Jianghai®

'2022/'2023

CAPACITOR

CATALOGUE & DATA BOOK

Aluminum Electrolytic Capacitors
Film Capacitors
Polymer Capacitors
Super Capacitors

JIANGHAI CAPACITOR CO.,LTD.

Super capacitors

PART NUMBER SYSTEM

Part Number System for EDLC Cell (Coin, Radial, Snap-in/Lug, Screw), LIC Cell (Radial), 2-in-series EDLC Module EDLC扣式、引线式、焊针式/焊片式、螺栓式、LIC引线式、EDLC两串模组

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
SC		C	D	P	R	2	R	7	1	0	5	S	R	H	0	8	0	0	1	2	E	*	*
电容器类型 Capacitor Type Code			超级电容器类型 supercapacito Type	系列代码 Series Code		额定电压 Rated Voltage Code (V)			容量 Capacitance Code (F)			容差 Capacitance Tolerance Code(%)	引出方式 Lead Form Code		尺寸 Dimension Code						套管 Sleeve Code	客户特殊要求 Customer Special Requirement	

SC= Super capacitor	C	Cell	D	EDLC	SCV	VC	2.7	2R7	0.1	104	+20 -8 A
	M	Module	H	Hybrid	SVT	VT	3	3R0	0.22	224	+5 -5 B
					SRP	PR	3.8	3R8	0.33	334	+20 -5 C
					SRE	ER	5.5	5R5	0.47	474	+35 +10 D
					SRQ	QR	6.0	6R0	0.5	504	+30 +10 E
					SSP	PS			0.68	684	+30 +0 F
					SSE	ES			1	105	+70 +10 G
					SSL	LS			1.5	155	+20 -5 H
					SGP	PG			2	205	+10 0 I
					SGE	EG			2.5	255	+0 -40 J
					HBR	BR			3	305	+10 -10 K
					HBRL	BL			3.3	335	+15 -15 L
					SRM	MR			3.5	355	+20 -20 M
					SRS	SR			5	505	+50 +10 N
					SRO	OR			7	705	+100 +0 P
									10	106	+30 -10 Q
									13	136	+20 +0 R
									15	156	+50 -20 S
									20	206	+50 +0 T
									25	256	+75 -10 U
									30	306	+20 -10 V
									35	356	+80 +50 W
									40	406	+200 +10 X
									45	456	+20 +5 Y
									50	506	+80 -20 Z
									60	606	
									65	656	
									70	706	
									80	806	
									100	107	
									110	117	
									120	127	
									150	157	
									160	167	
									200	207	
									220	227	
									270	277	
									350	357	
									400	407	
									450	457	
									470	477	
									550	557	
									600	607	
									650	657	
									800	807	
									1200	128	
									1500	158	
									2000	208	
									3000	308	
									3400	348	

VC	6.3×22	063022	E	PET
VH	8×12	080012	V	PVC
VV	8×14	080014	S	Plastic
RA	8×20	080020		
RF	8×25	080025		
RH	10×16	100016		
RL	10×20	100020		
RM	10×25	100025		
RX	10×30	100030		
RY	11.5×4.8	115004		
RZ	13.5×7	135007		
SA	13.5×9	135009		
SB	12.5×9	125009		
SC	12.5×20	125020		
SD	12.5×25	125025		
SL	12.5×30	125030		
SV	12.5×35	125035		
GA	16×20	160020		
GB	16×25	160025		
RB	16×31.5	160031		
RN	16×35	160035		
YH	18×40	180040		
YN	18×50	180050		
ZH	18×60	180060		
ZN	19×4.8	190004		
XH	20.5×7.8	205007		
XN	20.5×9.8	205009		
YK	22×45	220045		
	22×55	220055		
	25×50	250050		
	30×50	350050		
	35×60	350060		
	35×67	350067		
	35×70	350070		
	40×70	400070		
	61×52	610052		
	61×74	610074		
	61×85	610085		
	61×102	610102		
	61×138	610138		
	8.5×17×17	081717		
	8.5×17×23	081723		
	11×21×23	112123		
	11×21×27	112127		
	13×26×27	132627		

Large LIC Cell and Other Supercapacitor Module LIC软包和其他模组

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
SC		C	H	A	A	4	R	0	1	0	8	M	*	*
电容器类型 Capacitor Type Code			超级电容器类型 supercapacitor Type	系列代码 Series Code		额定电压 Rated Voltage Code(V)			容量 Capacitance Code(F)			容差 Capacitance Tolerance Code (%)	客户特殊要求 Customer Special Requirement	

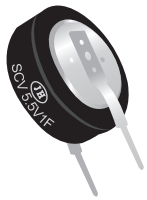
SC= Super Capacitor	C	Cell	D	EDLC	HAA	AA	3.8	3R8	3	305	+30 +0	F
	M	Module	H	Hybrid	HAE	AE	4	4R0	11.1	116	+70 +10	G
					HAH	AH	7.5	7R5	13	136	+20 -20	M
					SMRP	PR	13.5	013	19.4	196	+30 -10	Q
					SMRE	ER	64	064	21.7	216	+20 +0	R
					SMRQ	QR	90	090	165	167	+50 +0	T
					SMSP	PS	160	160	1000	108		
					SMSE	ES			2000	208		
					SMGP	PG			3000	308		
					HMBL	BL			3200	328		
					HMBRL	BR			5000	508		
					HMAA	AA			6000	608		
					HMAL	AL			7200	728		
									10000	109		
									15000	159		
									16000	169		
									17000	179		
									20000	209		

Coin Type Terminal Type

Unit:mm

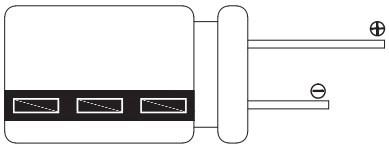
VC-Type

VH-Type

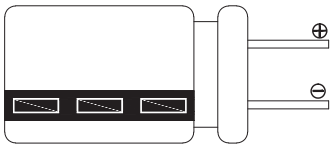


VV-Type

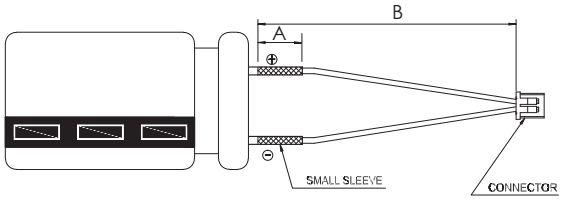
Radial Type Terminal Code



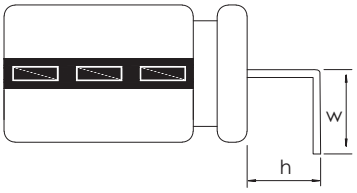
RH-Type



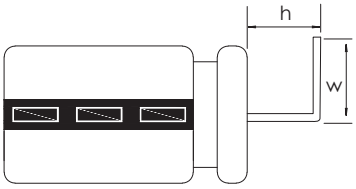
RL-Type



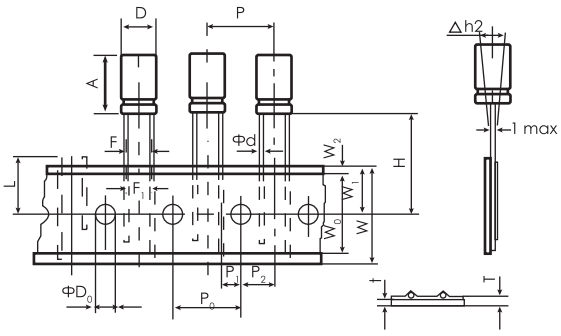
RX-Type

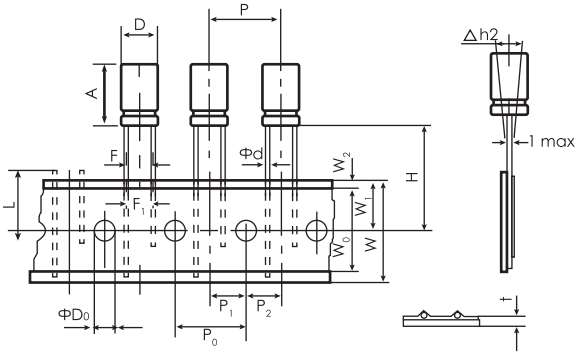


RY-Type



RZ-Type

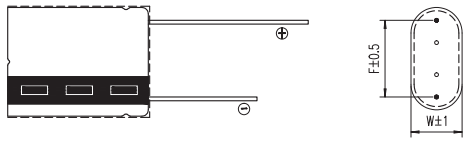




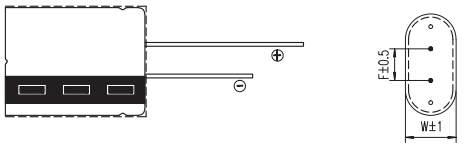
RA-Type

2 Series Type Terminal Code

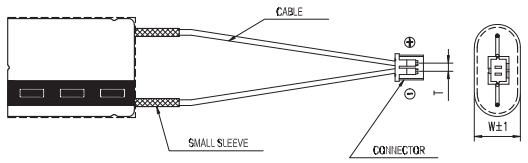
Unit:mm



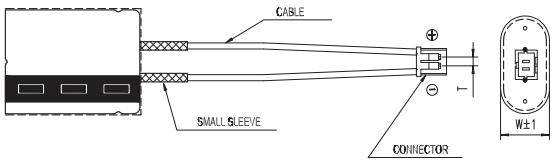
RH-Type



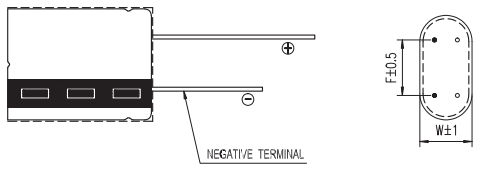
RN-Type



XH-Type



XN-Type

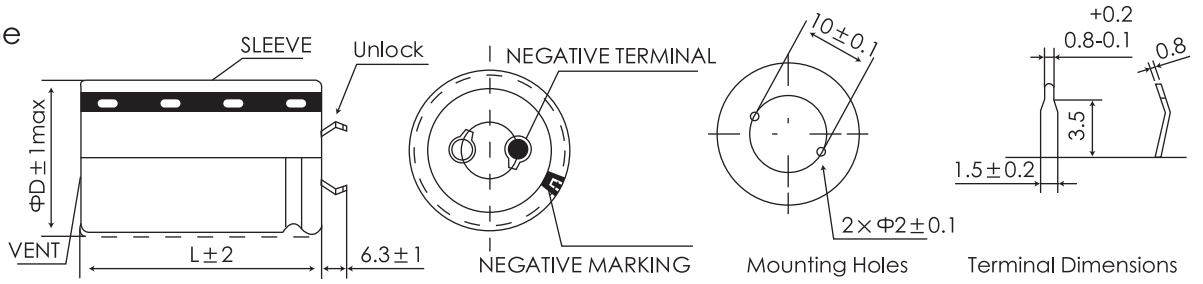


RB-Type

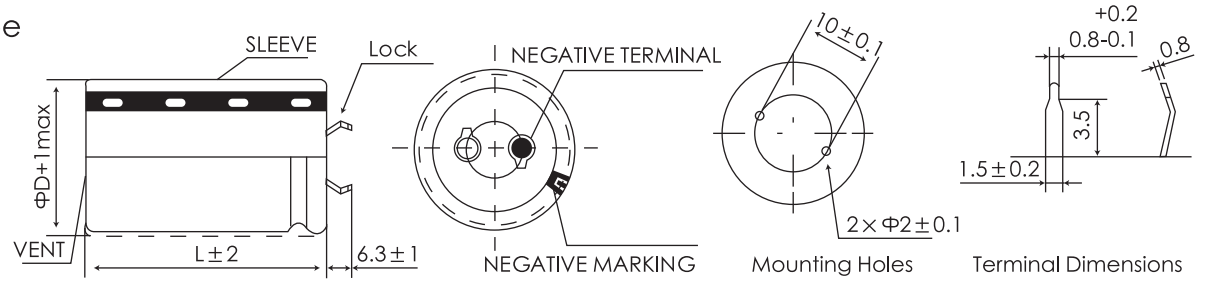
Lug/Snap-in Terminal Code

Unit:mm

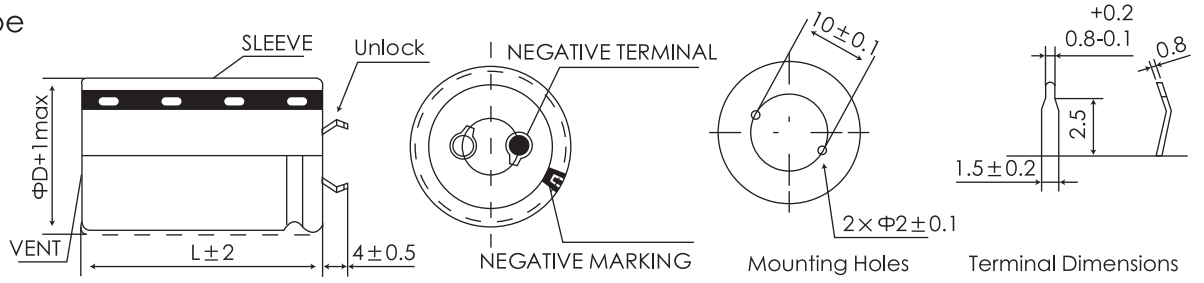
SA-Type



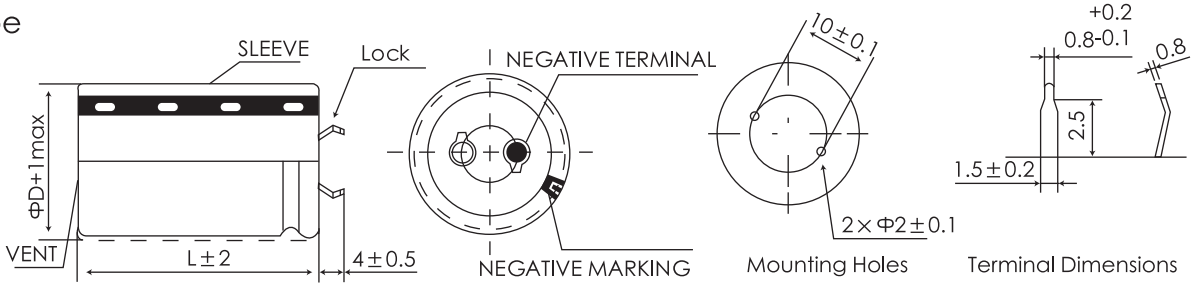
SB-Type



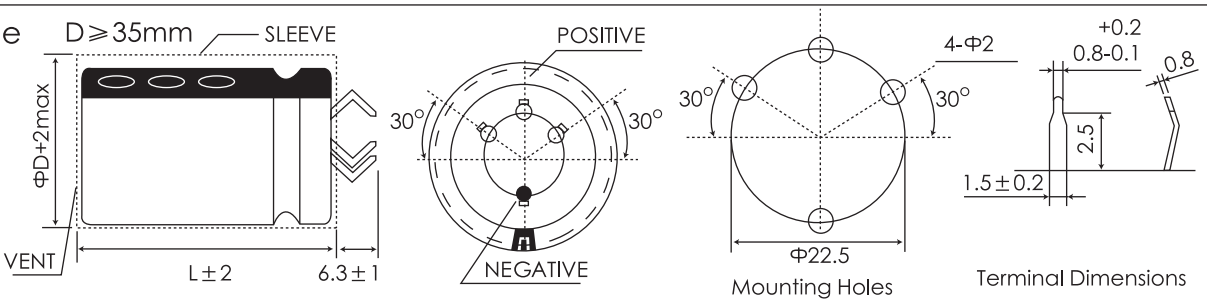
SC-Type



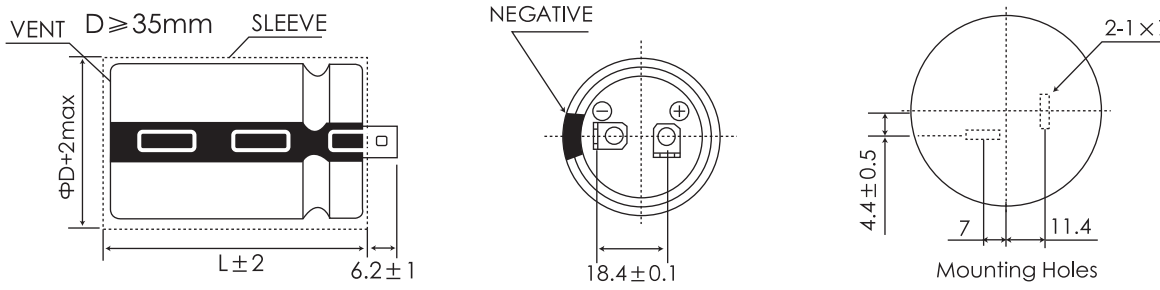
SD-Type



SV-Type



SL-Type



■ TECHNICAL NOTES of EDLC

1. General Description of Electric Double Layer Capacitors

1-1. Operating Principle

By externally applying a voltage below a certain voltage to the boundary, higher charges can be accumulated. Charge and discharge of capacitor utilize adsorption and desorption of ions to the ionic adsorption layer (electric double layer) formed on the electrode surface of the activated carbon used for electrodes. The capacitors have electric charges oriented at the very short distance on boundary of electrolyte and electrodes what is called the "electric double layer capacitor."

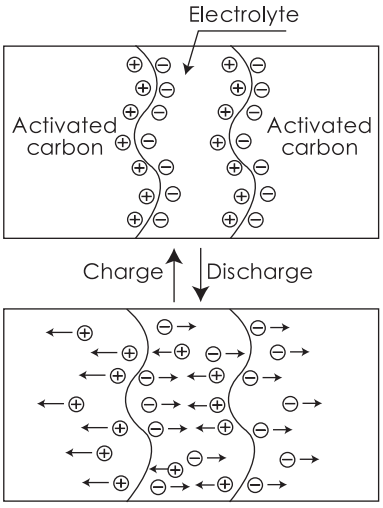


Fig. 1

1-2. Advantages and Disadvantages of Electric Double Layer Capacitor

EDLC differs from rechargeable batteries, not causing chemical reaction, with surface of activated carbon with energy accumulation by ionic physical attachment only, therefore it holds the characteristics stated below:

■Advantages

(1) Small size and capacitance in farads (F) available by utilizing the activated carbon electrode with a large surface area

(2) With low degradation, million cycles of charge-discharge and long life is possible

(3) With a high power density, rapid (high current) charge-discharge is possible

(4) Ease of maintenance

(5) Environment-friendly without using heavy metal for its structure material

■Disadvantages

(1) Low energy density

(2) Series connection is required when used with a low resistance of voltage at a high voltage

(3) Cannot be used in AC circuits

1、双电层电容器的基本概要

1-1、工作原理

在额定电压范围内，通过外部施加电压使得电荷在界面积聚。电容的充放电通过在活性炭电极表面形成的离子吸附界面（双电层）处离子的吸附和脱附来实现。利用电解液和电极的界面之间相隔的距离极其短，电荷在界面处集中排列从而形成物理储电的电容，称为“双电层电容”。

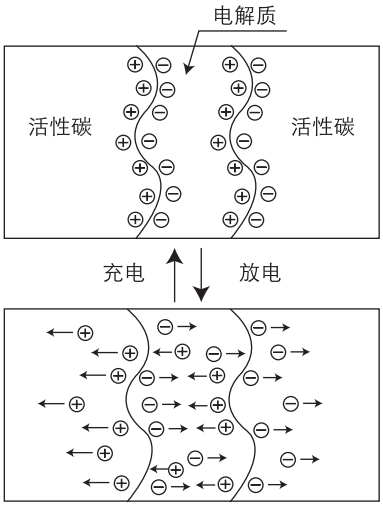


图. 1

1-2、EDLC的特点

EDLC不同于二次电池，不发生化学反应，利用活性炭表面离子的物理吸附实现储能，因此具有以下特征：

■优势：

（1）利用活性炭的比表面获得小体积和大容量

（2）EDLC劣化缓慢，具有长寿命和上百万次的循环寿命

（3）具有高输出功率特性，实现快速充放电

（4）易于维护

（5）构成材料中没有使用重金属元素，环境友好

■劣势：

（1）低能量密度

（2）由于单体电压低，在高电压使用时需要多只串联。

（3）不能使用在AC电路中。

2. Description of life expectancy

Generally, the life of Electric Double Layer Capacitors is largely affected by the ambient temperature and operating voltage. The expected life is approximated by the equation as shown below:

2.7V EDLC:

$$L = L_0 \times 3.25^{\frac{T_0 - T}{10}} \times 1.52^{\frac{V_0 - V}{0.1}}$$

3V EDLC:

$$L = L_0 \times 2.6^{\frac{T_0 - T}{10}} \times 1.52^{\frac{V_0 - V}{0.1}}$$

Where:

L : Expected lifetime at temperature T

L_0 : Lifetime at temperature T0

T : Expected working temperature

T_0 : Upper category temperature

V : Actual working voltage

V_0 : Upper rated working voltage

3. Handling Precautions and Guidelines

For safety application, please contact company directly for any technical specifications, handling precautions and guidelines critical to application.

3-1. Precautions

(1) Prohibition of disassembly

The disassembling may generate internal short circuit in the cell, which may cause gassing, leakage, explosion, or other problems. Electrolyte is harmful: In case the electrolyte comes into contact with the skin, or eyes, physicians shall flush the electrolyte immediately with fresh water and medical advice is to be sought.

(2) Prohibition of dumping of cells into fire

These may cause explosion of the cells, which is very dangerous and is prohibited.

(3) Prohibition of cells immersion into liquid.

The cells shall never be soaked with liquids such as water, seawater, drinks such as juices, coffee or others.

(4) Prohibition of use of damaged cells.

The cells might be damaged during shipping by shock. If any abnormal features of the cells are found such as damages in the cell package, smelling of an electrolyte, an electrolyte leakage and others, the cells shall never be used any more. The Cells with a smell of the electrolyte or a leakage shall be placed away from fire to avoid firing or explosion.

2、寿命估算

一般来说，环境温度和工作电压对EDLC的寿命影很大。其理论估算寿命的计算公式参照如下：

2.7V 双电层电容器:

$$L = L_0 \times 3.25^{\frac{T_0 - T}{10}} \times 1.52^{\frac{V_0 - V}{0.1}}$$

3V 双电层电容器:

$$L = L_0 \times 2.6^{\frac{T_0 - T}{10}} \times 1.52^{\frac{V_0 - V}{0.1}}$$

其中:

L：T温度下理论寿命

L_0：最高额定工作温度的工作寿命

T：实际工作温度

T_0：最高额定工作温度

V：实际工作电压

V_0：最高额定工作电压

3、使用注意事项和使用手册

为了确保安全，当设计的设备需使用电容时，请与公司联系咨询电容的技术规格以及使用要求。

3-1、注意事项

（1）禁止拆卸

拆卸电容器可能产生内部短路，导致产气，电解液泄漏。电解液有害，如果电解液接触皮肤或者眼睛，应该立即用清水冲洗并且寻求医生的治疗。

（2）禁止将电容器投入火中

将电容器投入火中可能导致爆炸，这种行为是非常危险，是被禁止的。

（3）禁止将电容器浸没于液体中

电容器不允许被浸泡在液体中，例如水，盐水，饮料例如果汁，咖啡或者其它。

（4）禁止使用已经损坏的电容器

如果使用前发现电容的外包装破裂，闻到电解液的气味，电解液泄漏或者其它非正常情况，请勿继续使用。

3-2. Handling Guidelines

(1) It is not suitable that cell is used under such conditions: AC circuit and wave filtering.

(2) Voltage

Work voltage of cell should not exceed Max. work voltage of cell during using. Otherwise, will shorten shelf life, even cause swelling, leakage or crack.

(3) Polarity

Please check the polarity before using. If working under reverse polarity, cell will not only shorten shelf life, but also heavy damage, such as swelling, electrolyte leakage etc.

(4) Environment

Work temperature will have an influence on life of cell. As usual, higher work temperature will shorten life. So, it is better that cell works under as possible as low environmental temperature.

Work temperature of cell should consider internal environmental temperature in the unit and temperature rise when cell works.

(5) IR drop

When main power sources shut down, cell will change into work mode from failure mode, at the same time, OCV will decrease due to IR drop. So please choose proper product type according to impedance specified in product datasheet and applied current.

(6) Cells in series connection

When cells in series connection for higher work voltage, it should be assured that work voltage of any single cell must not exceed Max. work voltage of single cell, otherwise, will shorten shelf life, even cause swelling, leakage or crack.

(7) Soldering

Heat shock will decrease electric performance of cell, even cause swelling, leakage or crack.

Manual soldering temperature should not exceed 350℃, soldering time should not exceed 4s. Wave soldering temperature should not exceed 260℃, soldering time should not exceed 5s, while preheating temperature should be limited to less than 100℃ and maximum preheating time of 60 seconds for PC boards 0.8mm or thicker.

Unless the EDLC is specifically rated to withstand reflow soldering temperature, please don’t use reflow soldering , infrared heating and air heating methods on the EDLC.

3-2、使用指导

（1）不可用于以下场合：不能用于交流线路中；不能用于滤波。

（2）电压

使用过程中，电容器的工作电压不能超过其最大工作电压。否则，将缩短其使用寿命，甚至导致气胀，泄露，或者开裂。

（3）极性

使用前一定要检查电容器的极性，电容长时间在相反的极性下工作，不仅会缩短其使用寿命，而且可能导致严重的损毁，例如导致气胀，电解液泄漏等。

（4）环境

电容的寿命会受到工作温度的影响，一般而言，电容的工作环境温度越高，其寿命越短。因此，应使电容的工作温度在最大容许温度下尽可能地降低。

工作温度应该同时考虑工作环境温度以及工作时电容内部产生的温升。

（5）IR压降

在主电源关闭时，电容将从电源失效检验模式转为后备电源工作模式，此时由于瞬间启动电流及电容内阻将导致开路电压下降。请根据相关产品介绍中所列出的阻抗和使用电流确定正确的产品型号。

（6）电容串联

当多个单体电容串联使用以提高工作电压时，必须确保每只单体电容两端的电压不超过其最大工作电压，否则，将缩短其使用寿命，甚至导致气胀，泄露，或者开裂。

（7）焊接

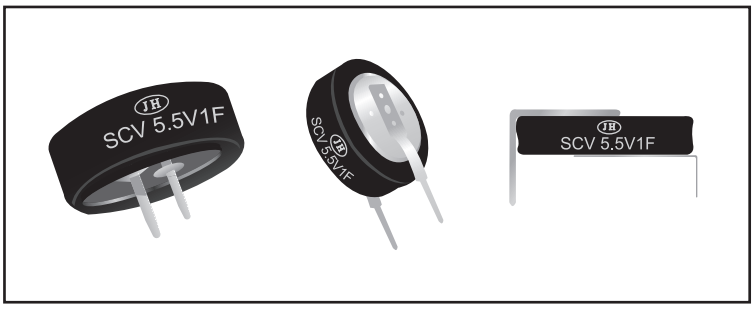
热冲击会影响电容的电性能，甚至会导致电容的鼓气、漏液以及开裂。

手工焊的温度建议低于350℃，焊接持续时间少于4s。波峰焊的温度建议低于260℃，焊接持续时间少于5s，其中预热温度应低于100℃，最多给PCB预热60s，浸锡达0.8mm或更厚。

除非EDLC有明确的额定耐回流焊接温度，否则不应对EDLC使用回流焊，而应使用红外线或空气加热方式。

Features

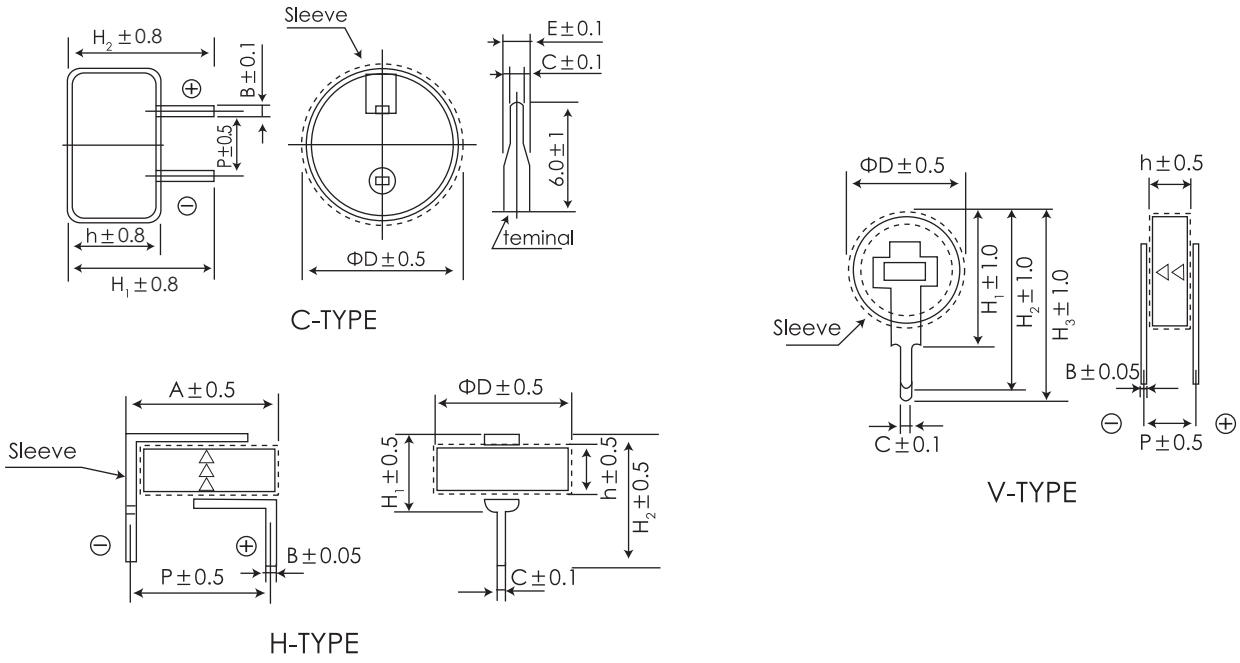
- Standard product
- RoHS compliant
- Computer & peripherals
- DSL modems & routers
- Automatic meter reader
- RTC



Items	Characteristics		
Rated Voltage	5.5V		
Operating Temperature Range	-25~+70℃		
Surge Voltage	5.6V		
Capacitance Range	0.1~1.5F		
Capacitance Tolerance (25℃)	-20~+80%		
Temperature Characteristics	The specifications shall be met at category temperature range form -25℃ to 70℃	Capacitance Change	Within 30% of the initial value at 25℃
		ESR	Less than 2 times of the initial specified value
High Temperature Loaded	The specifications shall be met after rated voltage applied at 70℃ for 1000 hours	Capacitance Change	Within 30% of the initial value
		ESR	Less than 4 times of the initial specified value
High Temperature Storage	The specifications shall be met after storage at 70℃ for 1000 hours	Capacitance Change	Within 30% of the initial value
		ESR	Less than 4 times of the initial specified value

Dimensions

mm



EDLC

Standard Ratings for SCV Series

U_R (Surge Voltage) Code	Rated Capacitance (25℃)	ESR_{AC} (1KHz)	Leakage Current (72hrs)	Size								P/N
				D	h	P	H_1	H_2	B	C	E	
(V)	(F)	(Ω)	(mA)	(mm)								-
5.5 (6) 5R5 C-TYPE	0.1	75	0.003	13.5	7	5.0	12.5	13.5	0.4	0.8	1.2	SCMDVC5R5104ZVC135007E
	0.22	75	0.003	13.5	7	5.0	12.5	13.5	0.4	0.8	1.2	SCMDVC5R5224ZVC135007E
	0.33	50	0.005	13.5	7	5.0	12.5	13.5	0.4	0.8	1.2	SCMDVC5R5334ZVC135007E
	0.47	50	0.005	13.5	7	5.0	12.5	13.5	0.4	0.8	1.2	SCMDVC5R5474ZVC135007E
	1.0	30	0.008	20.5	7.8	5.0	12.8	13.8	0.4	0.8	1.2	SCMDVC5R5105ZVC205007E
	1.5	30	0.008	20.5	7.8	5.0	12.8	13.8	0.4	0.8	1.2	SCMDVC5R5155ZVC205007E

U_R (Surge Voltage) Code	Rated Capacitance (25℃)	ESR_{AC} (1KHz)	Leakage Current (72hrs)	Size								P/N
				D	h	P	H_1	H_2	A	B	C	
(V)	(F)	(Ω)	(mA)	(mm)								-
5.5 (6) 5R5 H-TYPE	0.1	75	0.003	11.5	4.8	10	6	9	12.5	0.2	0.8	SCMDVC5R5104ZVH115004E
	0.22	75	0.003	11.5	4.8	10	6	9	12.5	0.2	0.8	SCMDVC5R5224ZVH115004E
	0.33	50	0.005	11.5	4.8	10	6	9	12.5	0.2	0.8	SCMDVC5R5334ZVH115004E
	0.47	50	0.005	11.5	4.8	10	6	9	12.5	0.2	0.8	SCMDVC5R5474ZVH115004E
	1.0	30	0.008	19	4.8	20	6	9.5	20	0.2	1.0	SCMDVC5R5105ZVH190004E
	1.5	30	0.008	19	4.8	20	6	9.5	20	0.2	1.0	SCMDVC5R5155ZVH190004E

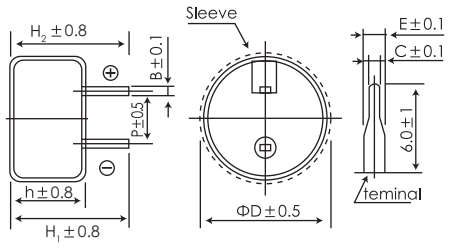
U_R (Surge Voltage) Code	Rated Capacitance (25℃)	ESR_{AC} (1KHz)	Leakage Current (72hrs)	Size								P/N
				D	h	P	H_1	H_2	H_3	B	C	
(V)	(F)	(Ω)	(mA)	(mm)								-
5.5 (6) 5R5 V-TYPE	0.1	75	0.003	11.5	4.8	5	13	16.5	16.5	0.2	0.8	SCMDVC5R5104ZVV115004E
	0.22	75	0.003	11.5	4.8	5	13	16.5	16.5	0.2	0.8	SCMDVC5R5224ZVV115004E
	0.33	50	0.005	11.5	4.8	5	13	16.5	16.5	0.2	0.8	SCMDVC5R5334ZVV115004E
	0.47	50	0.005	11.5	4.8	5	13	16.5	16.5	0.2	0.8	SCMDVC5R5474ZVV115004E
	1.0	30	0.008	19	4.8	5	20.5	24.5	25.5	0.2	0 8	SCMDVC5R5105ZVV190004E
	1.5	30	0.008	19	4.8	5	20.5	24.5	25.5	0.2	0 8	SCMDVC5R5155ZVV190004E

Features

- Wide temperature range
- RoHS compliant
- Computer & peripherals
- DSL modems & routers
- Automatic meter reader
- RTC

Items	Characteristics		
Rated Voltage	5.5V		
Operating Temperature Range	-40~+85℃		
Surge Voltage	5.6V		
Capacitance Range	0.1~1F		
Capacitance Tolerance (25℃)	-20~+80%		
Temperature Characteristics	The specifications shall be met at category temperature range form -40℃ to 85℃	Capacitance Change	Within 30% of the initial value at 25℃
		ESR	Less than 2 times of the initial specified value
High Temperature Loaded	The specifications shall be met after rated voltage applied at 85℃ for 1000 hours	Capacitance Change	Within 30% of the initial value
		ESR	Less than 4 times of the initial specified value
High Temperature Storage	The specifications shall be met after storage at 85℃ for 1000 hours	Capacitance Change	Within 30% of the initial value
		ESR	Less than 4 times of the initial specified value

Dimensions mm



C-TYPE

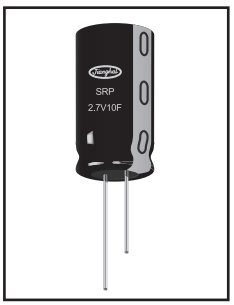
Standard Ratings for SVT Series

U_R (Surge Voltage) Code	Rated Capacitance (25℃)	ESR_{AC} (1KHz)	Leakage Current (72hrs)	Size								P/N
				D	h	P	H_1	H_2	B	C	E	
(V)	(F)	(Ω)	(mA)	(mm)								-
5.5 (6) 5R5 C-TYPE	0.1	75	0.003	13.5	9.0	5.0	14.5	15.5	0.4	0.8	1.2	SCMDVT5R5104ZVC135009E
	0.22	75	0.003	13.5	9.0	5.0	14.5	15.5	0.4	0.8	1.2	SCMDVT5R5224ZVC135009E
	0.33	50	0.005	13.5	9.0	5.0	14.5	15.5	0.4	0.8	1.2	SCMDVT5R5334ZVC135009E
	0.68	30	0.008	20.5	9.8	5.0	14.8	15.8	0.4	0.8	1.2	SCMDVT5R5684ZVC205009E
	1.0	30	0.010	20.5	9.8	5.0	14.8	15.8	0.4	0.8	1.2	SCMDVT5R5105ZVC205009E

SRP SERIES

Features

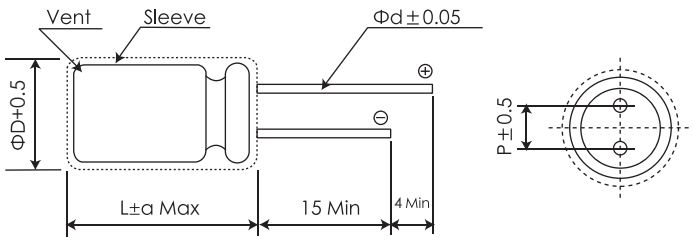
- Standard Product
- RoHS compliant
- Consumer electronic
- Portable power tools
- DC-DC converters



Items	Characteristics		
Rated Voltage	2.7V		
Operating Temperature Range	-40 ~+70℃ (-40 ~+85℃@2.3V)		
Surge Voltage	2.85V		
Capacitance Range	0.5~180F		
Capacitance Tolerance (25℃)	-10~+30%		
Temperature Characteristics	The specifications shall be met at category temperature range form -40℃ to 70℃	Capacitance Change	Within 30% of the initial value at 25℃
		ESR	Less than 2 times of the initial specified value
High Temperature Loaded	The specifications shall be met after rated voltage applied at 70℃ for 1000 hours	Capacitance Change	Within 30% of the initial value
		ESR	Less than 2 times of the initial specified value
High Temperature Storage	The specifications shall be met after storage at 70℃ for 1000 hours	Capacitance Change	Within 30% of the initial value
		ESR	Less than 2 times of the initial specified value
Cycle Life	The specifications shall be met after 500,000 cycles at 25℃, cycle of charge/discharge from V_R to $1/2V_R$	Capacitance Change	Within 30% of the initial value
		ESR	Less than 2 times of the initial specified value

Dimensions

mm

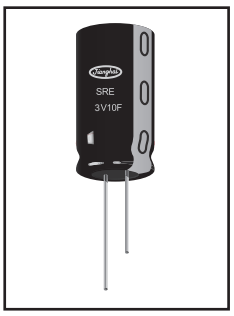


ΦD	5	6.3	8	10	12	12.5	16	18	22
p	2.0	2.5	3.5	5.0			7.5		10
Φd	0.5		0.6				0.8		1.0
a	1.5			2.0					3.5

Standard Ratings for SRP Series

U_R (Surge Voltage) Code	Rated Capacitance 25℃	Impedance		Leakage Current (72hrs)	Size ΦD×L	Weight	P/N
		ESR_{DC}	ESR_{AC} 1KHz				
(V)	(F)	(mΩ)	(mΩ)	(mA)	(mm)	(g)	-
2.7 (2.85) 2R7	0.5	900	450	0.005	5 x 12	0.40	SCCDPR2R7504QRH050012EP
	0.8	700	350	0.006	6.3 x 12	0.66	SCCDPR2R7804QRH063012EP
	1	400	200	0.008	8 x 12	0.85	SCCDPR2R7105QRH080012EP
	1	400	200	0.008	8 x 14	0.90	SCCDPR2R7105QRH080014EP
	2	280	140	0.010	8 x 14	1.00	SCCDPR2R7205QRH080014EP
	3	150	75	0.012	8 x 20	1.40	SCCDPR2R7305QRH080020EP
	3.3	150	75	0.014	8 x 20	1.43	SCCDPR2R7335QRH080020EP
	5	180	90	0.016	8 x 25	1.70	SCCDPR2R7505QRH080025EP
	5	120	60	0.016	10 x 20	2.10	SCCDPR2R7505QRH100020EP
	7	130	65	0.020	10 x 20	2.20	SCCDPR2R7705QRH100020EP
	7	110	55	0.020	10 x 25	2.70	SCCDPR2R7705QRH100025EP
	10	90	45	0.030	10 x 25	2.80	SCCDPR2R7106QRH100025EP
	10	80	40	0.030	10 x 30	3.20	SCCDPR2R7106QRH100030EP
	10	80	40	0.030	12.5 x 20	3.40	SCCDPR2R7106QRH125020EP
	10	80	40	0.030	12.5 x 25	3.60	SCCDPR2R7106QRH125025EP
	15	60	30	0.045	12.5 x 25	4.30	SCCDPR2R7156QRH125025EP
	20	50	25	0.060	16 x 20	5.90	SCCDPR2R7206QRH160020EP
	25	44	22	0.080	16 x 25	7.40	SCCDPR2R7256QRH160025EP
	30	36	18	0.100	16 x 30	8.40	SCCDPR2R7306QRH160030EP
	40	36	18	0.120	16 x 35	9.90	SCCDPR2R7406QRH160035ET
	50	32	16	0.140	18 x 40	13.6	SCCDPR2R7506QRH180040ET
	60	32	16	0.140	18 x 40	13.6	SCCDPR2R7606QRH180040ET
	70	36	18	0.200	18 x 50	16.9	SCCDPR2R7706QRH180050ET
	100	36	18	0.300	18 x 60	16.9	SCCDPR2R7107QRH180060ET
	100	32	16	0.300	22 x 45	22.5	SCCDPR2R7107QRH220045EP
	120	32	16	0.300	22 x 45	22.5	SCCDPR2R7127QRH220045EP
	180	32	16	0.900	22 x 55	27.0	SCCDPR2R7187QRH220055EP

Features

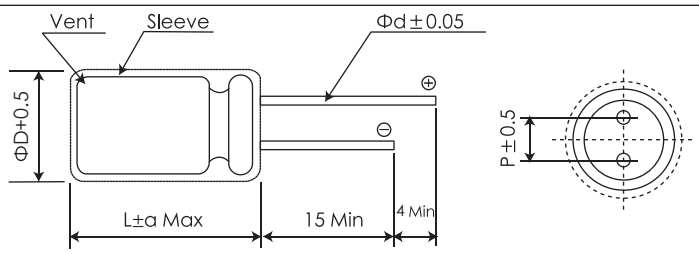


- High voltage
- Wider temperature range
- RoHS compliant
- Consumer electronic
- Pulse power
- Hold-up power

Items	Characteristics		
Rated Voltage	3V		
Operating Temperature Range	-40 ~+65℃ (-40 ~+85℃@2.5V)		
Surge Voltage	3.2V		
Capacitance Range	1~180F		
Capacitance Tolerance (25℃)	-10~+30%		
Temperature Characteristics	The specifications shall be met at category temperature range form -40℃ to 65℃	Capacitance Change	Within 30% of the initial value at 25℃
		ESR	Less than 2 times of the initial specified value
High Temperature Loaded	The specifications shall be met after rated voltage applied at 65℃ for 1000 hours	Capacitance Change	Within 30% of the initial value
		ESR	Less than 4 times of the initial specified value
High Temperature Storage	The specifications shall be met after storage at 65℃ for 1000 hours	Capacitance Change	Within 30% of the initial value
		ESR	Less than 4 times of the initial specified value
Cycle Life	The specifications shall be met after 500,000 cycles at 25℃, cycle of charge/discharge from V_R to $1/2V_R$	Capacitance Change	Within 30% of the initial value
		ESR	Less than 4 times of the initial specified value

Dimensions

mm



ΦD	8	10	12.5	16	18	22
p	3.5	5.0		7.5		10
Φd	0.6			0.8		1.0
a	1.5	2.0				3.5

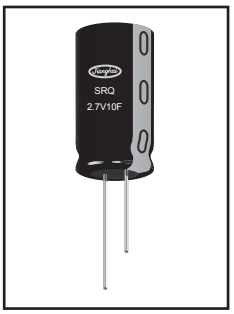
Standard Ratings for SRE Series

U_R (Surge Voltage) Code	Rated Capacitance 25℃	Impedance		Leakage Current (72hrs)	Size ΦD×L	Weight	P/N
		ESR_{DC}	ESR_{AC} 1KHZ				
(V)	(F)	(mΩ)	(mΩ)	(mA)	(mm)	(g)	-
3 (3.2) 3R0	1	400	800	0.010	8 x 14	0.9	SCCDER3R0105QRH080014EP
	2	200	400	0.012	8 x 14	1.0	SCCDER3R0205QRH080014EP
	3	160	80	0.014	8 x 20	1.4	SCCDER3R0305QRH080020EP
	3.3	160	80	0.014	8 x 20	1.4	SCCDER3R0335QRH080020EP
	5	190	95	0.014	8 x 20	1.7	SCCDER3R0505QRH080025EP
	5	160	80	0.020	10 x 20	2.2	SCCDER3R0505QRH100020EP
	7	120	60	0.030	10 x 25	2.7	SCCDER3R0705QRH100025EP
	10	180	90	0.045	10 x 25	2.8	SCCDER3R0106QRH100025EP
	10	100	50	0.045	10 x 30	3.2	SCCDER3R0106QRH100030EP
	15	70	35	0.055	12.5 x 25	4.3	SCCDER3R0156QRH125025EP
	20	56	28	0.070	12.5 x 30	5.2	SCCDER3R0206QRH125030EP
	25	50	25	0.100	16 x 25	7.4	SCCDER3R0256QRH160025ET
	50	40	20	0.350	18 x 40	13.8	SCCDER3R0506QRH180040ET
	60	40	20	0.400	18 x 40	13.3	SCCDER3R0606QRH180040ET
	70	40	20	0.450	16 x 50	16.9	SCCDER3R0706QRH160050ET
	100	36	18	0.550	22 x 45	22.5	SCCDER3R0107QRH220045EP
	180	32	16	0.900	22 x 55	27.0	SCCDER3R0187QRH220055EP

SRQ SERIES

Features

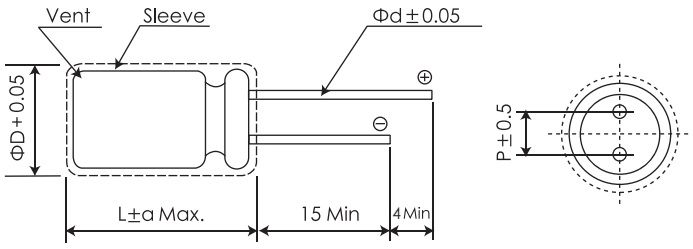
- ■High temperature
- ■RoHS compliant
- ■Consumer electronic
- ■Portable power tools
- ■DC-DC converters



Items	Characteristics		
Rated Voltage	2.7V		
Operating Temperature Range	-40~+85℃		
Surge Voltage	2.85V		
Capacitance Range	1~50F		
Capacitance Tolerance (25℃)	-10~+30%		
Temperature Characteristics	The specifications shall be met at category temperature range form -40℃ to 85℃	Capacitance range	Within 30% of the specified value at 25℃
		ESR	Less than 4 times of the initial specified value
High Temperature Loaded	The specifications shall be met after rated voltage applied at 85℃ for 1000 hours	Capacitance range	Within 30% of the specified value
		ESR	Less than 4 times of the initial specified value
High Temperature Storage	The specifications shall be met after storage at 85℃ for 1000 hours	Capacitance range	Within 30% of the specified value
		ESR	Less than 4 times of the initial specified value
Cycle Life	The specifications shall be met after 500,000 cycles at 25℃, cycle of charge/discharge from V_R to $1/2V_R$	Capacitance range	Within 30% of the specified value
		ESR	Less than 4 times of the initial specified value

Dimensions

mm



ΦD	8	10	12.5	16	18
p	3.5	5.0		7.5	
Φd	0.6			0.8	
a	1.5	2.0			

Standard Ratings for SRQ Series

U_R (Surge Voltage) Code	Rated Cap. 25℃	Impedance		Leakage Current (72hrs)	Size ΦD×L	Weight	P/N
		ESR_{DC}	ESR_{AC} 1KHz				
(V)	(F)	(mΩ)	(mΩ)	(mA)	(mm)	(g)	-
2.7 (2.85) 2R7	1	800	400	0.008	8 x 14	0.9	SCCDQR2R7105QRH080014EP
	2	320	160	0.010	8 x 14	1.0	SCCDQR2R7205QRH080014EP
	3	160	80	0.012	8 x 20	1.4	SCCDQR2R7305QRH080020EP
	3.3	160	80	0.012	8 x 20	1.4	SCCDQR2R7335QRH080020EP
	5	160	80	0.016	10 x 20	2.2	SCCDQR2R7505QRH100020EP
	7	120	60	0.020	10 x 25	2.7	SCCDQR2R7705QRH100025EP
	10	180	90	0.030	10 x 25	2.8	SCCDQR2R7106QRH100025EP
	10	100	50	0.030	10 x 30	3.2	SCCDQR2R7106QRH100030EP
	10	100	50	0.030	12.5 x 20	3.4	SCCDQR2R7106QRH125020EP
	15	70	35	0.045	12.5 x 25	4.3	SCCDQR2R7156QRH125025EP
	20	56	28	0.006	12.5 x 30	5.2	SCCDQR2R7206QRH125030EP
	25	50	25	0.080	16 x 25	7.4	SCCDQR2R7256QRH160025ET
	50	40	20	0.140	18 x 40	13.8	SCCDQR2R7506QRH180040ET

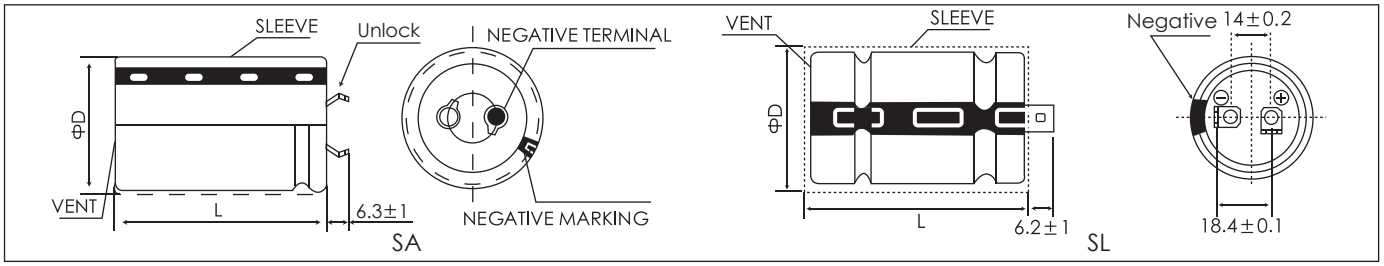
Features

- Standard Product
- RoHS compliant
- Electronic tools
- Portable power tools
- UPS and back power supply
- Wind turbine pitch control

Items	Characteristics		
Rated Voltage	2.7V		
Operating Temperature Range	-40 ~+65℃ (-40 ~+85℃@2.3V)		
Surge Voltage	2.85V		
Capacitance Range	100~800F		
Capacitance Tolerance (25℃)	-10~+30%		
Temperature Characteristics	The specifications shall be met at category temperature range form -40℃ to 65℃	Capacitance Change	Within 30% of the value at 25℃
		ESR	Less than 2 times of the initial specified value
High Temperature Loaded	The specifications shall be met after rated voltage applied at 65℃ for 1500 hours	Capacitance Change	Within 30% of the initial value
		ESR	Less than 2 times of the initial specified value
High Temperature Storage	The specifications shall be met after storage at 65℃ for 1000 hours	Capacitance Change	Within 30% of the initial value
		ESR	Less than 2 times of the initial specified value
Cycle Life	The specifications shall be met after 500,000 cycles at 25℃, cycle of charge/discharge from V_R to $1/2V_R$	Capacitance Change	Within 30% of the initial value
		ESR	Less than 2 times of the initial specified value

Dimensions

mm



Standard Ratings for SSP Series

U_R (Surge Voltage) Code	Rated Capacitance 25℃	Impedance		Leakage Current (72hrs)	Size ΦD×L	Weight	P/N
		ESR_{DC}	ESR_{AC} 1KHz				
(V)	(F)	(mΩ)	(mΩ)	(mA)	(mm)	(g)	-
2.7 (2.85) 2R7	100	12	8	0.3	22 x 45	21	SCCDPS2R7107QSA220045ES
	120	12	8	0.3	22 x 45	21	SCCDPS2R7127QSA220045ES
	160	12	8	0.5	22 x 55	30	SCCDPS2R7167QSA220055ES
	150	11	7	0.5	25 x 50	30	SCCDPS2R7157QSA250050ES
	200	10	6	0.7	30 x 50	36	SCCDPS2R7207QSA300050ES
	220	10	6	0.7	30 x 50	39	SCCDPS2R7227QSA300050ES
	240	9	5	0.7	30 x 50	40	SCCDPS2R7247QSA300050ES
	350	3.5	3	1.0	35 x 60	73	SCCDPS2R7357QSL350060ES
	400	3.2	2.8	1.0	35 x 60	73	SCCDPS2R7407QSL350060ES
	470	3.5	3	1.3	35 x 60	73	SCCDPS2R7477QSL350060ES
	500	3.4	2.9	1.3	35 x 67	76	SCCDPS2R7507QSL350067ES
	600	3	2.5	1.5	35 x 70	88	SCCDPS2R7607QSL350070ES
	800	3.5	3	2	40 x 70	115	SCCDPS2R7807QSL400070ES

SSE SERIES

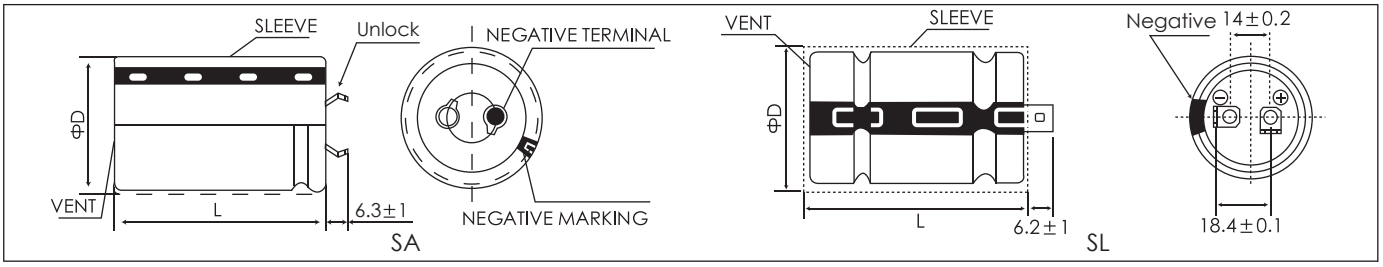
Features

- High voltage product
- Wider temperature range
- RoHS compliant
- Electronic tools
- Portable power tools
- UPS and back power supply
- Wind turbine pitch control

Items	Characteristics		
Rated Voltage	3V		
Operating Temperature Range	-40 ~+65℃ (-40 ~+85℃@2.5V)		
Surge Voltage	3.15V		
Capacitance Range	100~600F		
Capacitance Tolerance (25℃)	-10~+30%		
Temperature Characteristics	The specifications shall be met at category temperature range form -40℃ to 65℃	Capacitance Change	Within 30% of the initial value at 25℃
		ESR	Less than 2 times of the initial specified value
High Temperature Loaded	The specifications shall be met after rated voltage applied at 65℃ for 1000 hours	Capacitance Change	Within 30% of the initial value
		ESR	Less than 2 times of the initial specified value
High Temperature Storage	The specifications shall be met after storage at 65℃ for 1000 hours	Capacitance Change	Within 30% of the initial value
		ESR	Less than 2 times of the initial specified value
Cycle Life	The specifications shall be met after 500,000 cycles at 25℃, cycle of charge/discharge from V_R to $1/2V_R$	Capacitance Change	Within 30% of the initial value
		ESR	Less than 2 times of the initial specified value

Dimensions

mm



Standard Ratings for SSE Series

U_R (Surge Voltage) Code	Rated Capacitance 25℃	Impedance		Leakage Current (72hrs)	Size ΦD×L	Weight	P/N
		ESR_{DC}	ESR_{AC} 1KHz				
(V)	(F)	(mΩ)	(mΩ)	(mA)	(mm)	(g)	-
3 (3.15) 3R0	100	12	8	0.3	22 x 45	21	SCCDES3R0107QSA220045ES
	120	12	8	0.3	22 x 45	21	SCCDES3R0127QSA220045ES
	160	12	8	0.5	22 x 55	30	SCCDES3R0167QSA220055ES
	150	11	7	0.5	25 x 50	30	SCCDES3R0157QSA250050ES
	200	10	6	0.7	30 x 50	36	SCCDES3R0207QSA300050ES
	220	11	7	0.7	30 x 50	39	SCCDES3R0227QSA300050ES
	240	11	7	0.7	30 x 50	40	SCCDES3R0247QSA300050ES
	350	3.6	3.1	1.0	35 x 60	73	SCCDES3R0357QSL350060ES
	400	3.3	2.9	1.2	35 x 60	73	SCCDES3R0407QSL350060ES
	470	3.6	3.1	1.3	35 x 60	73	SCCDES3R0477QSL350060ES
	500	3.5	3	1.3	35 x 67	76	SCCDES3R0507QSL350067ES
	600	3	2.5	1.5	35 x 70	88	SCCDES3R0607QSL350070ES

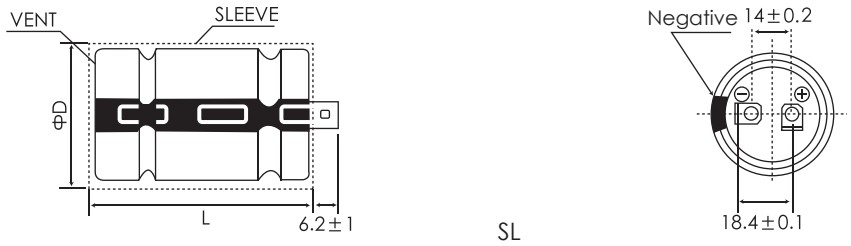
Features

- Standard Product
- RoHS compliant
- Electronic tools
- Portable power tools
- UPS and back power supply
- Wind turbine pitch control

Items	Characteristics		
Rated Voltage	2.7V		
Operating Temperature Range	-40 ~+65℃ (-40 ~+85℃@2.3V)		
Surge Voltage	2.85V		
Capacitance Range	350~800F		
Capacitance Tolerance (25℃)	-10~+30%		
Temperature Characteristics	The specifications shall be met at category temperature range form -40℃ to 65℃	Capacitance Change	Within 30% of the value at 25℃
		ESR	Less than 2 times of the initial specified value
High Temperature Loaded	The specifications shall be met after rated voltage applied at 65℃ for 1500 hours	Capacitance Change	Within 30% of the initial value
		ESR	Less than 2 times of the initial specified value
High Temperature Storage	The specifications shall be met after storage at 65℃ for 1000 hours	Capacitance Change	Within 30% of the initial value
		ESR	Less than 2 times of the initial specified value
Cycle Life	The specifications shall be met after 500,000 cycles at 25℃, cycle of charge/discharge from V_R to $1/2V_R$	Capacitance Change	Within 30% of the initial value
		ESR	Less than 2 times of the initial specified value

Dimensions

mm



SL

Standard Ratings for SSL Series

U_R (Surge Voltage) Code	Rated Capacitance 25℃	Impedance		Leakage Current (72hrs)	Size ΦD×L	Weight	P/N
		ESR_{DC}	ESR_{AC} 1KHz				
(V)	(F)	(mΩ)	(mΩ)	(mA)	(mm)	(g)	-
2.7 (2.85) 2R7	350	2.8	2.3	1.0	35 x 60	73	SCCDLS2R7357QSL350060ES
	800	3.2	2.2	1.3	40 x 70	115	SCCDLS2R7807QSL400070ES

SGP SERIES

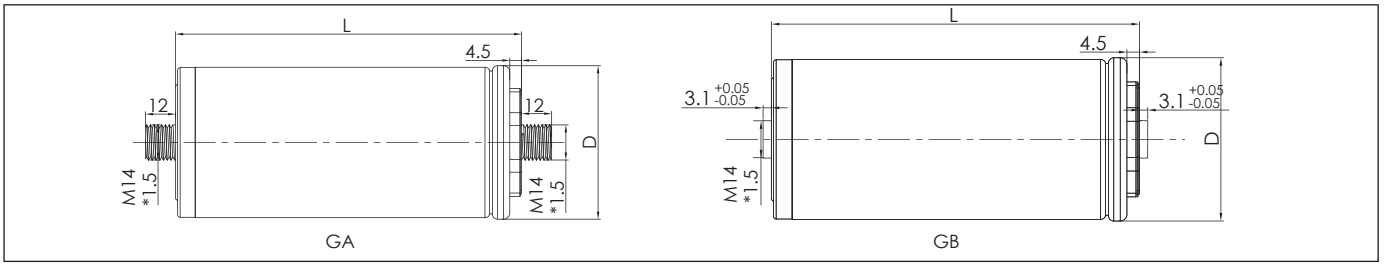
Features

- Wider temperature range
- RoHS compliant
- Higher power and energy
- 650F to 3400F capacitance range
- Up to 1,000,000 duty cycles
- Electronic tools
- Portable power tools
- UPS and back power supply

Items	Characteristics		
Rated Voltage	2.7V		
Operating Temperature Range	-40 ~+65℃		
Surge Voltage	2.85V		
Capacitance Range	650~3400F		
Capacitance Tolerance (25℃)	0~+20%		
Temperature Characteristics	The specifications shall be met at category temperature range form -40℃ to 65℃	Capacitance Change	Within 20% of the value at 25℃
		ESR	Less than 2 times of the initial specified value
High Temperature Loaded	The specifications shall be met after rated voltage applied at 65℃ for 1500 hours	Capacitance Change	Within 20% of the initial value
		ESR	Less than 2 times of the initial specified value
High Temperature Storage	The specifications shall be met after storage at 65℃ for 1000 hours	Capacitance Change	Within 20% of the initial value
		ESR	Less than 2 times of the initial specified value
Cycle Life	The specifications shall be met after 1000,000 cycles at 25℃, cycle of charge/discharge from V_R to $1/2V_R$	Capacitance Change	Within 20% of the initial value
		ESR	Less than 2 times of the initial specified value

Dimensions

mm



Standard Ratings for SGP Series

U_R (Surge Voltage) Code	Rated Capacitance 25℃	ESR_{DC}	Leakage Current (72hrs)	Maximum Continuous Current (△t=15℃)	Maximum Continuous Current (△t=40℃)	Size ΦD×L	Weight	P/N
(V)	(F)	(mΩ)	(mA)	(A)	(A)	(mm)	(g)	-
2.7 (2.85) 2R7	650	0.8	1.5	54	88	61 x 52	160	SCCDPG2R7657RGB610052E SCCDPG2R7657RGA610052E
	1200	0.58	2.7	70	110	61 x 74	260	SCCDPG2R7128RGB610074E SCCDPG2R7128RGA610074E
	1500	0.47	3	84	140	61 x 85	280	SCCDPG2R7158RGB610085E SCCDPG2R7158RGA610085E
	2000	0.35	4.2	110	170	61 x 102	360	SCCDPG2R7208RGB610102E SCCDPG2R7208RGA610102E
	3000	0.29	5.2	130	210	61 x 138	510	SCCDPG2R7308RGB610138E SCCDPG2R7308RGA610138E
	3400	0.28	10	130	210	61 x 138	513	SCCDPG2R7348RGB610138E SCCDPG2R7348RGA610138E

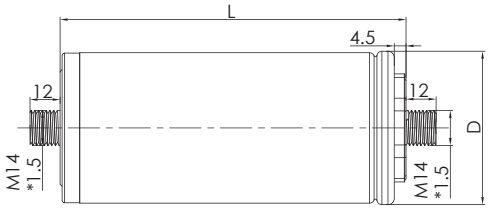
Features

- High voltage product
- Wider temperature range
- RoHS compliant
- Higher power and energy
- 650F to 3400F capacitance range
- Up to 1,000,000 duty cycles
- Electronic tools
- Portable power tools
- UPS and back power supply

Items	Characteristics		
Rated Voltage	3.0V		
Operating Temperature Range	-40 ~+65℃		
Surge Voltage	3.15V		
Capacitance Range	650~3400F		
Capacitance Tolerance (25℃)	0~+20%		
Temperature Characteristics	The specifications shall be met at category temperature range form -40℃ to 65℃	Capacitance Change	Within 20% of the value at 25℃
		ESR	Less than 2 times of the initial specified value
High Temperature Loaded	The specifications shall be met after rated voltage applied at 65℃ for 1000 hours	Capacitance Change	Within 20% of the initial value
		ESR	Less than 2 times of the initial specified value
High Temperature Storage	The specifications shall be met after storage at 65℃ for 1000 hours	Capacitance Change	Within 20% of the initial value
		ESR	Less than 2 times of the initial specified value
Cycle Life	The specifications shall be met after 1000,000 cycles at 25℃, cycle of charge/discharge from V_R to $1/2V_R$	Capacitance Change	Within 20% of the initial value
		ESR	Less than 2 times of the initial specified value

Dimensions

mm



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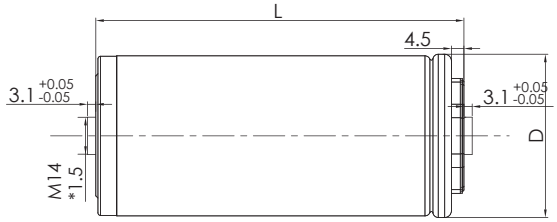


GB

Standard Ratings for SGE Series

U_R (Surge Voltage) Code	Rated Capacitance 25℃	ESR_{DC}	Leakage Current (72hrs)	Maximum Continuous Current (△t=15℃)	Maximum Continuous Current (△t=40℃)	Size ΦD×L	Weight	P/N
(V)	(F)	(mΩ)	(mA)	(A)	(A)	(mm)	(g)	-
3 (3.15) 3RO	650	0.79	3	54	88	61 x 52	160	SCCDEG3R0657RGB610052E SCCDEG3R0657RGA610052E
	1200	0.55	5	73	110	61 x 74	260	SCCDEG3R0128RGB610074E SCCDEG3R0128RGA610074E
	1500	0.47	7	83	140	61 x 85	280	SCCDEG3R0158RGB610085E SCCDEG3R0158RGA610085E
	2000	0.36	8	102	170	61 x 102	360	SCCDEG3R0208RGB610102E SCCDEG3R0208RGA610102E
	3000	0.27	12	130	210	61 x 138	510	SCCDEG3R0308RGB610138E SCCDEG3R0308RGA610138E
	3400	0.24	15	140	225	61 x 138	513	SCCDEG3R0348RGB610138E SCCDEG3R0348RGA610138E

TECHNICAL NOTES OF LIC

1. Operating Principle

As a new system in the super capacitor field, the lithium-ion capacitor is based on the adoption of the new & advanced material technology, and uses the hybrid electrode material according to the design to realize the combination of principle & technology of the lithium-ion battery and super capacitor in one electrolytic cell by electrochemical calculation. In this way, the features of high specific power, long lifetime and fast charging of the super capacitor can be well maintained, and meanwhile the specific energy will be greatly enhanced with the performance blank between the double layer capacitor and lithium-ion battery effectively filled up, showing excellent application prospect.Lithium Ion Capacitors are hybrid capacitors that use a carbon-based material as the negative electrode. Just as in a conventional EDLC, they use activated carbon for the positive electrode.

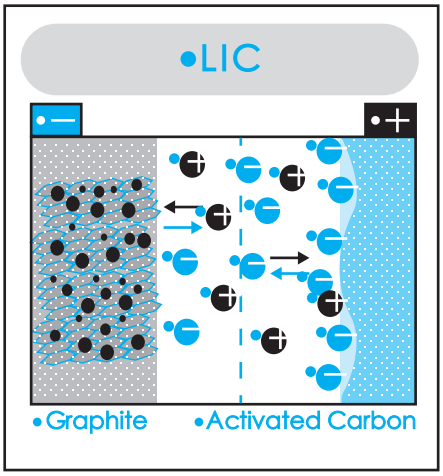


Fig. 1

2. Features

(1)High working voltage:4.0/3.8V
(2)High energy density: 20~90Wh/Kg
(3)Fast charge/discharge at high current:3~15min
(4)Low self discharge:≤5%/3 months
(5)Long life:50000~500,000 charge/discharge cycles
(6)Wide operation temperature range: -25~55&65℃ (Soft pack) /70&85℃ (Al can)
(7)High safety/reliability

3. Application

(1) Electric Vehicle

The lithium-ion capacitor is of tremendous market values in the area of hybrid power cars & coaches and pure electric buses. Some well-known car manufacturers have already conducted systematic testing and evaluation on the lithium-ion capacitor products. The conclusion they have drawn shows that to compare with the present batteries in use, the lithium-ion capacitor possesses significant performance advantages, and will have a bright future in the follow-up development of hybrid power cars and take up an important market share.

1、工作原理

锂离子电容器作为超级电容器领域中的一种新体系，以采用新型先进材料技术为基础，通过电化学计算，按照设计使用混合电极材料，在一个电解池中实现了锂离子电池和双电层电容器的原理和技术的结合，使其在保持双电层电容器高比功率、长寿命和快速充电特性的同时，大幅度提高了比能量，有效的填补了双电层超级电容器和锂离子电池之间的性能空白，表现出了良好的应用前景。锂离子电容器是一种混合型电容器，其使用碳基材料为负极，而正极与普通的双电层电容器一样，使用活性炭材料。

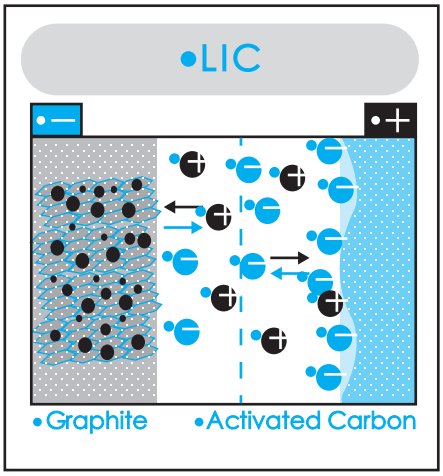


图. 1

2、特点

（1）高工作电压：4.0/3.8V
（2）高能量密度：20~90Wh/Kg
（3）大电流快速充放电：3~15min
（4）低自放电：≤5%/3个月
（5）长寿命：5~50万次充放电循环
（6）宽工作温度范围：-25~55&65℃（软包）/70&85℃（铝壳）
（7）高安全性与高可靠性

3、应用

（1）电动汽车

锂离子电容器在混合动力轿车和大客车，以及纯电动公交车等电动汽车领域中具有巨大的市场价值。众多知名汽车公司都对锂离子电容器产品进行了系统的检测和评估，认为与目前使用的电池相比，锂离子电容器具有显著的性能优势，非常看好锂离子电容器在混合动力轿车后续开发中的应用前景，未来将占据重要的市场份额。

(2) Rail Transit

Off-line operation is one of the technical development directions of the modern tram, and enterprises both at home and abroad highly value this point. Under the premise of keeping the reasonable weight and cost, the adoption of the lithium-ion capacitors can satisfy the off-line operation requirement for the whole journey after a fast charging at the terminal station. Thus a great amount of infrastructure expenditure can be saved, and the remarkable cost/performance advantage demonstrated.

(3) Hybrid power driven engineering machinery and harbor machinery

The engineering machinery and harbor machinery have the common problem of low engine energy efficiency, and are unable to recover the regenerated energy. The hybrid power driven engineering machinery and harbor machinery using the lithium-ion capacitors take the full advantage of the characteristics of the lithium-ion capacitor, and are of very high energy-saving rate and excellent cost performance.

(4) Energy-saving elevator

The adoption of the Li-ion capacitors can recycle the stored potential energy into electricity to be firstly used in the next operation cycle. Thus, the energy-saving is realized. Meanwhile, it can also be used as an emergency back-up power supply of the elevator to greatly improve its safety performance.

(5) Golf Cart and AGV

The golf cart and AGV using the lithium-ion capacitors make the power supply smaller in size, light in weight, lower in cost, longer in lifetime and easy to use. It is a brand new application model worthy to be developed.

(6) Electric Tools

The fast charging electric tools need the combination of high power and energy, long lifetime, excellent safety performance and consistency. The adoption of the lithium-ion capacitor will further improve the performance of the fast charging electric tools, and prolong the lifetime and reduce the cost. It is of a very broad market prospect.

(7) DC Circuit and Smart Meters

Compared with EDLC, the lithium-ion capacitor can offer much higher capacitance. Therefore, it will have a very bright future, and be widely used in electric appliances such as smart meter, mobile DVR, tachograph, hand-held GPRS equipment, and ETC etc.

4. Handling Precautions and Guidelines

For safety application, please contact company directly for any technical specifications, handling precautions and guidelines critical to application.

4.1 Precautions

(1) Prohibition of disassembly

The disassembling may generate internal short circuit in the cell, which may cause gassing, leakage, explosion, or other problems. Electrolyte is harmful: In case the electrolyte comes into contact with the skin, or eyes, physicians shall flush the electrolyte immediately with fresh water and medical advice is to be sought.

(2) Prohibition of dumping of cells into fire

These may cause explosion of the cells, which is very dangerous and is prohibited.

(3) Prohibition of cells immersion into liquid.

The cells shall never be soaked with liquids such as water, seawater, drinks such as juices, coffee or others.

(4) Prohibition of use of damaged cells.

The cells might be damaged during shipping by shock. If any abnormal features of the cells are found such as damages in the cell package, smelling of an electrolyte, an electrolyte leakage and others, the cells shall never be used any more. The Cells with a smell of the electrolyte or a leakage shall be placed away from fire to avoid firing or explosion.

（2）轨道交通

脱线运行是现代有轨电车的技术发展方向之一，国内外企业对此均予以高度重视。应用锂离子电容器作为电源，在保持合理重量和成本的前提下，在终点站一次快速充电即可满足全程脱线运营的要求，节约了大量的基建费用，具有显著的成本和性能优势。

（3）混合动力工程机械及港口机械

工程机械和港口机械普遍出现发动机能量效率低下，具备能量回收的条件。混合动力工程机械及港口机械充分利用了锂离子电容器的特性，具有优秀的节能效率和高性价比。

（4）节能电梯

使用锂离子电容器，回收储存势能所转化的电能，下一工作循环时优先使用，实现节能；同时用作为电梯应急后备电源，能够大幅度提高电梯使用的安全性。

（5）高乐夫球车及AGV

高尔夫球车和AGV使用锂离子电容器，电源体积、重量和成本更低，寿命更长，使用更方便，能够开拓崭新的应用模式。

（6）电动工具

快充式电动工具需要电源兼顾高功率和高能量、长寿命、高安全性和高一致性等，使用超级电容器能进一步提高快充式电动工具使用性能、延长寿命、降低成本，具有非常广阔的市场前景。

（7）直流电路和智能仪表

相比双电层电容器，锂离子电容器能提供更高的容量。因此，它具有更广阔的应用前景，如智能仪表、车载DVR，行驶记录仪、手持GPRS设备、ETC等电器。

4、使用注意事项和使用指导

为了确保安全，当设计的设备需使用电容时，请与公司联系咨询电容的技术规格以及使用要求。

4-1、注意事项

（1）禁止拆卸

拆卸电容器可能产生内部短路，导致产气，电解液泄漏。电解液有害，如果电解液接触皮肤或者眼睛，应该立即用清水冲洗并且寻求医生的治疗。

（2）禁止将电容器投入火中

将电容器投入火中可能导致爆炸，这种行为是非常危险，是被禁止的。

（3）禁止将电容器浸没于液体中

电容器不允许被浸泡在液体中，例如水，盐水，饮料例如果汁，咖啡或者其它。

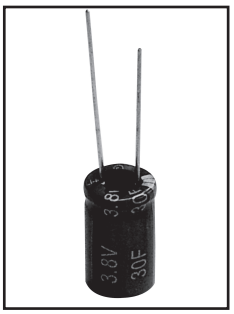
（4）禁止使用已经损坏的电容器

如果使用前发现电容的外包装破裂，闻到电解液的气味，电解液泄漏或者其它非正常情况，请勿继续使用。

HBR SERIES

Features

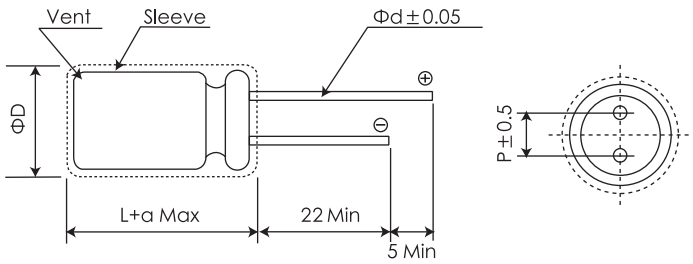
- Lower ESR
- Wider temperature range
- RoHS compliant
- Consumer electronic
- Pulse power
- Hold-up power



Items	Characteristics		
Rated Voltage	3.8V~2.5V		
Operating Temperature Range	-15 ~+70℃/85℃ (3.5V)		
Surge Voltage	4.2V		
Capacitance Range	10~550F		
Capacitance Tolerance (20℃)	-20~+20%		
Temperature Characteristics	The specifications shall be met at category temperature range form -15℃ to 70℃	Capacitance Change	Within50% of the value at 25℃
		ESR_{AC}	Less than1000% of the value at 25℃
High Temperature Loaded	The specifications shall be met after rated voltage applied at 70℃ for 1000 hours	Capacitance Change	Within 30% of the initial value
		ESR_{AC}	Less than 200% of initial value
High Temperature Storage	The specifications shall be met after storage at 70℃ for 1000 hours	Capacitance Change	Within 30% of the initial value
		ESR_{AC}	Less than 200% of initial value
Cycle Life	The specifications shall be met after 500,000 cycles at 25℃, cycle of charge/-discharge from 3.8~2.5V	Capacitance Change	Within 30% of the initial value
		ESR_{AC}	Less than 200% of initial value

Dimensions

mm



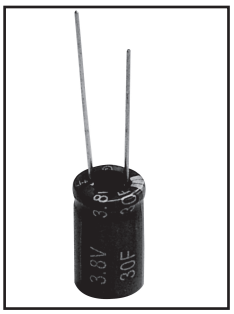
ΦD	6.3	8	10	12.5	16	18
p	2.6	3.5	5.0	5.0	7.5	7.5
Φd	0.5	0.6	0.6	0.6	0.8	0.8
a	1.5	1.5	2.0	2.0	2.0	2.0

Standard Ratings for HBR Series

U_R (Surge Voltage) Code	Rated Cap. 25℃	Impedance		Rated Current	Max. Current (≤3sec)	Leakage Current	Size ΦD×L	P/N
		ESR_{DC}	ESR_{AC} 1KHz					
(V)	(F)	(mΩ)	(mΩ)	(A)	(A)	(μA)	(mm)	-
3.8 (4.2) 3R8	10	1500	500	0.05	0.5	2.0	8 x 14	SCCHBR3R8106MRH080014E
	13	1200	500	0.065	0.65	2.1	6.3 x 22	SCCHBR3R8136MRH063022E
	25	650	300	0.125	0.8	2.5	8 x 20	SCCHBR3R8256MRH080020E
	30	700	250	0.15	0.9	3.0	8 x 25	SCCHBR3R8306MRH080025E
	30	550	250	0.15	1.0	3.0	10 x 16	SCCHBR3R8306MRH100016E
	50	450	200	0.25	1.8	4.5	10 x 20	SCCHBR3R8506MRH100020E
	70	250	100	0.35	3.0	5.0	10 x 25	SCCHBR3R8706MRH100025E
	110	220	90	0.55	4.0	6.5	10 x 30	SCCHBR3R8117MRH100030E
	120	200	80	0.6	5.0	7.0	12.5 x 25	SCCHBR3R8127MRH125025E
	220	100	60	1.1	8.0	12.0	16 x 25	SCCHBR3R8227MRH160025E
	550	80	40	2.75	20	35.0	18 x 40	SCCHBR3R8557MRH180040E

Features

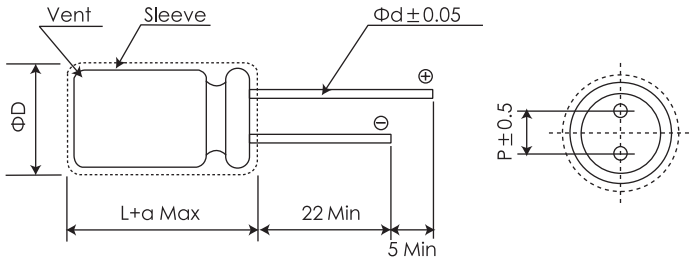
- Lower ESR
- Wider temperature range
- RoHS compliant
- Consumer electronic
- Pulse power
- Hold-up power



Items	Characteristics		
Rated Voltage	3.8V~2.5V		
Operating Temperature Range	-25 ~+70℃		
Surge Voltage	4.2V		
Capacitance Range	10~550F		
Capacitance Tolerance (20℃)	-20~+20%		
Temperature Characteristics	The specifications shall be met at category temperature range form -25℃ to 70℃	Capacitance Change	Within50% of the value at 25℃
		ESR_{AC}	Less than1000% of the value at 25℃
High Temperature Loaded	The specifications shall be met after rated voltage applied at 70℃ for 1000 hours	Capacitance Change	Within 30% of the initial value
		ESR_{AC}	Less than 200% of initial value
High Temperature Storage	The specifications shall be met after storage at 70℃ for 1000 hours	Capacitance Change	Within 30% of the initial value
		ESR_{AC}	Less than 200% of initial value
Cycle Life	The specifications shall be met after 250,000 cycles at 25℃, cycle of charge/-discharge from 3.8~2.5V	Capacitance Change	Within 30% of the initial value
		ESR_{AC}	Less than 200% of initial value

Dimensions

mm



ΦD	6.3	8	10	12.5	16	18
p	2.6	3.5	5.0	5.0	7.5	7.5
Φd	0.5	0.6	0.6	0.6	0.8	0.8
a	1.5	1.5	2.0	2.0	2.0	2.0

Standard Ratings for HBRL Series

U_R (Surge Voltage) Code	Rated Cap. 25℃	Impedance		Rated Current	Max. Current (≤3sec)	Leakage Current	Size ΦD×L	P/N
		ESR_{DC}	ESR_{AC} 1KHz					
(V)	(F)	(mΩ)	(mΩ)	(A)	(A)	(μA)	(mm)	-
3.8 (4.2) 3R8	10	1500	500	0.05	0.5	3.0	8 x 14	SCCHBL3R8106MRH080014E
	13	1200	500	0.065	0.65	3.1	6.3 x 22	SCCHBL3R8136MRH063022E
	25	650	300	0.125	0.8	3.3	8 x 20	SCCHBL3R8256MRH080020E
	30	700	250	0.15	0.9	4.0	8 x 25	SCCHBL3R8306MRH080025E
	30	550	250	0.15	1.0	4.0	10 x 16	SCCHBL3R8306MRH100016E
	50	450	200	0.25	1.8	6.0	10 x 20	SCCHBL3R8506MRH100020E
	70	250	100	0.35	3.0	8.0	10 x 25	SCCHBL3R8706MRH100025E
	110	220	90	0.55	4.5	10.0	10 x 30	SCCHBL3R8117MRH100030E
	120	200	80	0.6	5.0	12.0	12.5 x 25	SCCHBL3R8127MRH125025E
	220	100	60	1.1	8.0	25.0	16 x 25	SCCHBL3R8227MRH160025E
	550	80	40	2.75	20	65	18 x 40	SCCHBL3R8557MRH180040E

HAA SERIES

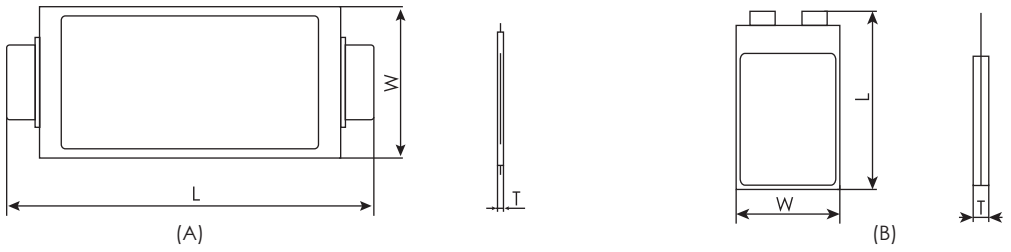
Features

- Lower ESR
- Wider temperature range
- High energy density
- High power density
- RoHS compliant

Items	Characteristics		
Rated Voltage	2.5V~4.0V		
Operating Temperature Range	-25 ~+55℃		
Surge Voltage	4.35V		
Capacitance Range	1000~16000 F		
Capacitance Tolerance (20℃)	-20~+20%		
Temperature Characteristics	The specifications shall be met at category temperature range form -25℃ to 55℃	Capacitance Change	Within 50% of the value at 25℃
		ESR_{AC}	Less than 400% of the value at 25℃
High Temperature Loaded	The specifications shall be met after rated voltage applied at 55℃ for 1000 hours	Capacitance Change	Within 20% of the initial value
		ESR_{AC}	Less than 200% of the initial value
High Temperature Storage	The specifications shall be met after storage at 55℃ for 1000 hours	Capacitance Change	Within 20% of the initial value
		ESR_{AC}	Less than 200% of the initial value
Cycle Life	The specifications shall be met after 50,000 cycles at 25℃, cycle of charge/discharge from 2.5~4.0V	Capacitance Change	Within 20% of the initial value
		ESR_{AC}	Less than 200% of the initial value

Dimensions

mm



Standard Ratings for HAA Series

U_R (Surge Voltage) Code	Rated Capacitance 25℃	Storage Energy. 25℃	Impedance		Rated Current	Self-discharge (72hrs)	Dimension (L×W×T)	P/N
			ESR_{DC}	ESR_{AC} 1KHz				
(V)	(F)	(Wh)	(mΩ)	(mΩ)	(A)	(V)	(mm)	-
4.0 (4.35) 4R0	1000	1.36	≤20	≤9	5	≥3.92	100 x 71 x 3.0(B)	SCCHAA4R0108M
	2000	2.92	≤9	≤5	10	≥3.92	100 x 71 x 5.5(B)	SCCHAA4R0208M
	3200	4.65	≤5.5	≤3	16	≥3.92	100 x 60 x 9.0(B)	SCCHAA4R0328M
	6000	8.10	≤3.5	≤2.5	30	≥3.92	300 x 123 x 3.5(A)	SCCHAA4R0608M
	10000	13.20	≤1.8	≤1.2	50	≥3.92	300x 123 x 5.2(A)	SCCHAA4R0109M
	16000	22.00	≤1.2	≤1.0	50	≥3.92	300 x 123 x 8.0(A)	SCCHAA4R0169M

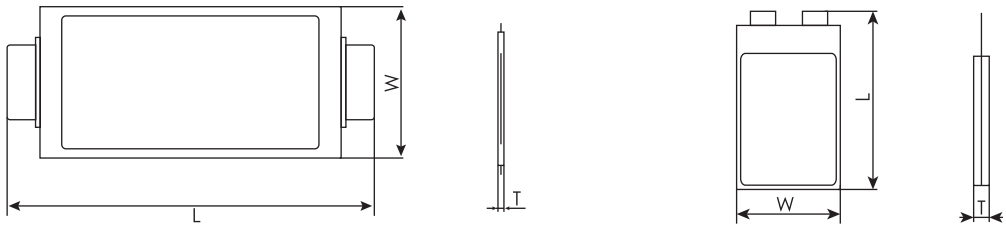
Features

- High operating voltage 4.0V
- Long life time
- High energy density
- High power density
- Fast charging
- High security and reliability
- RoHS compliant

Items	Characteristics		
Rated Voltage	2.5V~4.0V		
Operating Temperature Range	-25 ~+55℃		
Surge Voltage	4.35V		
Capacitance Range	3000~20000F		
Capacitance Tolerance (25℃)	-20~+20%		
Temperature Characteristics	The specifications shall be met at category temperature range form -25℃ to 55℃	Capacitance Change	Within 50% of the value at 25℃
		ESR_{AC}	Less than 400% of the value at 25℃
High Temperature Loaded	The specifications shall be met after rated voltage applied at 55℃ for 1000 hours	Capacitance Change	Within 20% of the initial value
		ESR_{AC}	Less than 200% of the initial value
High Temperature Storage	The specifications shall be met after storage at 55℃ for 1000 hours	Capacitance Change	Within 20% of the initial value
		ESR_{AC}	Less than 200% of the initial value
Cycle Life	The specifications shall be met after 50,000 cycles at 25℃, cycle of charge/discharge from 2.5~4.0V	Capacitance Change	Within 20% of the initial value
		ESR_{AC}	Less than 200% of the initial value

Dimensions

mm



Standard Ratings for HAE Series

U_R (Surge Voltage) Code	Rated Capacitance 25℃ (*)	Storage Energy. 25℃	Impedance		Rated Current	Self-discharge (72hrs)	Dimension (L×W×T)	P/N
			ESR_{DC}	ESR_{AC} 1KHz				
(V)	(F)	(Wh)	(mΩ)	(mΩ)	(A)	(V)	(mm)	-
4.0 (4.35) 4R0	3000	5.95	≤6.5	≤3.5	8	≥3.92	100 x 60 x 9.2(B)	SCCHAE4R0308M
	10000	18.5	≤2.5	≤1.5	25	≥3.92	300 x 123 x 5.2(A)	SCCHAE4R0109M
	15000	30.0	≤1.3	≤1.0	37.5	≥3.92	300 x 123 x 8.2(A)	SCCHAE4R0159M
	17000	34.0	≤1.0	≤0.9	42.5	≥3.92	300 x 123 x 8.3(A)	SCCHAE4R0179M
	20000	42.0	≤1.0	≤0.8	50	≥3.92	300 x 123 x 10.8(A)	SCCHAE4R0209M

* Refer to 《Ultra-capacitor for electric vehicles QC / t-741-2014》 for the test method of rated cap.

HAH SERIES

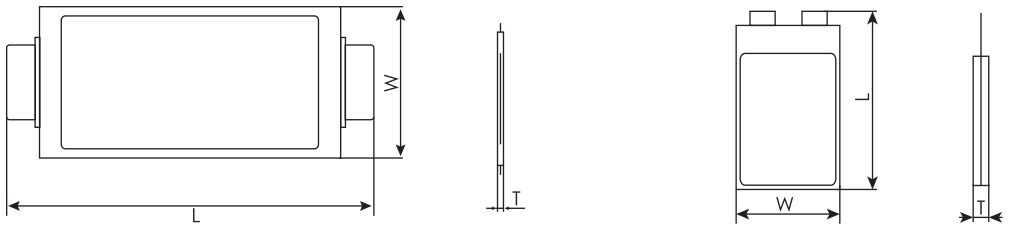
Features

- Lower ESR ,
- Higher temperature
- High energy density
- High power density
- RoHS compliant

Items	Characteristics		
Rated Voltage	2.5V~4.0V		
Operating Temperature Range	0 ~+65℃		
Surge Voltage	4.35V		
Capacitance Range	1000~16000F		
Capacitance Tolerance (20℃)	-20~+20%		
Temperature Characteristics	The specifications shall be met at category temperature range form 0℃ to 65℃	Capacitance Change	Within 50% of the value at 25℃
		ESR_{AC}	Less than 400% of the value at 25℃
High Temperature Loaded	The specifications shall be met after rated voltage applied at 65℃ for 1000 hours	Capacitance Change	Within 20% of the initial value
		ESR_{AC}	Less than 200% of the initial value
High Temperature Storage	The specifications shall be met after storage at 65℃ for 1000 hours	Capacitance Change	Within 20% of the initial value
		ESR_{AC}	Less than 200% of the initial value
Cycle Life	The specifications shall be met after 50,000 cycles at 25℃, cycle of charge/discharge from 2.5~4.0V	Capacitance Change	Within 20% of the initial value
		ESR_{AC}	Less than 200% of the initial value

Dimensions

mm

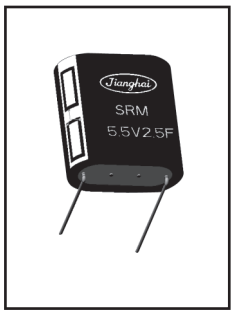


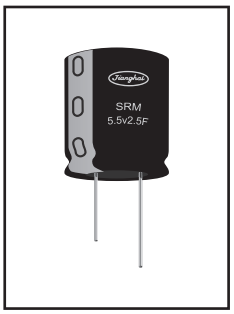
Standard Ratings for HAH Series

U_R (Surge Voltage) Code	Rated Capacitance 25℃	Storage Energy. 25℃	Impedance		Rated Current	Self-discharge (72hrs)	Dimension (L×W×T)	P/N
			ESR_{DC}	ESR_{AC} 1KHz				
(V)	(F)	(Wh)	(mΩ)	(mΩ)	(A)	(V)	(mm)	-
4.0 (4.35) 4R0	1000	1.36	≤25	≤11.5	5	≥3.92	100 x 71 x 3.0(B)	SCCHAH4R0108M
	2000	2.92	≤11.5	≤6.5	10	≥3.92	100 x 71 x 5.5(B)	SCCHAH4R0208M
	3200	4.65	≤7.0	≤4.0	16	≥3.92	100 x 60 x 9.0(B)	SCCHAH4R0328M
	6000	8.10	≤4.5	≤3.5	30	≥3.92	300 x 123 x 3.5(A)	SCCHAH4R0608M
	10000	13.20	≤2.2	≤1.5	50	≥3.92	300x 123 x 5.2(A)	SCCHAH4R0109M
	16000	22.00	≤1.5	≤1.2	50	≥3 92	300 x 123 x 8.0(A)	SCCHAH4R0169M

Features

- Double cells in series
- Higher voltage
- RoHS compliant
- Consumer electronic
- AMR
- DC-DC converters
- Automotive electronics
- Smart meter
- ups

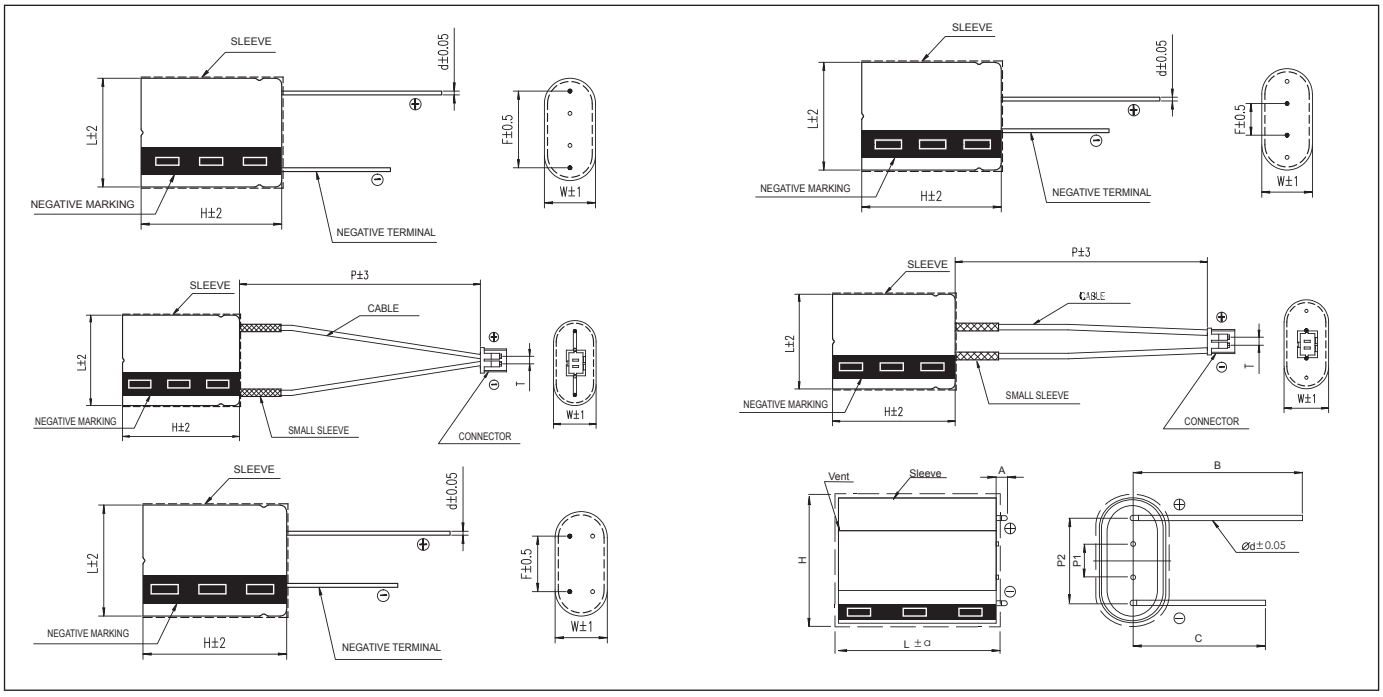




Items	Characteristics		
Rated Voltage	5.5V		
Operating Temperature Range	-40 ~+70℃ (-40 ~+85℃@4.6V)		
Surge Voltage	5.7V		
Capacitance Range	0.22~50F		
Capacitance Tolerance (25℃)	-10~+30%		
Temperature Characteristics	The specifications shall be met at category temperature range form -40℃ to 70℃	Capacitance Change	Within 30% of the value at 25℃
		ESR	Less than 2 times of the initial specified value
High Temperature Loaded	The specifications shall be met after rated voltage applied at 70℃ for 1000 hours	Capacitance Change	Within 30% of the initial value
		ESR	Less than 2 times of the initial specified value
High Temperature Storage	The specifications shall be met after storage at 70℃ for 1000 hours	Capacitance Change	Within 30% of the initial value
		ESR	Less than 2 times of the initial specified value
Cycle Life	The specifications shall be met after 500,000 cycles at 25℃, cycle of charge/discharge from V_R to $1/2V_R$	Capacitance Change	Within 30% of the initial value
		ESR	Less than 2 times of the initial specified value

Dimensions

mm



MODULE

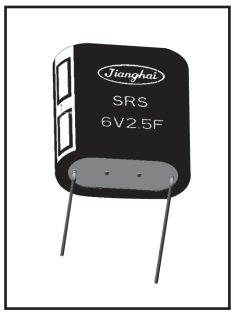
Standard Ratings for SRM Series

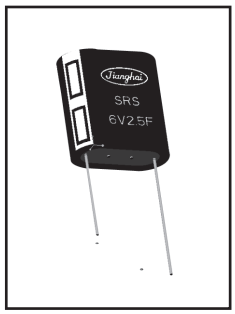
U_R (Surge Voltage) Code	Rated Capacitance 25℃	Impedance		Leakage Current (72hrs)	Size W×L×H	F	d	P/N
		ESR_{DC}	ESR_{AC} 1KHz					
(V)	(F)	(mΩ)	(mΩ)	(mA)	(mm)	(mm)	(mm)	-
5.5 (5.7) 5R5	0.22	1800	900	0.005	5.5 x 11 x 14	7.5/3.5	0.5	SCMDMR5R5224QRH051114ET0H0P075A
	0.33	1400	700	0.006	6.5 x 13 x 14	8.8/4.2	0.5	SCMDMR5R53344QRH061314ET0H0P088A
	0.5	820	420	0.008	8.5 x 17 x 16	12/5.0	0.6	SCMDMR5R5504QRH081716ET0H0P120A
	1	500	260	0.01	8.5 x 17 x 16	12/5.0	0.6	SCMDMR5R5105QRH081716ET0H0P120A
	1.5	320	170	0.012	8.5 x 17 x 22	12/5.0	0.6	SCMDMR5R5155QRH081722ET0H0P120A
	2.5	380	200	0.016	8.5 x 17 x 27	12/5.0	0.6	SCMDMR5R5255QRH081727ET0H0P120A
	2.5	260	140	0.016	11 x 21 x 22	15.5/5.5	0.6	SCMDMR5R5255QRH112122ET0H0P155A
	3.5	340	180	0.02	8.5 x 17 x 32	12/5.0	0.6	SCMDMR5R5355QRH081732ET0H0P120A
	3.5	280	150	0.02	11 x 21 x 22	15.5/5.5	0.6	SCMDMR5R5355QRH112122ET0H0P155A
	3.5	240	130	0.02	11 x 21 x 27	15.5/5.5	0.6	SCMDMR5R5355QRH112127ET0H0P155A
	5	200	110	0.03	11 x 21 x 27	15.5/5.5	0.6	SCMDMR5R5505QRH112127ET0H0P155A
	5	180	100	0.03	13 x 26 x 23	18/8	0.6	SCMDMR5R5505QRH132623ET0H0P180A
	5	180	100	0.03	11 x 21 x 33	15.5/5.5	0.6	SCMDMR5R5505QRH112133ET0H0P155A
	5	180	100	0.03	13 x 26 x 27	18/8	0.6	SCMDMR5R5505QRH132627ET0H0P180A
	7.5	140	80	0.045	13 x 26 x 27	18/8	0.6	SCMDMR5R5755QRH132627ET0H0P180A
	7.5	140	80	0.045	13 x 26 x 33	18/8	0.6	SCMDMR5R5755QRH132633ET0H0P180A
	10	120	70	0.06	17 x 33 x 24	24/9	0.8	SCMDMR5R5106QRH173324ET0H0P240A
	10	120	70	0.06	17x 33 x 29	24/9	0.8	SCMDMR5R5106QRH173329ET0H0P240A
	10	140	80	0.06	13 x 26 x 33	18/8	0.6	SCMDMR5R5106QRH132633ET0H0P180A
	12.5	108	64	0.08	17x 33 x 29	24/9	0.8	SCMDMR5R5126QRH173329ET0H0P240A
	15	92	56	0.1	17 x 33 x 36	24/9	0.8	SCMDMR5R5156QRH173336ET0H0P240A
	17.5	92	56	0.12	17 x 33 x 39	24/9	0.8	SCMDMR5R5176QRH173339ET0H0P240A
	20	92	56	0.12	17 x 33 x 39	24/9	0.8	SCMDMR5R5206QRH173339ET0H0P240A
	25	84	52	0.14	18 x 37 x 43	26/11	0.8	SCMDMR5R5256QRH183743ET0H0P260A
	35	92	56	0.2	18 x 37 x 53	26/11	0.8	SCMDMR5R5356QRH183753ET0H0P260A
	50	84	52	0.3	18 x 37 x 61	26/11	0.8	SCMDMR5R5506QRH183761ET0H0P260A

可根据客户要求定制。Customer products are available on request.

Features

- Double cells in series
- Higher voltage
- RoHS compliant
- Consumer electronic
- AMR
- DC-DC converters
- Automotive electronics
- Smart meter
- ups

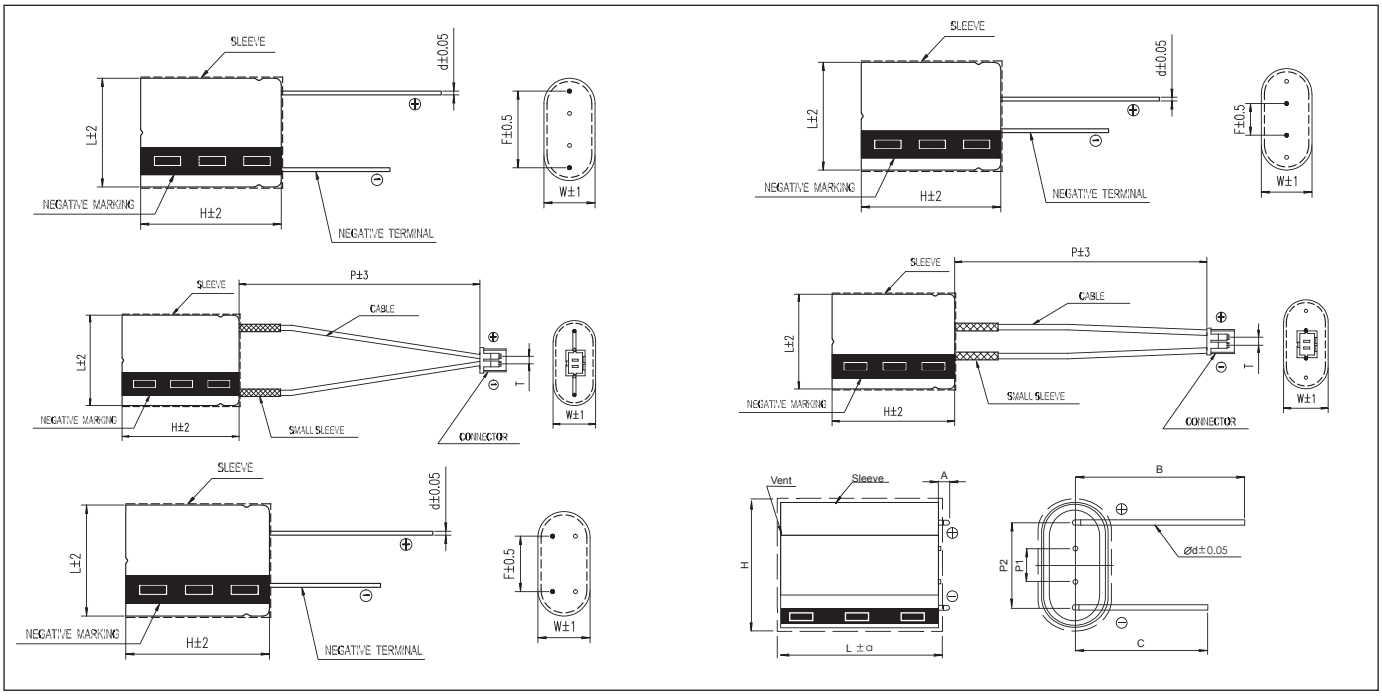




Items	Characteristics		
Rated Voltage	6V		
Operating Temperature Range	-40 ~+65℃ (-40 ~+85℃@5V)		
Surge Voltage	6.4V		
Capacitance Range	0.5~50F		
Capacitance Tolerance (25℃)	-10~+30%		
Temperature Characteristics	The specifications shall be met at category temperature range form -40℃ to 65℃	Capacitance Change	Within 30% of the value at 25℃
		ESR	Less than 2 times of the initial specified value
High Temperature Loaded	The specifications shall be met after rated voltage applied at 65℃ for 1000 hours	Capacitance Change	Within 30% of the initial value
		ESR	Less than 4 times of the initial specified value
High Temperature Storage	The specifications shall be met after storage at 65℃ for 1000 hours	Capacitance Change	Within 30% of the initial value
		ESR	Less than 4 times of the initial specified value
Cycle Life	The specifications shall be met after 500,000 cycles at 25℃, cycle of charge/discharge from V_R to $1/2V_R$	Capacitance Change	Within 30% of the initial value
		ESR	Less than 2 times of the initial specified value

Dimensions

mm

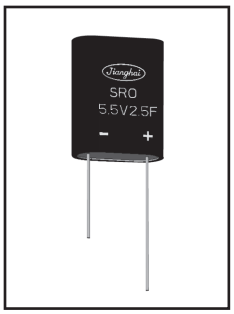


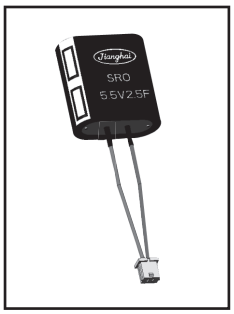
Standard Ratings for SRS Series

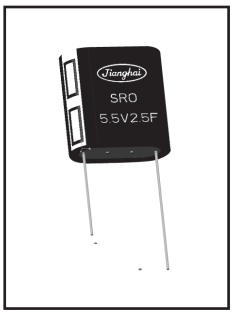
U_R (Surge Voltage) Code	Rated Capacitance 25℃	Impedance		Self-discharge (72hrs)	Size W×L×H	F	d	P/N
		ESR_{DC}	ESR_{AC} 1KHz					
(V)	(F)	(mΩ)	(mΩ)	(V)	(mm)	(mm)	(mm)	-
6.0 (6.4) 6R0	0.5	1600	800	0.01	8.5 x 17 x 16	12/5.0	0.6	SCMDSR6R0504QRH081716ET0H0P120A
	1	660	340	0.012	8.5 x 17 x 16	12/5.0	0.6	SCMDSR6R0105QRH081716ET0H0P120A
	1.5	340	180	0.014	8.5 x 17 x 22	12/5.0	0.6	SCMDSR6R0155QRH081722ET0H0P120A
	2.5	780	400	0.02	8.5 x 17 x 27	12/5.0	0.6	SCMDSR6R0255QRH081727ET0H0P120A
	2.5	340	180	0.02	11 x 21 x 22	15.5/5.5	0.6	SCMDSR6R0255QRH112122ET0H0P155A
	3.5	420	220	0.03	8.5 x 17 x 32	12/5.0	0.6	SCMDSR6R0355QRH081732ET0H0P120A
	3.5	340	180	0.03	11 x 21 x 22	15.5/5.5	0.6	SCMDSR6R0355QRH112122ET0H0P155A
	3.5	260	140	0.03	11 x 21 x 27	15.5/5.5	0.6	SCMDSR6R0355QRH112127ET0H0P155A
	5	380	200	0.045	11 x 21 x 27	15.5/5.5	0.6	SCMDSR6R0505QRH112127ET0H0P155A
	5	220	120	0.045	13 x 26 x 23	18/8	0.6	SCMDSR6R0505QRH132623ET0H0P180A
	5	220	120	0.045	11 x 21 x 33	15.5/5.5	0.6	SCMDSR6R0505QRH112133ET0H0P155A
	5	220	120	0.045	13 x 26 x 27	18/8	0.6	SCMDSR6R0505QRH132627ET0H0P180A
	7.5	160	90	0.055	13 x 26 x 27	18/8	0.6	SCMDSR6R0755QRH132627ET0H0P180A
	7.5	160	90	0.055	13 x 26 x 33	18/8	0.6	SCMDSR6R0755QRH132633ET0H0P180A
	10	132	76	0.055	17 x 33 x 24	24/9	0.8	SCMDSR6R0106QRH173324ET0H0P240A
	10	132	76	0.07	13 x 26 x 27	18/8	0.6	SCMDSR6R0106QRH132627ET0H0P180A
	10	132	76	0.07	13 x 26 x 33	18/8	0.6	SCMDSR6R0106QRH132633ET0H0P180A
	12.5	120	70	0.1	17 x 33 x 29	24/9	0.8	SCMDSR6R0126QRH173329ET0H0P240A
	15	120	70	0.12	17 x 33 x 35	24/9	0.8	SCMDSR6R0156QRH173335ET0H0P240A
	17.5	104	62	0.15	17 x 33 x 35	24/9	0.8	SCMDSR6R0176QRH173335ET0H0P240A
	20	104	62	0.25	17 x 33 x 39	24/9	0.8	SCMDSR6R0206QRH173339ET0H0P240A
	25	100	60	0.35	18 x 37 x 43	26/11	0.8	SCMDSR6R0256QRH183743ET0H0P260A
	35	100	60	0.45	18 x 37 x 53	26/11	0.8	SCMDSR6R0356QRH183753ET0H0P260A
	50	92	56	0.55	18 x 37 x 61	26/11	0.8	SCMDSR6R0506QRH183761ET0H0P260A

Features

- Double cells in series
- Higher voltage
- RoHS compliant
- Consumer electronic
- AMR
- DC-DC converters
- Automotive electronics
- Smart meter
- ups



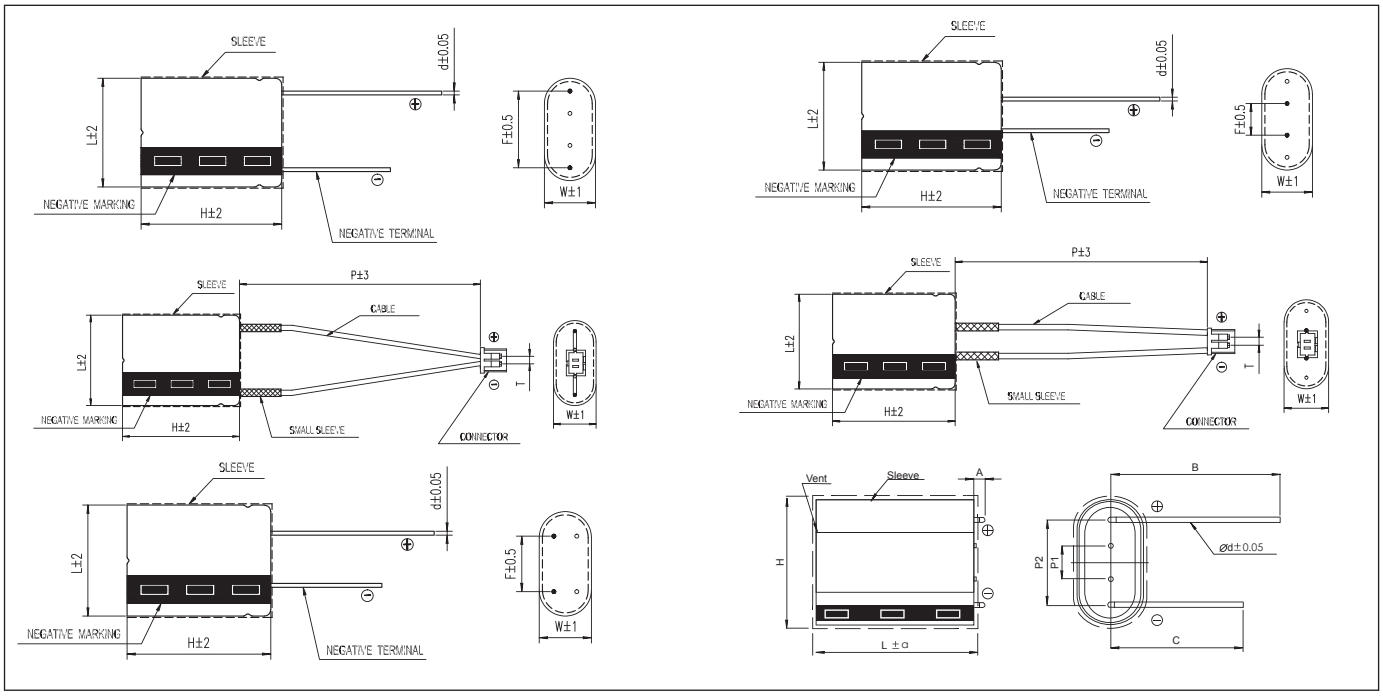




Items	Characteristics		
Rated Voltage	5.5V		
Operating Temperature Range	-40 ~+85℃		
Surge Voltage	5.7V		
Capacitance Range	0.5~25F		
Capacitance Tolerance (25℃)	-10~+30%		
Temperature Characteristics	The specifications shall be met at category temperature range form -40℃ to 85℃	Capacitance Change	Within 30% of the specified value at 25℃
		ESR	Less than 4 times of the initial specified value
High Temperature Loaded	The specifications shall be met after rated voltage applied at 85℃ for 1000 hours	Capacitance Change	Within 30% of the specified value
		ESR	Less than 4 times of the initial specified value
High Temperature Storage	The specifications shall be met after storage at 85 ℃ for 1000 hours	Capacitance Change	Within 30% of the specified value
		ESR	Less than 4 times of the initial specified value
Cycle Life	The specifications shall be met after 500,000 cycles at 25℃, cycle of charge/discharge from V_R to $1/2V_R$	Capacitance Change	Within 30% of the specified value
		ESR	Less than 4 times of the initial specified value

Dimensions

mm



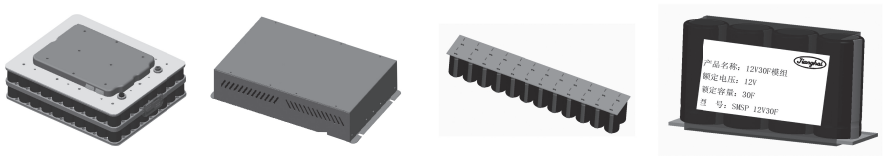
MODULE

Standard Ratings for SRO Series

U_R (Surge Voltage) Code	Rated Capacitance 25℃	Impedance		Leakage Current (72hrs)	Size W×L×H	F	d	P/N
		ESR_{DC}	ESR_{AC} 1KHz					
(V)	(F)	(mΩ)	(mΩ)	(V)	(mm)	(mm)	(mm)	-
5.5 (5.7) 5R5	0.5	1600	800	0.01	8.5 x 17 x 16	12/5.0	0.6	SCMDOR5R5504QRH081716ET0H0P120A
	1	660	340	0.012	8.5 x 17 x 16	12/5.0	0.6	SCMDOR5R5105QRH081716ET0H0P120A
	1.5	340	180	0.014	8.5 x 17 x 22	12/5.0	0.6	SCMDOR5R5155QRH081722ET0H0P120A
	2.5	780	400	0.02	8.5 x 17 x 27	12/5.0	0.6	SCMDOR5R5255QRH081727ET0H0P120A
	2.5	340	180	0.02	11 x 21 x 22	15.5/5.5	0.6	SCMDOR5R5255QRH112122ET0H0P155A
	3.5	420	220	0.03	8.5 x 17 x 32	12/5.0	0.6	SCMDOR5R5355QRH081732ET0H0P120A
	3.5	340	180	0.03	11 x 21 x 22	15.5/5.5	0.6	SCMDOR5R5355QRH112122ET0H0P155A
	3.5	260	140	0.03	11 x 21 x 27	15.5/5.5	0.6	SCMDOR5R5355QRH112127ET0H0P155A
	5	380	200	0.045	11 x 21 x 27	15.5/5.5	0.6	SCMDOR5R5505QRH112127ET0H0P155A
	5	220	120	0.045	13 x 26 x 23	18/8	0.6	SCMDOR5R5505QRH132623ET0H0P180A
	5	220	120	0.045	11 x 21 x 33	15.5/5.5	0.6	SCMDOR5R5505QRH112133ET0H0P155A
	5	220	120	0.045	13 x 26 x 27	18/8	0.6	SCMDOR5R5505QRH132627ET0H0P180A
	7.5	160	90	0.055	13 x 26 x 27	18/8	0.6	SCMDOR5R5755QRH132627ET0H0P180A
	7.5	160	90	0.055	13 x 26 x 33	18/8	0.6	SCMDOR5R5755QRH132633ET0H0P180A
	10	132	76	0.055	17 x 33 x 24	24/9	0.8	SCMDOR5R5106QRH173324ET0H0P240A
	10	132	76	0.07	13 x 26 x 27	18/8	0.6	SCMDOR5R5106QRH132627ET0H0P180A
	10	132	76	0.07	13 x 26 x 33	18/8	0.6	SCMDOR5R5106QRH132633ET0H0P180A
	12.5	120	70	0.1	17 x 33 x 29	24/9	0.8	SCMDOR5R5126QRH173329ET0H0P240A
	15	120	70	0.12	17 x 33 x 35	24/9	0.8	SCMDOR5R5156QRH173335ET0H0P240A
	17.5	104	62	0.15	17 x 33 x 35	24/9	0.8	SCMDOR5R5176QRH173335ET0H0P240A
	20	104	62	0.25	17 x 33 x 39	24/9	0.8	SCMDOR5R5206QRH173339ET0H0P240A
	25	100	60	0.35	18 x 37 x 43	26/11	0.8	SCMDOR5R5256QRH183743ET0H0P260A

Features

- Standard EDLC modules
- Energy storage solution
- DTU、FTU
- Power gird backup supply
- Automotive electronics



Items	Characteristics		
Rated Voltage	12-800V		
Operating Temperature Range	-40~+65℃		
Capacitance Range	7.5F~180F		
Capacitance Tolerance (25℃)	-10~+30%		
Temperature Characteristics	The specifications shall be met at category temperature range form -40℃ to 65℃	Capacitance Change	Within 30% of the value at 25℃
		ESR	Less than 2 times of the initial specified value
High Temperature Loaded	The specifications shall be met after rated voltage applied at 65℃ for 1500 hours	Capacitance Change	Within 30% of the initial value
		ESR	Less than 2 times of the initial specified value
High Temperature Storage	The specifications shall be met after storage at 65℃ for 1500 hours	Capacitance Change	Within 30% of the initial value
		ESR	Less than 2 times of the initial specified value
Cycle Life	The specifications shall be met after 500,000 cycles at 25℃, cycle of charge/discharge from V_R to $1/2V_R$	Capacitance Change	Within 30% of the initial value
		ESR	Less than 2 times of the initial specified value

Standard Ratings for SMSP Series

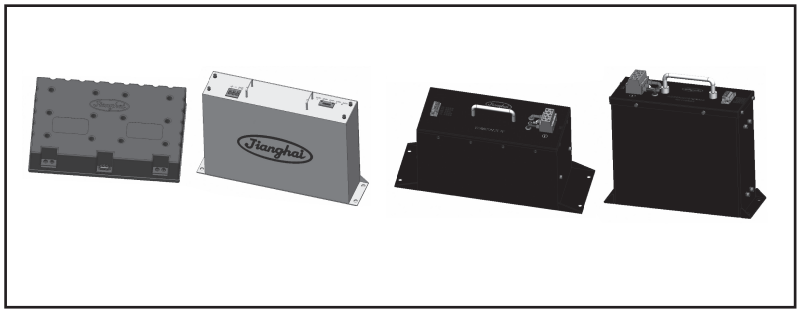
U_R (Surge Voltage) Code	Rated Cap. 25℃	ESR_{DC}	Leakage Current (72hrs)	Max. Peak Current (1s)	Size ΦL×W×H	Weight	P/N
(V)	(F)	(mΩ)	(mA)	(A)	(mm)	(kg)	-
12	30	70	0.3	58	93×29×50	0.13	SCMDPS012306QA
	40	55	0.5	75	103×31×52	0.15	SCMDPS012406QA
27	180	30	1.8	380	400×140×92	6.5	SCMDPS027187QA
64	19.5	100	1.0	220	435×72×68	2.5	SCMDPS064196QA
432	7.5	105	2.7	930	650×520×205	56	SCMDPS432755QA
800	9.3	120	6	1900	600×700×1800	250	SCMDPS800935QA

*Customer products are available on request.

SSM SERIES

Features

- ■Standard EDLC modules
- ■Energy storage solution
- ■Application for back-up of wind pitch systemc
- ■Higher energy density
- ■RoHS complian



Items	Characteristics		
Rated Voltage	80-160V		
Operating Temperature Range	-40 ~+65℃		
Capacitance Range	6F~21.7F		
Capacitance Tolerance (25℃)	0~+20%		
Temperature Characteristics	The specifications shall be met at category temperature range form -40℃ to 65℃	Capacitance Change	Within 30% of the value at 25℃
		ESR	Less than 2 times of the initial specified value
High Temperature Loaded	The specifications shall be met after rated voltage applied at 65℃ for 1500 hours	Capacitance Change	Within 30% of the initial value
		ESR	Less than 2 times of the initial specified value
High Temperature Storage	The specifications shall be met after storage at 65℃ for 1500 hours	Capacitance Change	Within 30% of the initial value
		ESR	Less than 2 times of the initial specified value
Cycle Life	The specifications shall be met after 500,000 cycles at 25℃, cycle of charge/discharge from V_R to $1/2V_R$	Capacitance Change	Within 30% of the initial value
		ESR	Less than 2 times of the initial specified value

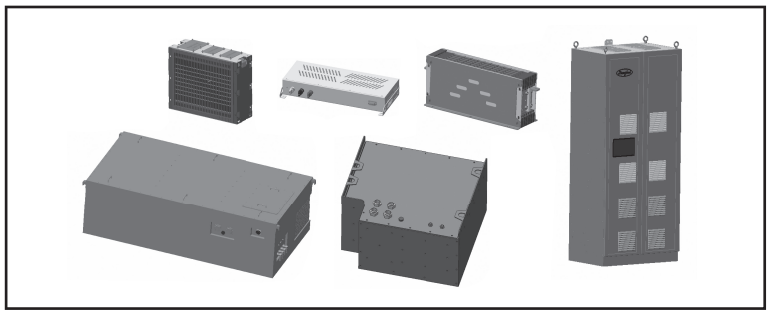
Standard Ratings for SSM Series

U_R (Surge Voltage) Code	Rated Cap. 25℃	ESR_{DC}	Leakage Current (72hrs)	Max. Peak Current (1s)	Size ΦL×W×H	Weight	P/N
(V)	(F)	(mΩ)	(mA)	(A)	(mm)	(kg)	-
80	21.7	70	60	440	465 x 150 x207	9.5	SCMDPS080216RA
90	9.6	130	30	220	305 x 112 x270	7.5	SCMDPS090965RA
	11.1	130	30	220	305 x 112 x270	7.5	SCMDPS090116RA
	13	130	30	220	305 x 112 x270	7.5	SCMDPS090136RA
	19.4	75	60	440	410 x 150 x211	11	SCMDPS090196RA
160	6	240	30	220	379 x 251 x83	6.5	SCMDPS160605RA
	10	240	30	320	420 x 90 x300	9	SCMDPS160106RA
	12	240	30	330	480 x 90 x3336	11.5	SCMDPS160126RA

* Customer products are available on request.

Features

- Higher energy density
- RoHS complian
- For application in AGV, power grid, EV, train, elevator, Forklift truck power, Port mechanical energy recovery and other Energy storage solutions



Items	Characteristics		
Rated Voltage	12V~640V		
Operating Temperature Range	-25~+55℃		
Capacitance Range	277F~14000F		
Capacitance Tolerance (25℃)	-20~+20%		
Temperature Characteristics	The specifications shall be met at category temperature range form -20℃ to 55℃	Capacitance Change	Within 50% of the value at 25℃
		ESR_{AC}	Less than 400% of the value at 25℃
High Temperature Loaded	The specifications shall be met after rated voltage applied at 55℃ for 1000 hours	Capacitance Change	Within 20% of the initial value
		ESR_{AC}	Less than 200% of the initial value
High Temperature Storage	The specifications shall be met after storage at 55℃ for 1000 hours	Capacitance Change	Within 20% of the initial value
		ESR_{AC}	Less than 200% of the initial value
Cycle Life	The specifications shall be met after 50,000 cycles at 25℃	Capacitance Change	Within 20% of the initial value
		ESR_{AC}	Less than 200% of the initial value

HMAA Modules

U_R	U_{min}	Rated Cap. 25℃	ESR_{DC}	Rated Current	Size ΦL×W×H	Weight	P/N
(V)	(V)	(F)	(mΩ)	(A)	(mm)	(kg)	-
12	7.5	10600	4	100	320×140×105	5	SCMHAA012109MA
64	43	400	80	32	458×228×75	6.4	SCMHAA064407MA
136	90	277	100	50	305×138×415	17.5	SCMHAA136277MA

HMAA System

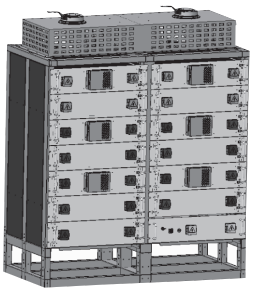
U_R	U_{min}	Rated Cap. 25℃	ESR_{DC}	Rated Current	Size ΦL×W×H	Weight	P/N
(V)	(V)	(F)	(mΩ)	(A)	(mm)	(kg)	-
56	35	14000	5	1000	802×725×471	665	SCMHAA056149MA
600	375	400	100	300	950×600×2350	980	SCMHAA600407MA
640	400	1250	30	1000	2872×1450×865	2500	SCMHAA640128MA

*Customer products are available on request.

HMAE SERIES

Features

- Higher energy density
- RoHS complian
- For application in AGV, power grid, EV, train, elevator, Forklift truck power, Port mechanical energy recovery and other Energy storage solutions



Items	Characteristics		
Rated Voltage	12V~672V		
Operating Temperature Range	-25~+55℃		
Capacitance Range	90F~15000F		
Capacitance Tolerance (25℃)	-20~+20%		
Temperature Characteristics	The specifications shall be met at category temperature range form -25℃ to 55℃	Capacitance Change	Within 50% of the value at 25℃
		ESR_{AC}	Less than 400% of the value at 25℃
High Temperature Loaded	The specifications shall be met after rated voltage applied at 55℃ for 1000 hours	Capacitance Change	Within 20% of the initial value
		ESR_{AC}	Less than 200% of the initial value
High Temperature Storage	The specifications shall be met after storage at 55℃ for 1000 hours	Capacitance Change	Within 20% of the initial value
		ESR_{AC}	Less than 200% of the initial value
Cycle Life	The specifications shall be met after 50,000 cycles at 25℃	Capacitance Change	Within 20% of the initial value
		ESR_{AC}	Less than 200% of the initial value

HMAE Modules

U_R	U_{min}	Rated Cap. 25℃	ESR_{DC}	Rated Current	Size ΦL×W×H	Weight	P/N
(V)	(V)	(F)	(mΩ)	(A)	(mm)	(kg)	-
84	52.5	5710	6.5	300	900×570×160	110	SCMHAE084578MA

HMAE System

U_R	U_{min}	Rated Cap. 25℃	ESR_{DC}	Rated Current	Size ΦL×W×H	Weight	P/N
(V)	(V)	(F)	(mΩ)	(A)	(mm)	(kg)	-
700	490	1190	30	500	1500×1150×2060	2250	SCMHAE700118MA

*Customer products are available on request.

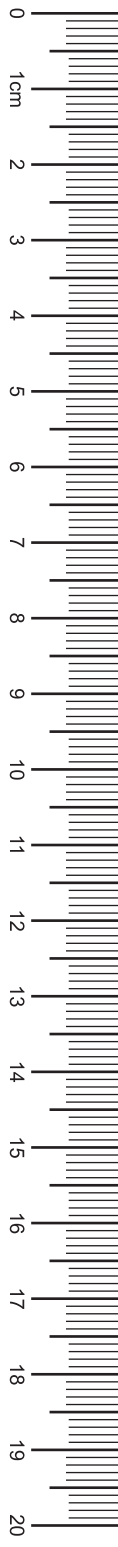
MILLIMETER TO INCH CONVERSION TABLE

mm	inch
1	.039
1.5	.059
2	.079
2.5	.098
3	.118
3.5	.138
4	.157
5	.197
5.3	.209
6	.236
6.3	.248
7	.275
8	.314
9	.354
10	.394
11	.433
11.5	.453
12	.472
12.5	.492
12.7	.500
13	.512
14	.551
15	.591
16	.629
17	.669

mm	inch
18	.709
19	.748
20	.787
21	.827
22	.866
23	.906
24	.945
25	.984
25.4	1.000
26	1.024
27	1.063
28	1.102
28.6	1.126
29	1.142
30	1.181
30.5	1.201
31	1.220
31.5	1.240
31.8	1.252
32	1.260
33	1.299
34	1.339
34.5	1.358
36	1.417
36.5	1.437

mm	inch
37	1.457
38	1.496
39	1.535
40	1.575
41	1.614
41.5	1.634
42	1.654
43	1.693
44	1.732
45	1.772
46	1.811
47	1.850
48	1.890
49	1.929
50	1.969
51	2.008
52	2.047
53	2.087
54	2.126
55	2.165
56	2.205
57	2.244
58	2.283
59	2.323
60	2.362

mm	inch
61	2.402
62	2.441
63	2.480
64	2.520
65	2.559
66	2.598
67	2.638
68	2.677
69	2.717
70	2.756
71	2.795
72	2.835
73	2.874
74	2.913
75	2.953
76	2.992
76.2	3.000
80	3.150
90	3.543
100	3.937
120	4.724
140	5.512
160	6.299



NOTE: To convert other millimeter values to inches umitiply by 0.03937

CENTIGRADE TO FAHRENHEIT CONVERSION TABLE

$C^\circ = (F^\circ - 32) \times 5/9$

$F^\circ = (C^\circ \times 18) + 32$

°C	-55	-40	-30	-25	-20	-17.8	0	20	25	40	45	60	70	65	105	125	260
°F	-67	-40	-22	-13	-4	0	32	68	77	104	113	140	158	185	221	257	500

公司概况

Brief Introduction

创建日期：1958年10月

Creation date: in October 1958

股票代码：002484

Stock No：002484

主要产品：铝电解电容器、薄膜电容器、固体高分子电容器、超级电容器、轴向/皇冠式电容器

Main Products :Aluminum Electrolytic Capacitors、Film Capacitors、Polymer Capacitors、Super Capacitors、Axial/Crown Capacitors

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邮编:226361

Zip Code:226361.

ISO9001 ISO14001 IATF16949 ISO45001 UL CE