LIC(3.8V)Series

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FEATURES

- Low Self Discharge/Up to 8 times energy density compared to standard supercapacitors
- High Capacitance, High energy dense
- High Operating Voltage
- No Explosion Safety

APPLICATIONS

- Ride through,Ride thru power support,Back up power,Stand alone or augment existing ,Medical backup power/alarm,Water and gas smart meters.

MANUAL SOLDER ONLY

- +350℃(4-5seconds by soldering)

MANUAL SOLDER ONLY

- no clean soldering recommended.
- do not wash the supercapacitors.

PART NUMBER SYSTEM

LIC	1840	Q	3R8	507	*
Series	Size	Winding	Rated Voltage	Capacity	Special Code

GENERAL SPECIFICATIONS

Item	Performance
Operating temperature	-20°C to +65°C @ 3.8V -20°C to +85°C @ 3.5V
Storage temperature	-40°C to +85°C
Capacitance range	10F to 750F
Capacitance tolerance	-10%~+30%(+25°C);-20%~+80%(+25°C)
Rated voltage	3.8 VDC
Minimum rated voltage	2.5 VDC
Surge voltage	4.2 VDC
Temperature characteristics	Capacitance change: Within ±50% of initial measured value at +25°C (-20°C to +70°C) Internal resistance: Within ±800% of initial measured value at +25°C (at -20°C)
Endurance (At rated voltage & max. operating temp)	After 85°C 1000 hours (at:3.5V): Capacitance change: ±30% of initial rated value Internal resistance: Within 4 times of initial specified value
Projected cycle life (From rated voltage to 1/2 rated voltage at 25°C)	After 50,000 cycles: Capacitance change: Within ±30 % of initial rated value Internal resistance: Within 2 times of initial specified value
Shelf life	After 2 years at 25°C without load, the capacitor shall meet the specified endurance limits.

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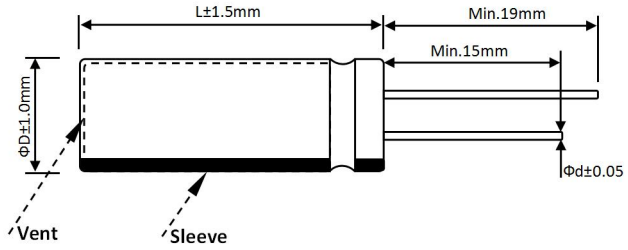
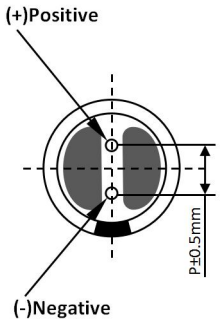
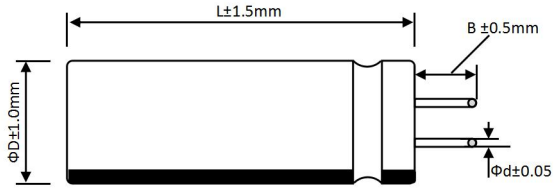
DIMENSIONS

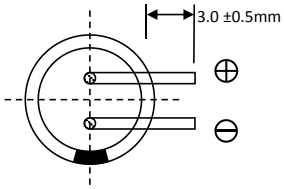




Size(mm)		
ΦD	P	Φd
8	3.5	0.6
10	5.0	0.6
13	5.0	0.6
16	7.5	0.8
18	7.5	0.8

RADIAL BENT LEAD TYPE





Style	B(mm)
A1	4.0
C1	2.0

STANDARD PRODUCTS

Part Number	Dimensions (mm)		Rated Cap. (F)	3.8V-2.5V Battery Cap. (mAh)	ESRAC (mΩ) (1 KHz)	Leakage Current (72hrs/mA)	Rated Current (A)	Max Current (A)	Weight/Unit (grams)
	D	L							
LIC0813Q3R8106	8	13	10	3.6	510	0.001	0.05	0.5	1.5
LIC0813Q3R8206	8	13	20	10	500	0.001	0.10	0.5	1.5
LIC1013Q3R8256	10	13	25	12	280	0.001	0.15	1.0	2.65
LIC1013Q3R8306	10	13	30	13.5	260	0.001	0.15	1.0	2.65
LIC0820Q3R8256	8	20	25	12	300	0.002	0.20	1.5	2.0
LIC0820Q3R8406	8	20	40	15	250	0.002	0.22	1.7	2.0
LIC1313Q3R8706	13	13	70	27	115	0.002	0.30	2.0	3.5
LIC1020Q3R8806	10	20	80	30	110	0.002	0.35	3.0	3.0
LIC0825Q3R8906	8	25	90	27	115	0.002	0.30	2.0	2.5
LIC0825Q3R8107	8	25	100	36	100	0.003	0.60	3.0	2.7
LIC1030Q3R8107	10	30	100	36	100	0.003	0.60	5.0	6.0
LIC1030Q3R8127	10	30	120	45	95	0.003	0.60	5.0	5.0
LIC1320Q3R8127	13	20	120	45	95	0.003	0.60	5.0	5.0
LIC1335Q3R8257	13	35	250	80	50	0.005	1.10	10.0	8.0
LIC1620Q3R8257	16	20	250	80	50	0.005	1.10	10.0	8.0
LIC1620Q3R8277	16	20	270	85	50	0.013	2.0	10.0	8.5
LIC1640Q3R8507	16	40	500	200	40	0.015	2.25	25.0	15.0
LIC1840Q3R8507	18	40	500	200	40	0.015	2.25	30.0	16.0
LIC1840Q3R8757	18	40	750	300	25	0.023	3.00	30.0	20.0

*with appropriate voltage derating operating temperature can be extended to 85°C

No. 4, Jifeng Road, Wufeng District, Taichung City, Taiwan. TEL:+86-852-51245795 www.cda-cap.com E-MAIL: zfw@cda-cap.tw

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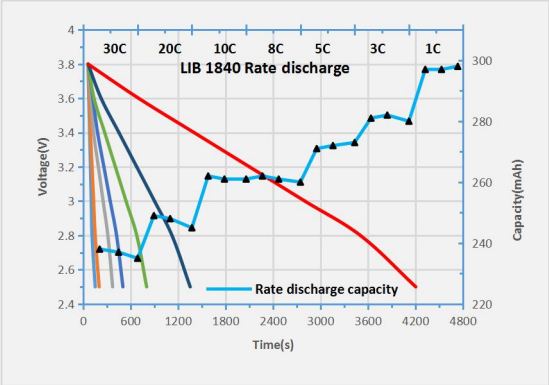
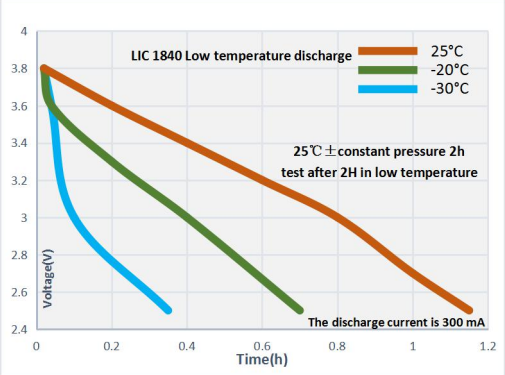
THE FEATURE DIAGRAM

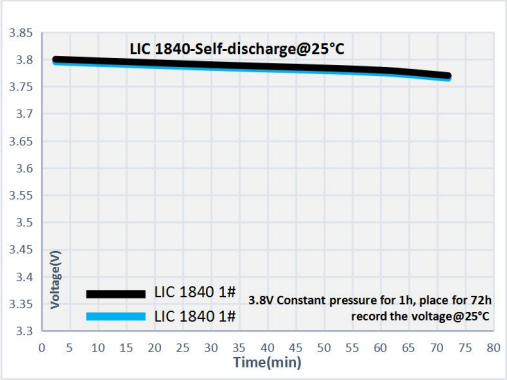
◉ Discharge multiplier characteristics



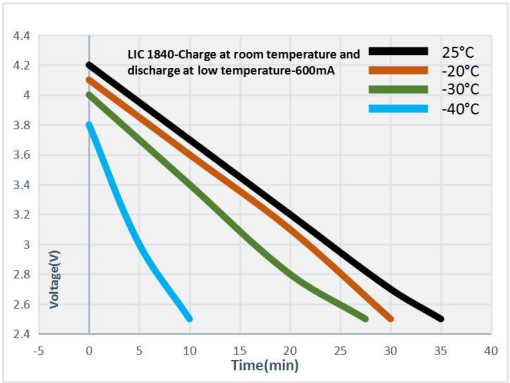
◉ Low temperature discharge characteristics



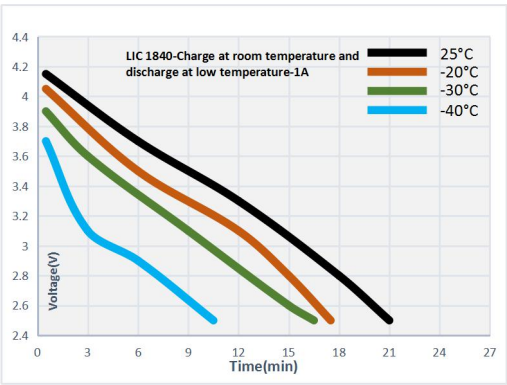
◉ Self-discharge characteristics



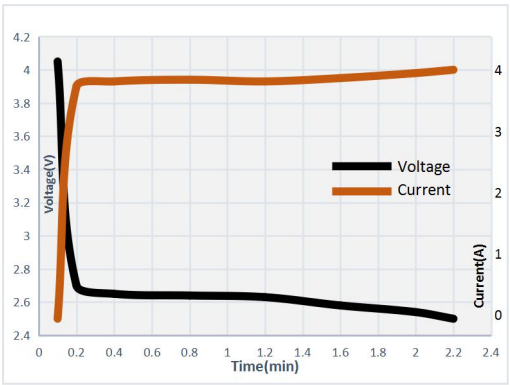
◉ Low internal resistance discharge characteristics-600mA



◉ Low internal resistance discharge characteristics-1A



◉ -40℃ 10W Constant power discharge



Test the temperature	At room temperature charge low temperature-600mA		At room temperature charge low temperature-1A	
	Capacity(mAh)	Resistance(mΩ)	Capacity(mAh)	Resistance(mΩ)
25°C	343.2	33.9	344.4	38.2
-20°C	298.3	173.0	292.8	165.4
-30°C	274.6	363.8	272.6	276.6
-40°C	175.0	457.2	168.5	454.9

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SAFETY RECOMMENDATIONS

WARNINGS

• To Avoid Short Circuit, after usage or test, Lithium Ion Capacitor voltage needs to discharge to ＞ 2.5V (Not lower than 2.5V)

• Do not Apply Overvoltage, Reverse Charge, Burn or Heat Higher than 150°C, explosion-proof valve may break open

• Do not Press, Damage or disassemble the Lithium Ion Capacitor, housing could heat to high temperature causing Burns

• If you observe Overheating or Burning Smell from the capacitor disconnect Power immediately, and do not touch

REGULATORY

• MSDS,UN38.3

• RoHS Compliant

• Reach Compliant

TRANSPORTATION

Not subjected to US DOT or IATA regulations

UN3508, <0.3Wh, Non-Hazardous Goods

International shipping description –

“Electronic Products –Capacitor”

Measuring

• Capacitance, Equivalent series resistance (ESR) and Leakage current are measured

• Leakage current at +20 °C after 72 hour charge and hold.

• Stored energy (mWh) = $\frac{0.5\times(V^{2\min 1}-V^{2\min 2})\times C}{3600}\times 1000$

• Peak power (W) = $\frac{V^2}{4\times ESR}$

• Pulse current for 1 second from full rate voltage to minimum rated voltage.(A) = $\frac{(V^{\min 1}-V^{\min 2})\times C}{(1+ESR\times C)}$

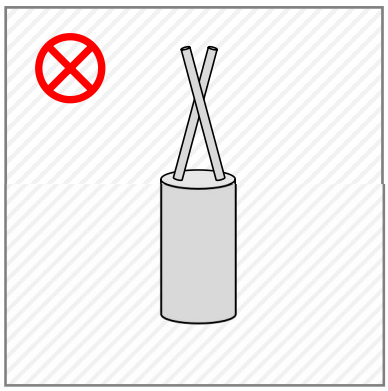
• Continuous current with a 15 °C temperature rise. Continuous current (A) = $\sqrt{\frac{\Delta T}{ESR\times Rth}}$

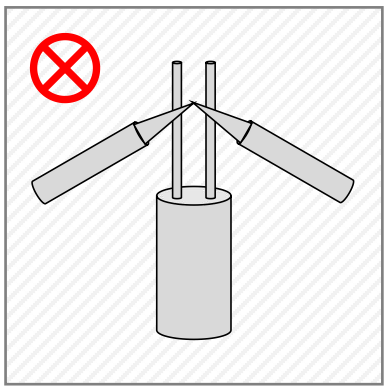
•Short circuit current is for safety information only. Do not use as operating current.

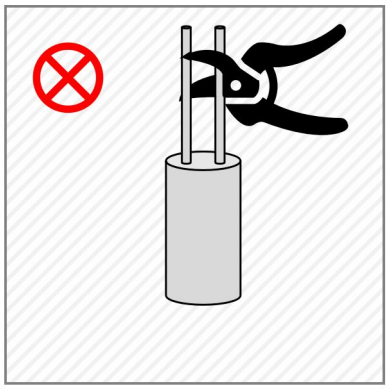
• Cycling between rated voltage and 2.5 V, 3 second rest at +20 °C.

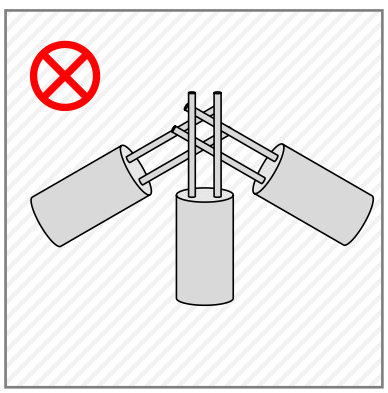
Note: Do not discharge Lithium Ion Capacitor below minimum working voltage.

Precautions duringuse









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