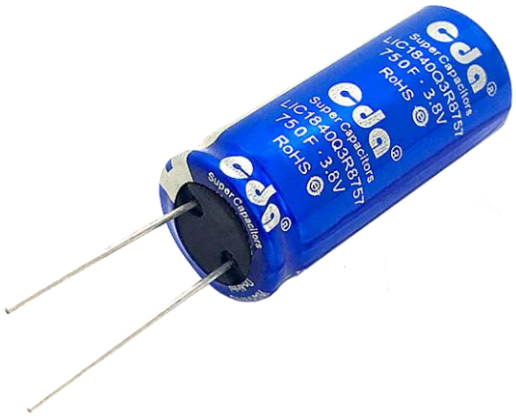
# LIC-D(3.8V)-40°C Series

## Low Temperature Series

www.cda-cap.com

## 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 ,Commercial trucks/containers asset tracking.

## 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 | 757 | * |
|---|---|---|---|---|---|
| Series | Size | Winding | Rated Voltage | Capacity | Special Code |

## GENERAL SPECIFICATIONS

| Item | Performance |
|---|---|
| Operating temperature | -40°C to +65°C @ 3.8V<br>-40°C to +85°C @ 3.5V |
| Storage temperature | -40°C to +85°C |
| Capacitance range | 120F 500F 750F |
| Capacitance tolerance | -20%~+20%(+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 +65°C)<br>Internal resistance: Within ±800% of initial measured value at +25°C (at -20°C) |
| Endurance<br>(At rated voltage & max. operating temp) | After 85°C 1000 hours (at:3.5V ):<br>Capacitance change: ±30% of initial rated value<br>Internal resistance: Within 4 times of initial specified value |
| Projected cycle life<br>(From rated voltage to 1/2 rated voltage at 25°C) | After 50,000 cycles:<br>Capacitance change: Within ±30 % of initial rated value<br>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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Spec. Date:2021-07-05

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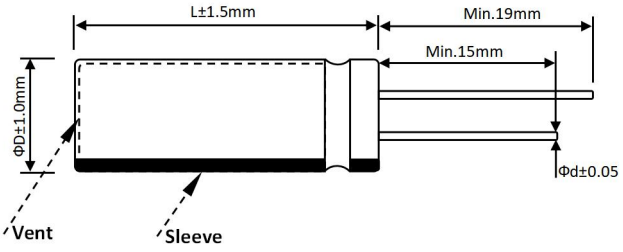
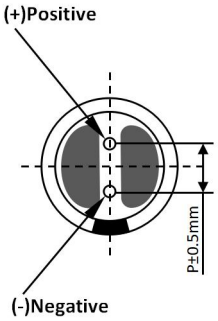
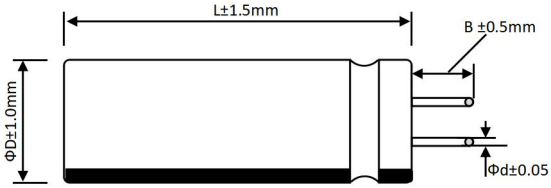
## DIMENSIONS

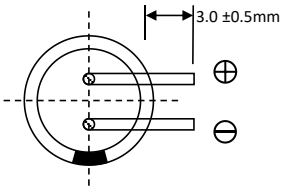



| Size(mm) | | |
|---|---|---|
| ΦD | P | Φd |
| 13 | 5.0 | 0.6 |
| 16 | 7.5 | 0.8 |
| 18 | 7.5 | 0.8 |

### 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 | | | | | | | |
| LIC1320Q3R8127-DT | 13 | 20 | 120 | 45 | 90 | 0.003 | 0.5 | 5.0 | 5.0 |
| LIC1640Q3R8507-DT | 16 | 40 | 500 | 200 | 30 | 0.015 | 2.0 | 20.0 | 15.0 |
| LIC1840Q3R8757-DT | 18 | 40 | 750 | 300 | 25 | 0.023 | 3.0 | 30.0 | 20.0 |

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

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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) = $\frac{(V^{\min 1}-V^{\min 2})\times C}{(1+ESR\times C)}$

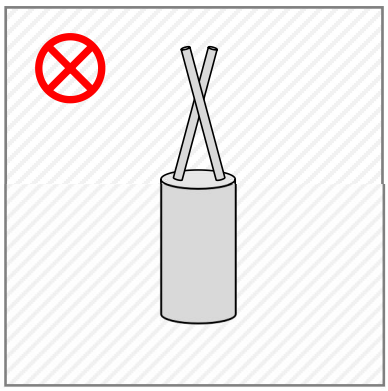
• Continuous current with a 15 °C temperature rise. Continuous current (A) = $\sqrt{\frac{\Delta T}{ESR\times Rth}}$

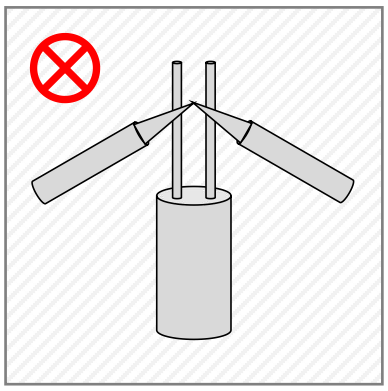
•Short circuit current is for safety information only. Do not use as operating current.

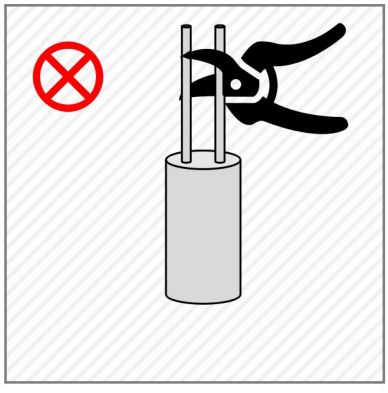
• Cycling between rated voltage and 2.5 V, 3 second rest at +20 °C.

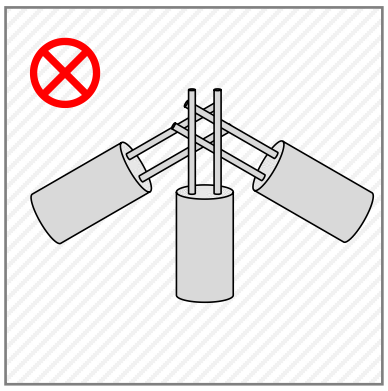
**Note:** Do not discharge Lithium Ion Capacitor below minimum working voltage.

## Precautions duringuse









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