

FEATURES

- High Pulse Power Capability
- Low ESR
- Low Leakage Current
- Large capacitance for high energy density
- No Explosion Safety

APPLICATIONS

- Camera Flash Systems ,Energy Harvesting ,GSM/GPRS Pulse Applications ,UPS/Industrial ,Wireless Alarms ,Remote Metering ,Scanners ,Toys and Games.



OPERATING TEMPERATURE RANGE

| Operating temperature | 7.5V Series | | 8.1V Series | | 9.0V Series | |
|-----------------------|-------------|------------|-------------|------------|-------------|------------|
| | Balanced | Unbalanced | Balanced | Unbalanced | Balanced | Unbalanced |
| -40°C to +65°C | 7.5V | 7.0V | 8.1V | 7.5V | 9.0V | 8.1V |
| -40°C to +85°C | 6.4V | 5.9V | 6.9V | 6.4V | / | / |

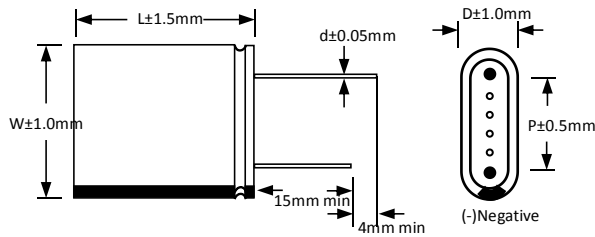
*With appropriate voltage operating temperature can be extended to 85°C

GENERAL SPECIFICATIONS

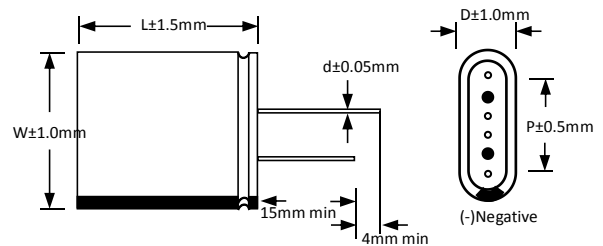
| Item | Performance |
|---|--|
| Storage temperature | -40°C to +65°C |
| Capacitance range | 0.33F to 6.5F |
| Capacitance tolerance | -10% to+30%:-0% to+100% |
| Rated voltage | 7.5 V/8.1 V/9.0 V |
| Temperature characteristics | Capacitance change: Within ±30% of initial measured value at +25°C Internal resistance: Within ±200% of initial measured value at +25°C |
| High temperature load time | After 85°C 1000 hours (at:6.4V/6.9V): 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 500,000 cycles: Capacitance change: Within ±30 % of initial rated value Internal resistance: Within 2 times of initial specified value |
| Humidity characteristic | Relative humidity: 90%~95% /Duration of testing:240 hrs /Temperature:40±2°C Capacitance change: Within ±30 % of initial rated value Internal resistance: Within 2 times of initial specified value |
| Vibration resistance | Amplitude:1.5mm /Frequency:10~55Hz /Duration of testing:6 hrs 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. |

DIMENSIONS

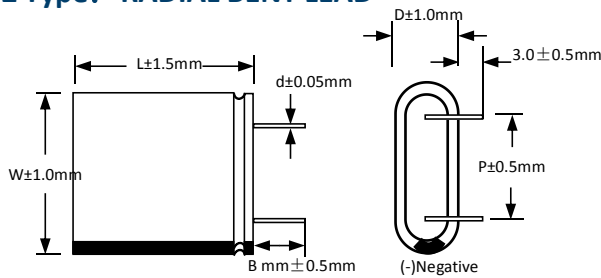
DA Type:



PC Type:



DZ Type: RADIAL BENT LEAD



| Cell Dia | D | W | P(mm) | | Φd |
|----------|------|----|---------|---------|-----|
| | | | DA Type | PC Type | |
| Φ8 | 8 | 24 | 20.5 | 13.5 | 0.6 |
| Φ10 | 10 | 31 | 26.5 | 16.5 | 0.6 |
| Φ12.5 | 12.5 | 28 | 31.5 | 22.5 | 0.6 |

| Cell Dia | DZ Type | | Φd |
|----------|---------|-------|-----|
| | P(mm) | B(mm) | |
| Φ8 | 13.5 | 2.0 | 0.6 |
| Φ10 | 16.5 | 2.0 | 0.6 |
| Φ12.5 | 22.5 | 2.0 | 0.6 |

*for version with bent leads

STANDARD PRODUCTS

| Part Number | Rated Voltage (V) | Rated Cap (F) | Size ΦWxDxL (mm) | Max.ESR | | Maximum Endurance Current(A) | Maximum Peak Current(A) | Maximum Leakage Current (72hrs/mA) | Power Density (W/Kg) | Maximum Energy (W.h) | Energy Density (Wh/kg) |
|-----------------|-------------------|---------------|------------------|-----------------|------------|------------------------------|-------------------------|------------------------------------|----------------------|----------------------|------------------------|
| | | | | ESRAC (1kHz/mΩ) | ESRDC (mΩ) | | | | | | |
| CZP-7R5L334R-TW | 7.5 | 0.33 | 24*8*14 | 450 | 900 | 0.38 | 0.99 | 0.006 | 2419 | 0.0026 | 0.9 |
| CZP-7R5L604R-TW | | 0.6 | 24*8*18 | 225 | 450 | 0.45 | 1.77 | 0.009 | 3947 | 0.0047 | 1.4 |
| CZP-7R5L105R-TW | | 1 | 24*8*22 | 180 | 360 | 0.56 | 2.76 | 0.011 | 4076 | 0.0078 | 2.0 |
| CZP-7R5L155R-TW | | 1.5 | 32*11*22 | 300 | 600 | 0.79 | 3.65 | 0.0020 | 1607 | 0.0117 | 1.7 |
| CZP-7R5L225R-TW | | 2.2 | 32*11*22 | 250 | 500 | 0.93 | 4.61 | 0.0023 | 1731 | 0.0172 | 2.2 |
| CZP-7R5L335R-TW | | 3.3 | 32*11*31 | 200 | 330 | 1.24 | 5.33 | 0.030 | 2351 | 0.0258 | 3.0 |
| CZP-7R5L505R-TW | | 5 | 38*13*28 | 160 | 260 | 1.80 | 10.66 | 0.055 | 1923 | 0.0391 | 2.9 |
| CZP-7R5L655R-TW | | 6.5 | 38*13*28 | 150 | 220 | 1.95 | 11.25 | 0.007 | 1918 | 0.0508 | 3.2 |
| CZP-8R1L334R-TW | 8.1 | 0.33 | 24*8*14 | 500 | 2900 | 0.24 | 0.69 | 0.007 | 897 | 0.0030 | 0.98 |
| CZP-8R1L604R-TW | | 0.6 | 24*8*18 | 400 | 1100 | 0.41 | 1.47 | 0.009 | 1934 | 0.0055 | 1.45 |
| CZP-8R1L105R-TW | | 1.0 | 24*8*22 | 350 | 850 | 0.50 | 2.20 | 0.012 | 1986 | 0.0091 | 1.93 |
| CZP-9R0L334R-TW | 9.0 | 0.33 | 24*8*14 | 500 | 2900 | 0.26 | 0.77 | 0.007 | 1072 | 0.0037 | 1.17 |
| CZP-9R0L604R-TW | | 0.6 | 24*8*18 | 400 | 1100 | 0.38 | 1.64 | 0.012 | 2308 | 0.0068 | 1.73 |
| CZP-9R0L105R-TW | | 1.0 | 24*8*22 | 350 | 850 | 0.53 | 2.45 | 0.018 | 2338 | 0.0113 | 2.27 |

Note: Adds passive balance. Balance options can be provided upon request. Customers can choose according to the application.



CZP(7.5V~9.0V) Series



Connected Module Series

www.cda-cap.com

SAFETY RECOMMENDATIONS

WARNINGS

- To Avoid Short Circuit, after usage or test, SuperCapacitors voltage needs to discharge to $\leq 0.1V$
- Do not Apply Overvoltage, Reverse Charge, Burn or Heat Higher than $150^{\circ}C$, explosion-proof valve may break open
- Do not Press, Damage or disassemble the SuperCapacitor, 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

PRECAUTIONS FOR WELDING

When soldering supercapacitors to a PCB, the temperature & time that the body of the supercapacitor sees during soldering can have a negative effect on performance. We advise following these guidelines:

- Do not immerse the supercapacitors in solder. Only the leads should come in contact with the solder.
- Ensure that the body of the supercapacitor is never in contact with the molten solder, the PCB or other components during soldering.
- Excessive temperatures or excessive temperature cycling during soldering may cause the safety vent to burst or the case to shrink or crack, potentially damaging the PCB or other components, and significantly reduce the life of the capacitor.

HAND SOLDERING

Keep distance between the supercapacitor body and the tip of the soldering iron and the tip should never touch the body of the capacitor. Contact between supercapacitor body and soldering iron will cause extensive damage to the supercapacitor, and change its electrical properties. It is recommended that the soldering iron temperature should be less than $350^{\circ}C$, and contact time should be limited to less than 4 seconds. Too much exposure to terminal heat during soldering can cause heat to transfer to the body of the supercapacitor, potentially damaging the electrical properties of the supercapacitor.

REGULATORY

- MSDS
- RoHS Compliant
- Reach Compliant

TRANSPORTATION

Not subjected to US DOT or IATA regulations
UN3499, <10Wh, Non-Hazardous Goods
International shipping description –
“Electronic Products – Capacitor”

TRANSPORTATION

Only use wave soldering on Radial type supercapacitors. The PCB should be preheated only from the bottom and for less than 60 seconds, with temperature at, or below, $100^{\circ}C$ on the top side of the board for PCBs equal to or greater than 0.8 mm thick.

| Solder Temperature ($^{\circ}C$) | Suggested Solder Time (s) | Maximum Solder Time (s) |
|---------------------------------------|------------------------------|----------------------------|
| 220 | 7 | 9 |
| 240 | 7 | 9 |
| 250 | 5 | 7 |
| 260 | 3 | 5 |

REFLOW SOLDERING

Infrared or conveyor over reflow techniques can be used on these supercapacitors. Do not use a traditional reflow oven without clear rated reflow temperature for supercapacitors.