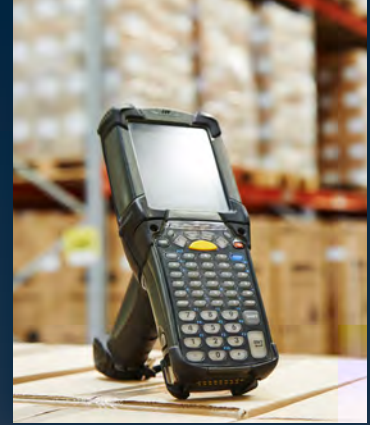


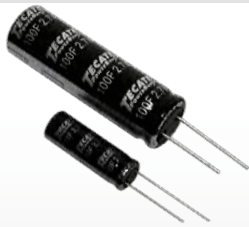
# Tecate Group

Customer-driven power solutions



**Ultracapacitors, Capacitors, and Assemblies**

## TPL 2.7V

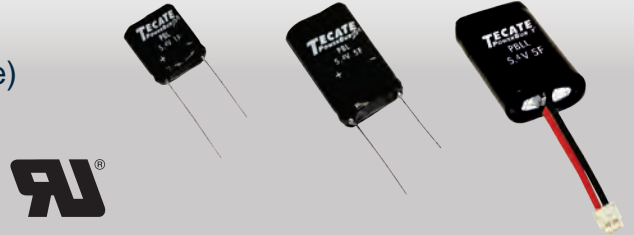


- Cylindrical package
- Radial leaded
- 0.5 ~ 100F
- UL recognized



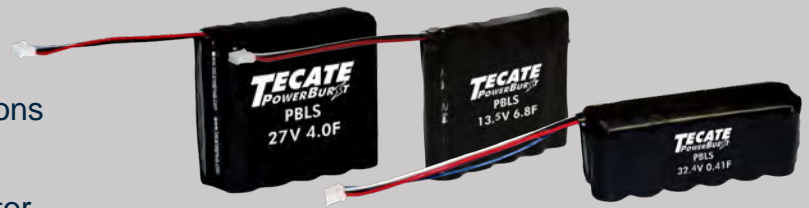
## PBL/PBLL 5.0/5.4V

- 0.25 ~ 15F
- Balancing option: active, passive, and NB (low leakage)
- Radial leaded with flexible lead and connector options
- Custom capacitance and voltage options
- UL recognized



## PBLS 8.1 ~ 32.4V

- 0.41 ~ 16.66F
- Unique slim-profile design
- Wide variety of capacitance and voltage options
- Flexible lead and connector options
- Passive cell balancing and on-board thermistor



-40 ~ +65°C

## TPLS 2.7V



- Cylindrical package
- Radial snap-in leads
- 100 ~ 400F
- UL recognized



## PC 2.5V



- Hermetically sealed
- Flat prismatic package
- 5.0mm Profile
- Radial leaded
- 4F, 10F
- Custom configurations available

## PBL/PBD 16.2V

- 25F and 58F modules
- Active cell balancing
- UL-recognized cells
- Screw terminals
- Shrink sleeving or metal enclosure



-40 ~ +65°C

## PC5-5 5V




- 2F
- Hermetically sealed thin prismatic design
- Active cell balancing
- Flexible leads and connector

-40 ~ +70°C



# Ultracapacitors and Modules

## TPLH 2.7V to 3.0V

- Extensive product offering from 0.50F to 3400F
- RoHS compliant
- UL recognized 
- Superior charge/discharge capability
- Long cycle life performance
- Maintenance free
- Customized small cells
- Wide operating voltages



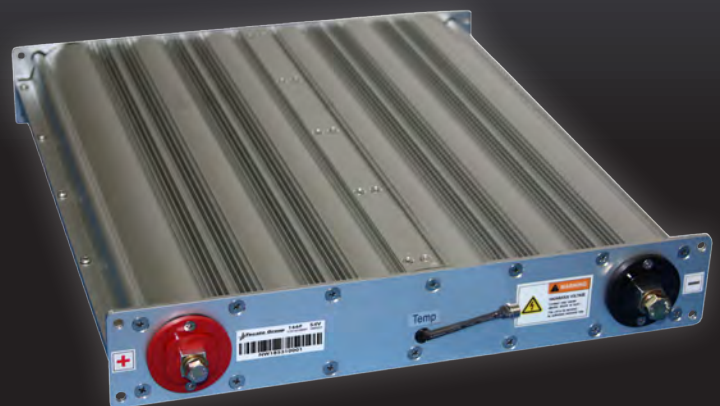
## PBLH 10.8V, 12V

- 87F, 100F, 112F, and 150F modules available in common form factor
- Passively balanced
- UL-recognized cells
- Ruggedized plastic housing
- Lug connections
- Lightweight with multiple mounting orientations



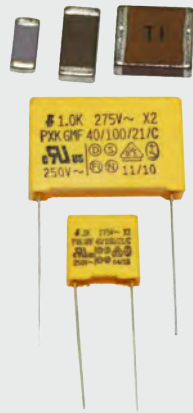
## PBLH 18V, 54V

- Active balancing
- Up to 1 million duty cycles or 10-year DC life
- 18V DC working voltage
- Active cell balancing
- Temperature output
- High power density
- Fully enclosed aluminum module
- UL-recognized cells



## Specialty

- Safety certified:
  - X2 Box film, 275 and 305VAC
  - X2 and Y1/Y2 SMT ceramics
- High voltage
- Arc protection
- Telecom tip & ring
- Snubber capacitor
- Hybrid conductive polymer
- Flexible termination SMT large geometry



Surface Mount, Radial

## Aluminum Electrolytic

- 0.1 ~ 82000 $\mu$ F, 4 ~ 500V
- -55 ~ +130°C
- Up to 12000-hour life
- Polar, non-polar
- General purpose
- Low leakage
- Low ESR



Surface Mount, Radial, and Snap-In

## Services

### Binning Capabilities

- Proprietary testing algorithms
- Multiple readings on each device to ensure no out-of-bin failures
- Bin range down to 0.1%
- Bin tolerance of  $\pm 0.05\%$
- Up to 100 bins



### Matched Pairs

- Pairs of capacitors matched to within 0.002 to 0.005%
- Each pair delivered in a single bag with a unique serial number and capacitance reading for each capacitor in the pair
- Original readings kept electronically
- Matched triplets (three capacitors) available

## Ceramic

- 0.4pF ~ 220  $\mu$ F, 4V ~ 6kV
- General purpose
- Tip & ring
- Safety certified
- Arc protection
- High voltage
- RF/microwave
- Flexible termination



Surface Mount, Axial, Radial, and Disc

## Film

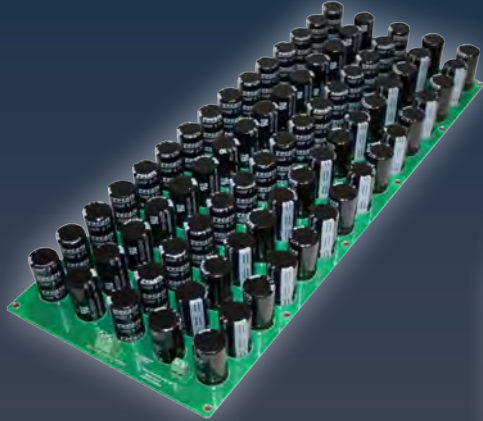
- 330pF ~ 18 $\mu$ F, 100 ~ 3kV
- High voltage
- High DV/DT
- Segmented
- Motor run
- Power factor correction
- PET, PPS, PEN, polypropylene film & foil metallized, and combination



Surface Mount, Axial, and Radial

## Design

- USA-based engineering
- SolidWorks 3D modeling
- Custom PCB layouts
- Higher-level circuit integration
- UL810-recognized cells and modules
- Build to print
- Quick-turn prototyping

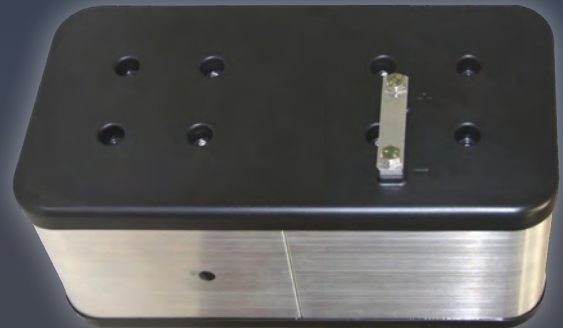


## Cells

- Cylindrical and prismatic
- Custom sizes and capacitances available
- 2.3V @ 85°C
- 2.7-3.0V @ 65°C
- 0.33 to 3400F
- Low ESR
- Passive & active cell voltage balancing available

## Interconnect

- Custom wire harnesses with customer-specified connectors
- Wire: various lengths, gauges, and colors
- Connectors or stripped and tinned leads
- Custom oversleeving for ease of wire routing
- Secondary wire harnesses for board location flexibility



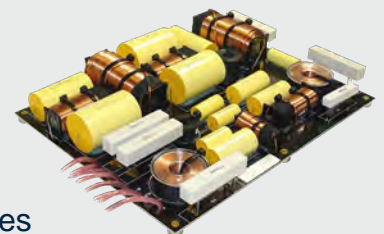
## Packaging

- Shrink sleeving
- Molded plastic and metal enclosures
- Epoxy potted modules
- Unique form factor for space-constrained applications



## Board Level Assemblies

- Surface-mount and through-hole
- PCB sub-assemblies
- Audio crossover networks
- Speaker input assemblies
- Box build and final product assemblies

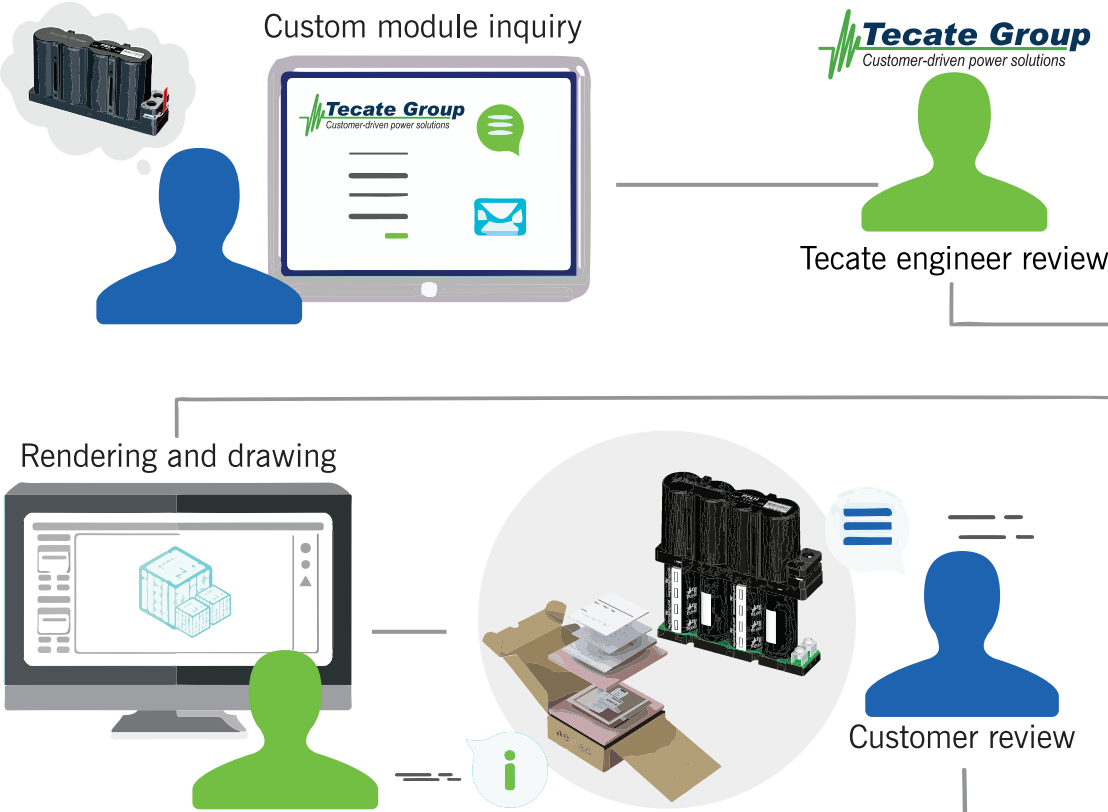


Capabilities include custom metal stamping and plastic injection molding



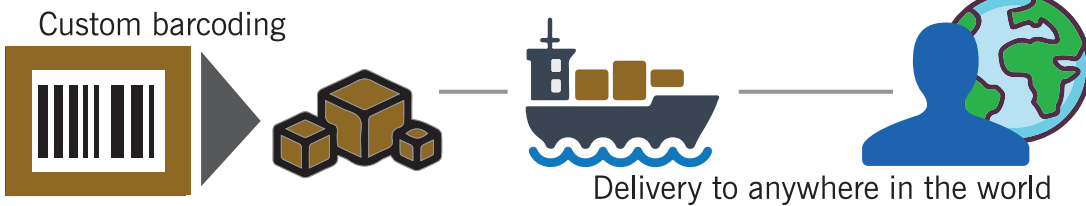
**Tecate Group** is based in San Diego, California and has 45 years of experience serving OEMs around the globe with capacitors and electronic assemblies.

# Tecate Experience











Custom modules undergo testing, certification, and documentation. Tecate also offers options for custom barcode design.





The Tecate experience includes freight consolidation for cost-effective distribution, logistics optimization, and drop shipments to any location.



## Specification confirmation

|  |  |
|--|--|
| <br>VOLTAGE               | <br>CURRENT                 |
| <br>DISCHARGE TIME        | <br>OPERATING TEMP          |
| <br>WIRE/<br>CONNECTORS   | <br>PHYSICAL<br>CONSTRAINTS |
| <br>PACKAGING/<br>COATING | <br>DOCUMENTATION           |

## Services

|  |   |
|--|---|
| <br>BARCODING | <br>COMPLIANCE |
| <br>TESTING   | <br>LOGISTICS  |

**ISO 9001:2015 Registered**



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