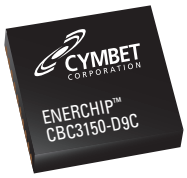
CYMBET CORPORATION

6 Reasons Why EnerChips Uniquely Enable Green Solutions

1 - The Safe Alternative to Legacy Batteries

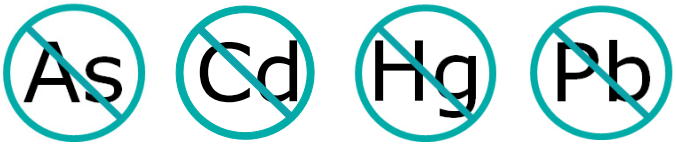
Cymbet EnerChip™ rechargeable Solid State Batteries (SSB) are created using semiconductor processing techniques on silicon wafers. The EnerChip devices are completely different from traditional batteries and super-capacitors that have dangerous and toxic waste disposal issues. New products that utilize EnerChip devices are freed from many of the use and disposal restrictions caused by using legacy technologies.



RoHS Compliant

2 - EnerChip Products are RoHS Compliant

To minimize the environmental impact, the EU and many countries restrict the use of certain hazardous substances, which include lead, cadmium, hexavalent chromium, mercury, polybrominated biphenyls [PBBs] and polybrominated diphenyl ethers [PBDEs] in electrical and electronic equipment. To achieve reduction of these substances, the European Commission has created a directive on “RoHS”. A complete analysis of the Cymbet EnerChip product family documented there is no cadmium, lead, mercury, hexavalent chromium, PBBs and PBDEs in formulation of the products. None of the ingredients for Cymbet products exhibit contamination by these heavy metals. On the basis of collected data, Cymbet has determined all EnerChip are RoHS Compliant.



3 - No Heavy Metals or other Hazardous Substances

In addition to RoHS compliance, Cymbet has performed additional analysis to insure EnerChip products do not contain hazardous substances as listed by the U.S. Agency for Toxic Substances and Disease Registry. EnerChip products do not contain Arsenic, Lead, Mercury, Cadmium or any other chemicals or compounds listed in the top 50 items on this CERCLA priority list.

4 - EnerChips are Environmentally Friendly

Since EnerChip devices have many attributes that make them eco-friendly including:

- EnerChip devices are 1000’s of times rechargeable so they last the lifetime of the product - no batteries to change and no special disposal needed
- No dangerous chemicals or gasses to leak out
- No flammable solvents, completely non-combustible
- EnerChips use surface mount technology, no holders or other connecting apparatus is used.
- EnerChips do not dry out and fail like batteries

5 - Safe to Transport Aboard Aircraft

All Cymbet EnerChip devices meet the requirements of 49 CFR Subchapter C Subsection 172.102 Special Provision 188. Therefore, they are not subject to any other requirements of Subchapter C (Hazardous Materials Regulations) as EnerChip devices are packaged to prevent short circuits and packed in strong packing for conditions normally encountered in transportation.

6 - Easy EnerChip Device Disposal

Because EnerChip devices are manufactured and packaged like other solid-state integrated circuits, they have similar disposal methods with no materials to recycle. Solid State Batteries are currently covered by the EU Battery Directive 2006/66/EC and are also a key eco-friendly technology development as described in Preamble item 12 to “encourage technical developments that improve the environmental performance of batteries and accumulators through their entire life cycle”. Contact the Cymbet Support Team for information on the methods for successfully meeting the EU directives and other global environmental initiatives.

EnerChip Devices Compliant

CE

Not Applicable to EnerChip Devices

For Additional Assistance Contact:
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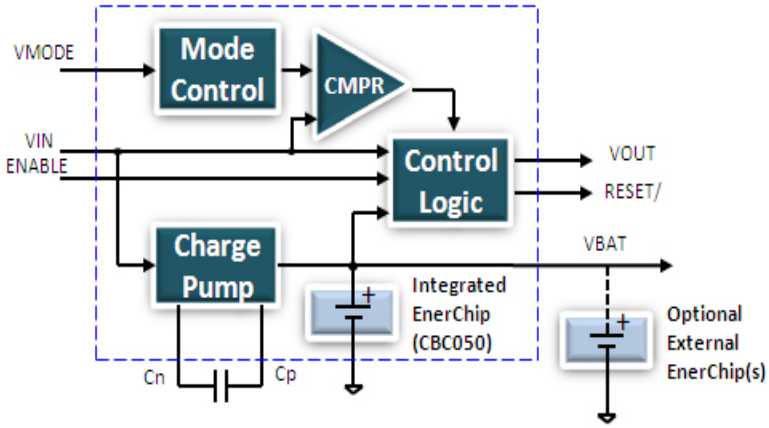
EnerChips: Compare to SuperCaps and Coin Cells

Feature	EnerChip CC	SuperCap	Coin Cell
High-cycle life (>5000)	✓	✓	X
No external charge circuit	✓	✓	X
No sockets/holders	✓	✓	X
SMT Assembly	✓	-	-
Low self discharge	✓	X	✓
Stable output voltage	✓	X	✓
Smaller area	✓	X	X
No hazardous chemicals	✓	X	X
Internal Supply Supervisor	✓	X	X
Power Fail Indicator	✓	X	X
Integrated DC-DC Converter	✓	X	X

EnerChip Applications

- **Standby supply** for non-volatile SRAM, Real-time clocks, controllers, supply supervisors, and other system-critical components.
- **Wireless sensors and RFID tags** and other powered, low duty cycle applications.
- **Localized power source** to keep microcontrollers and other devices alert in standby mode.
- **Power bridging** to provide back-up power to system during exchange of primary batteries.
- **Medical devices** can utilize EnerChip permanent power features for monitoring and wearables.
- **SmartCard Power** applications can leverage the small size of the EnerChip.
- **Energy Harvesting** is enabled by the thousands of charge cycles available on the EnerChip.

EnerChip™ CC CBC3150 Block Diagram



Cymbet Distribution Partners

AVNET · Digi-Key Corporation · MOUSER ELECTRONICS a tti company

Cymbet Product Solutions

Product	Description
	CBC012 – EnerChip 12uAh Rechargeable Solid State Battery - 6 pin DFN
	CBC050 – EnerChip 50uAh Rechargeable Solid State Battery - 16 pin QFN
	CBC3112 – EnerChip CC 12uAh Rechargeable Solid State Battery with Integrated Power Management -20 pin DFN
	CBC3150 – EnerChip CC 50uAh Rechargeable Solid State Battery with Integrated Power Management –20 pin DFN
	EnerChip Bare Die – 1uAh, 5uAh, 12uAh, 50uAh. Wire bond or bumped attach.
	CBC915 EnerChip Energy Processor with Maximum Peak Power Tracking
	CBC5300 - EnerChip EH Energy Harvesting Module
	CBC-EVAL-05 EnerChip Evaluation Kit with CBC3112 and CBC3150
	CBC-EVAL-08 EnerChip Solar Energy Harvesting Evaluation Kit
	CBC-EVAL-09 EnerChip Energy Processor Universal Energy Harvesting Kit
	CBC-EVAL-10 EnerChip CC Solar Energy Harvesting Evaluation Kit
	CBC-EVAL-11 EnerChip CC RF Induction Charging Evaluation Kit

Cymbet Strategic Investors

intel · Texas Instruments · Dow · BEKAERT

Industry Awards and Recognition

ACE Awards (EETimes) · best of sensors expo 2010 · Embedded Computing Design Editor's Choice

Eco-Friendly Environmental Compliance

RoHS Compliant · Air Transportation Safety Compliant · WEEE · REACH

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