cycle : -40±2°C→normal temperature →+85±2°C→normal temperature Cycles : 5
	Appearance	No leakage or mechanical damage	
Low Temperature Storage Characteristics	ΔC	Satisfies the range of 10% of the initial rating	Applied voltage : 0V Temperature : -40±2°C Time : 96h
	ESR	Less than or equal to 2 times the initial value	
	Appearance	No leakage or mechanical damage	
High Temperature Storage Characteristics	ΔC	Satisfies the range of 10% of the initial rating	Applied voltage : 0V Temperature : +85±2°C 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 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

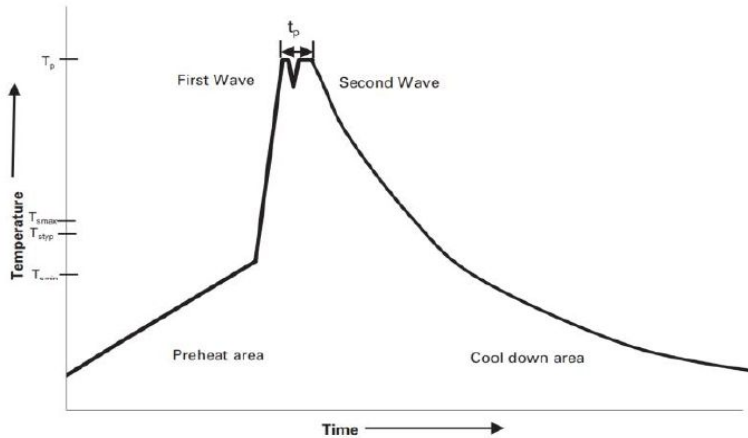
Storage Temperature: -30~50°C; Relative Humidity:<60%RH, Max. Humidity<85%RH

❖ Measuring Method

<p>Capacitance</p>	<p>Measurement by Permanent electrotransport :</p> <ol style="list-style-type: none"> 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   $C = \frac{I \times (t_2 - t_1)}{U_1 - U_2}$
<p>Resistance</p>	<p>AC impedance measurement The circuit as shown in the figure below is used for measurement</p>  <p>Capacitor resistance Ra shall be computed by the type:</p> $R_a = \frac{U}{I}$ <p>Ra ac impedance (Ω); Effective value of U ac voltage (V R.M.S); Effective value of I ac current (V R.M.S).</p>
<p>Leakage Current</p>	<p>DC leakage current measurement principle is as follows</p>  <ol style="list-style-type: none"> 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.
<p>Self discharge</p>	<p>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.</p> 

❖ 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°C, and the maximum temperature of capacitor body in the welding process shall not exceed 120°C, 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

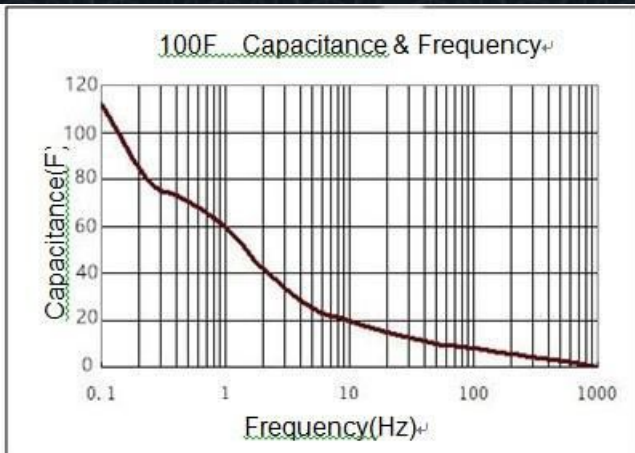
Unlike ordinary electrolytic capacitors or batteries, the anode and cathode of supercapacitors are made of the same material, so there is no polarity in theory. However, the polarity indicated by super capacitors is formulated by the manufacturer in the production process. When the capacitor is used 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.

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.

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.



Except Lithium Ion

4. Transport and storage

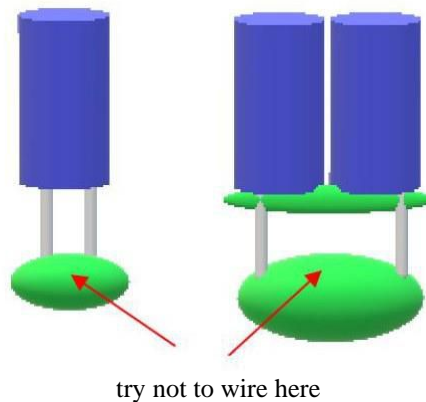
Should prevent products be affected with damp be affected with damp in product transportation, storage temperature should be - 30°C to 50°C, relative humidity less than 60%, the maximum humidity no more than 85%, otherwise it will cause capacitance performance degradation of be affected with damp be 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°C to 50°C, 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.



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.

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