ULP, *Ultra Low-Profile*, Aluminum Electrolytic Capacitors
New Product Intro

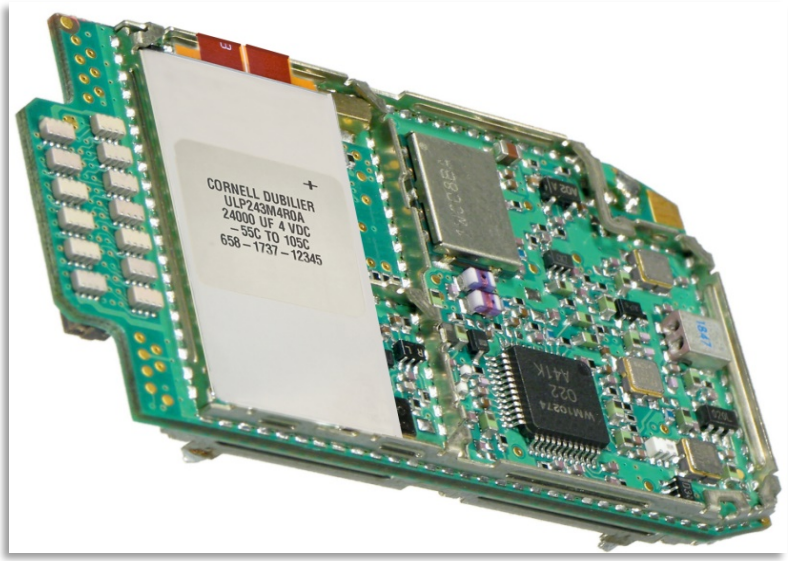
CDE ENERGIZING IDEAS
CORNELL DUBILIER

Traditional methods of low-profile bulk storage consume valuable PCB space!

- A single ULP has the same bulk storage capacitance as dozens of solid tantalum chip caps, depending on values!
- About 70% less board space than ULP alternatives!
- Eliminates wasted space between components in bulk arrays

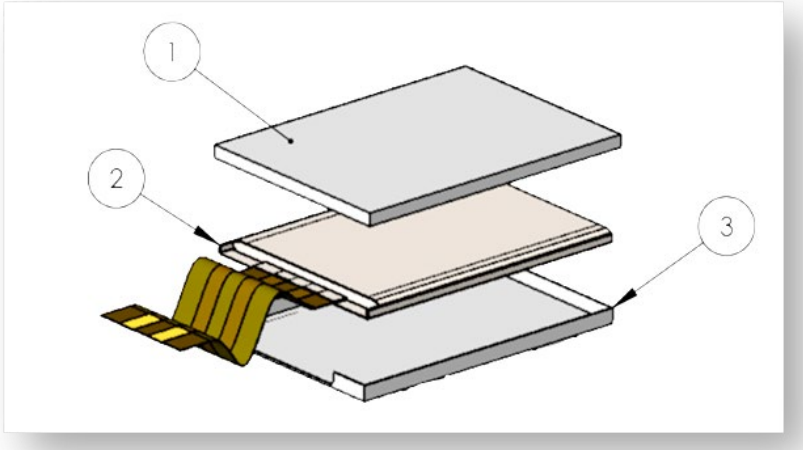
Smaller, more reliable circuits are possible with ULP, Ultra Low-Profile Capacitors.

- Lower in height than V-Chip SMT aluminum electrolytics and comparable height profile to solid tantalums with much greater bulk storage capability per unit area
- Provides high bulk storage capacitance in the least amount of space
- Overall size and weight of finished board is reduced
- Reduces component count, increases reliability



Keys to high performance and space savings

- Superior performance of an aluminum electrolytic in a low-profile package
  - 3,000 hr. life @ 85 °C
  - -40 to 85 °C at full-rated voltage
- Higher capacitance density due to unique packaging and seal system
  - Up to 0.4J/cc energy density
- Primary seal is a near-hermetic heat-sealed polymer. No rubber gaskets or grommets!



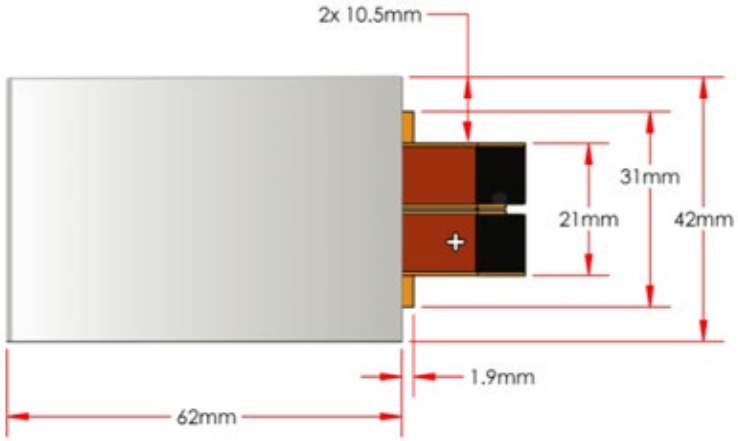
1. Case cover
2. Heat-sealed capacitor pouch
3. Bottom cover

Mechanical design characteristics.

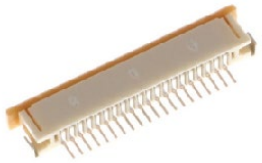
- Available in two case thicknesses of 2.2 or 3.2 mm with a footprint of 62 x 42mm
- Flex (FPC) Lead System allows on or off-board mounting
- Mating ZIF Connector
- Nickel-Silver outer case
  - Robust construction, 10g vibration rating
- Light weight

  2.2mm (17g)

  3.3mm (22g)



Mating Molex Connector
05227 12079



ULP Ultra Low-Profile series includes 16 values/voltage combinations.

Capacitance from 500µF to 24,000µF, 4 to 63 WVDC

WV (v)	ULP (2mm)	ULP (3mm)
	85 °C Cap (µF)	85 °C Cap (µF)
4.0	7,800	24,000
6.3	6,600	20,000
10	5,200	15,000
16	3,600	11,000
25	2,300	6,900
35	1,400	4,400
50	700	2,200
63	500	1,500

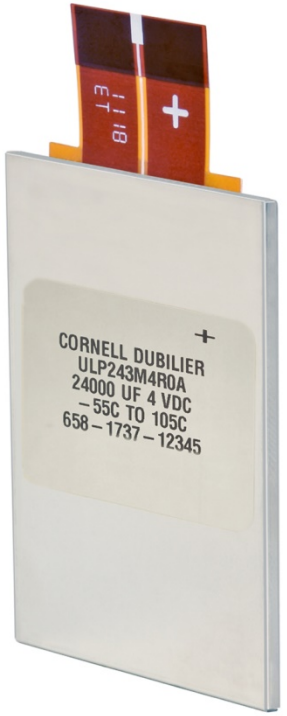
Designed for *maximum* capacitance in the *smallest* package.

ULP capacitors allows designers to "think thin," while achieving higher end-product performance...

- Bulk storage in portable devices
- Compact power supplies
  - Consumer
  - Industrial
  - Mil/Aero

ULP Ultra Low-Profile Series Summary

- Ultra-thin package design: 2 or 3mm
- One ULP capacitor has the same bulk storage capacity as dozens of solid tantalum chips, depending on values.
  - Not an alternative to hybrid tantalums or high ripple current types
- Up to 0.4J/cc energy density, saves space
- Values from 500µF to 24,000µF;
  4 to 63 WVDC
- Rated at 3,000 hours at 85 °C
- Reduce size, weight & cost
- Increases reliability – one device vs. many; fewer PCB connection points



Thank You!