LIB Series

FEATURES

- Low Self Discharge/Up to 10 times energy density compared to standard Super Capacitors
- High Capacitance,Energy Storage
- 4.0V High Operating Voltage
- No Explosion Safety
- REACH,RoHS Directive Compliant

APPLICATIONS

- Continuous power support,Back up power,Stand alone or augment existing ,Medical backup power/alarm,Water and gas smart meters，Electronic cigarette.

OPERATING TEMPERATURE RANGE

- +350℃(4-5seconds by soldering)
- No clean soldering recommended.
- Do not wash the super capacitors.

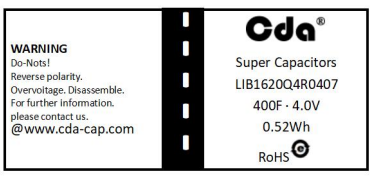
GENERAL SPECIFICATIONS

Item	Performance
Operating temperature	-20°C to +65°C @ 4.0V
Storage temperature	-40°C to +85°C
Capacitance range	200F to 1100F
Rated voltage	4.0 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)
High temperature load time	After 1000 hours: Capacitance change: ±30% of initial rated value Internal resistance: Within 3 times of initial specified value
Projected cycle life (From rated voltage to 1/2 rated voltage at 25°C)	After 30,000 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.

PART NUMBER SYSTEM

LIB	1840	Q	3R8	118	***
Series	Size Code	Cylindrical Code	Rated Voltage	Nominal Capacity	Special Code

Casing Display:



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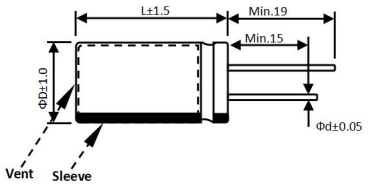
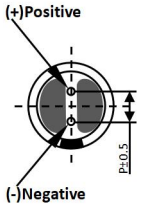
Spec. Date:2023-08-01

DIMENSIONS

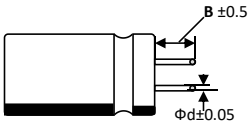
RADIAL LEAD TYPE

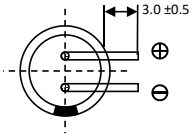




Size(mm)		
ΦD	P	Φd
10	5.0	0.6
13	5.0	0.6
16	7.5	0.8
18	7.5	0.8

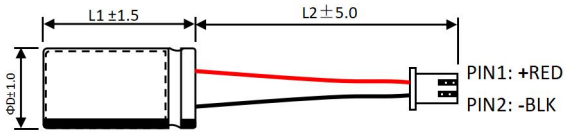
RADIAL BENT LEAD TYPE





Style	B(mm)
A1	4.0
C1	2.0

CONNECTOR L TYPE



✱Connectors can be customized

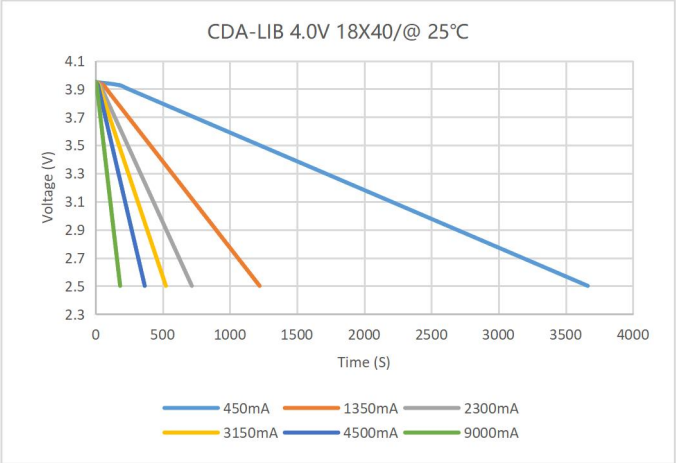
STANDARD PRODUCTS

Part Number	Dimensions (mm)		Rated Cap. (F)	Capacitance Tolerance	4.0V-2.5V Battery Cap. (mAh)	ESRAC (mΩ) (1 KHz)	Leakage Current (72hrs/mA)	Rated Current (A)	Max Current (A)	Weight/Unit (grams)	Energy Storage (W.h)
	D	L									
LIB1030Q4R0207	10	30	200	-10%～+30%	90	180	0.003	0.4	4.0	6.0	0.27
LIB1320Q4R0227	13	20	220	-10%～+30%	100	200	0.003	1.0	5.0	5.0	0.30
LIB1330Q4R0357	13	30	350	-10%～+30%	150	100	0.004	1.5	20.0	8.0	0.48
LIB1340Q4R0507	13	40	500	-10%～+30%	200	130	0.005	4.0	28.0	8.0	0.68
LIB1620Q4R0407	16	20	400	-10%～+30%	160	200	0.015	2.0	15.0	8.5	0.52
LIB1840Q4R0118	18	40	1100	-10%～+30%	450	65	0.023	6.0	40.0	20.0	1.49

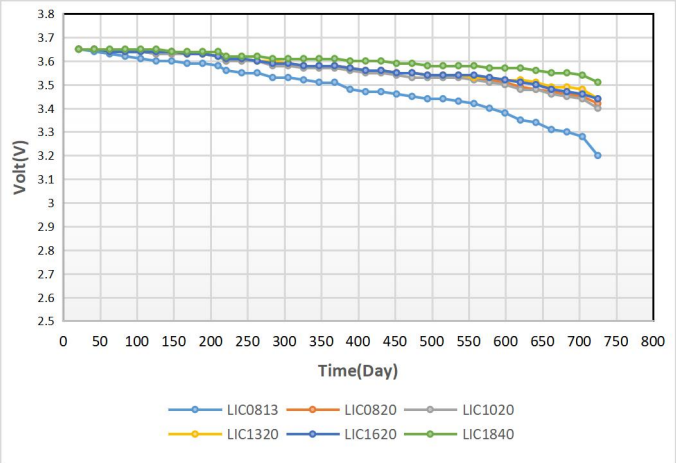
*** operating temperature can be extended to 85°C with appropriate voltage**

THE FEATURE DIAGRAM

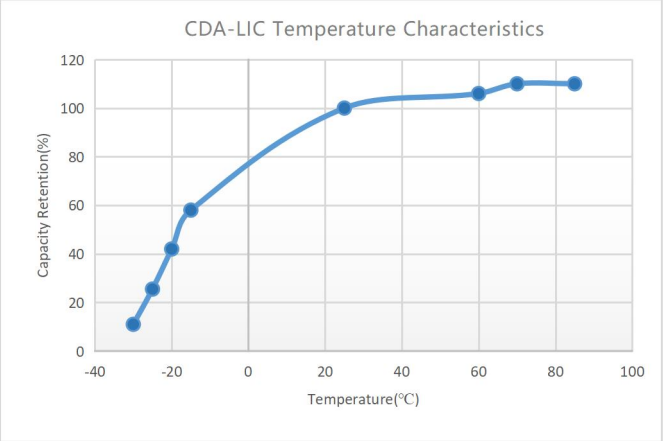
◉ Discharge multiplier characteristics

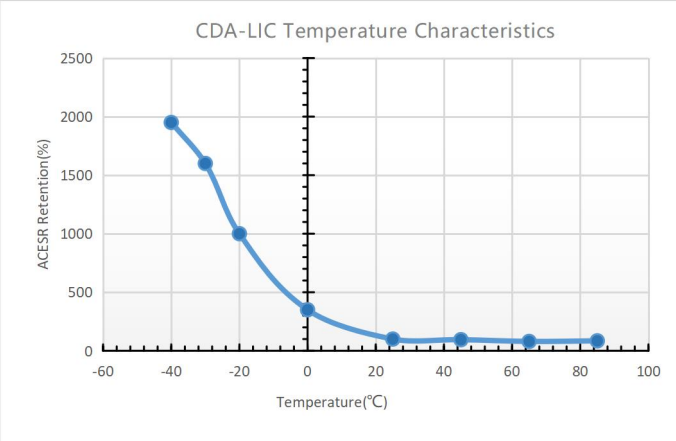


◉ LIC two-year self-discharge data

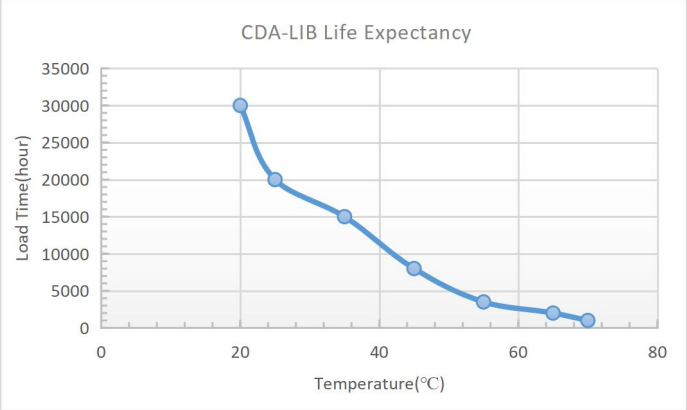


◉ Representative average temperature characteristics of capacitance and ESR.

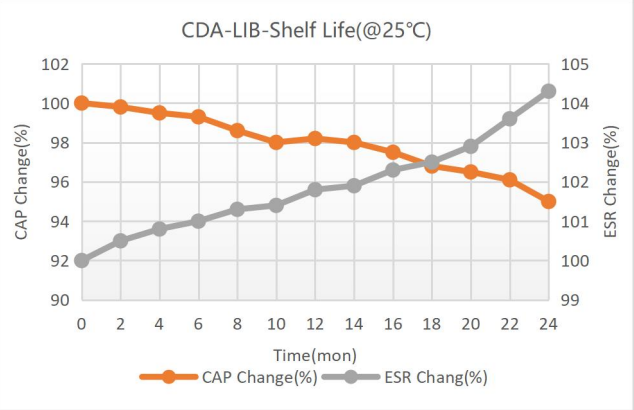




◉ Lifetime estimation at different temperatures.



◉ Shelf life at room temperature (@25 ℃)



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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 Over-voltage, 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