

Overview

Cymbet is the leader in thin-film battery technology and integrated power management solutions. EnerChip™ is the world's first component packaged battery available in a surface-mount technology (SMT) package that can be used like any SMT device with reflow tolerance and automated pick-and-place compatibility. EnerChip eliminates the need for unreliable coin-cell holders or leaky super-caps and provides easy and cost-effective primary or back-up power. Superior recharge performance enables EnerChip to achieve thousands of charge-discharge cycles while maintaining the lowest self-discharge and fastest recharge times in the industry. Best-in-class specifications allow EnerChip to be used as a permanent power solution in a variety of applications and systems. With the environmentally friendly EnerChip, you get a reliable, low-profile, cost-effective solid-state thin-film battery that provides power when you need it, exactly where you want it.



CBC012

EnerChip 12µAh Battery

The EnerChip CBC012 is a solid state thin film rechargeable battery. It is designed to be surface mounted (SMT) and is reflow tolerant. The EnerChip provides thousands of recharge cycles and has a fast recharge time. The CBC012 is Eco-friendly and has no harmful gasses, liquids or special handling procedures. It is packaged in a 5 x 5 mm 6-pin DFN package. Operating Temp is -20 to 70 °C.

TECH SPECS

Output Voltage	3.8V
Capacity	12µAh
Recharge Time	30min
Charge Cycles	>5000



CBC050

EnerChip 50µAh Battery

The EnerChip CBC050 is a solid state thin film rechargeable battery. It is designed to be surface mounted (SMT) and is reflow tolerant. The EnerChip provides thousands of recharge cycles and has a fast recharge time. The CBC050 is Eco-friendly and has no harmful gasses, liquids or special handling procedures. It is packaged in an 8 x 8 mm 16-pin QFN package. Operating Temp is -20 to 70 °C.

TECH SPECS

Output Voltage	3.8V
Capacity	50µAh
Recharge Time	50min
Charge Cycles	>5000



CBC3112

EnerChip CC 12µAh with Integrated Battery Management

The EnerChip CC is the world's first Intelligent Thin Film Battery. It is an integrated solution that provides battery backup and power management in systems requiring power bridging and/or secondary power. A single EnerChip CC CBC3112 can charge up to 10 additional EnerChips connected in parallel. It is packaged in a 20-pin 7 x 7 mm DFN package for SMT and is reflow tolerant.

TECH SPECS

Output Voltage	3.3V
Capacity	12µAh
Recharge Time	30min
Charge Cycles	>5000



CBC3150

EnerChip CC 50µAh with Integrated Battery Management

The EnerChip CC is the world's first Intelligent Thin Film Battery. It is an integrated solution that provides battery backup and power management in systems requiring power bridging and/or secondary power. A single EnerChip CC CBC3150 can charge up to 10 additional EnerChips connected in parallel. It is packaged in a 20-pin 9 x 9 mm DFN package for SMT and is reflow tolerant.

TECH SPECS

Output Voltage	3.3V
Capacity	50µAh
Recharge Time	50min
Charge Cycles	>5000



CBC-EVAL-05

EnerChip CC Evaluation Kit

The EnerChip CC EVAL-05 evaluation kit contains both an EnerChip CC CBC3112 and an EnerChip CC CBC3150. Either Enerchip CC can be tested standalone, either internal Enerchip battery may be tested alone, or either EnerChip CC can control itself and the thin film battery in the other EnerChip CC. The EVAL-05 is packaged as a 24-pin dip that can be socketed on a test board.



TECH SPECS

Output Voltage	3.3V
Capacity	12,50,62µAh
Recharge Time	30-50min
Charge Cycles	>5000

EnerChip™ Applications and Comparisons

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.

Product	Back-up Time	Applications
CBC012 CBC3112 	1-7 days	RTC, SRAM, Thermostat, Microcontroller, Supply Supervisor, SuperCap replacement
CBC050 CBC3150 	1-3 weeks	RTC, SRAM, GPS, Microcontroller, Supply Supervisor, SuperCap and Coin Cell replacement, Energy Harvesting

EnerChip Advantages vs. SuperCaps and Coin Cells

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

*Note - A few SMT versions available

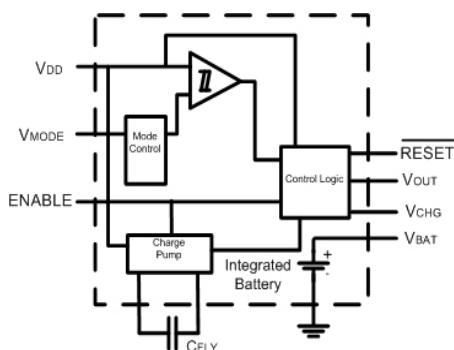


Figure 1 - EnerChip CC Internal Block Diagram

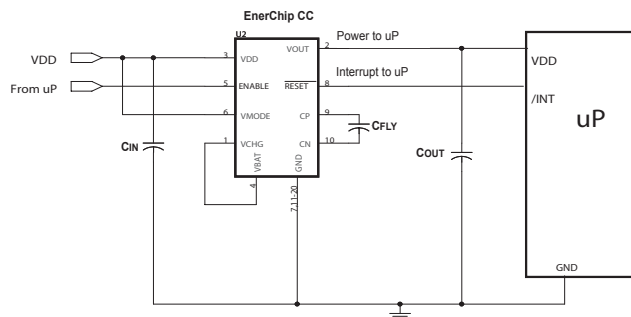


Figure 2 - Typical EnerChip CC Application Circuit

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