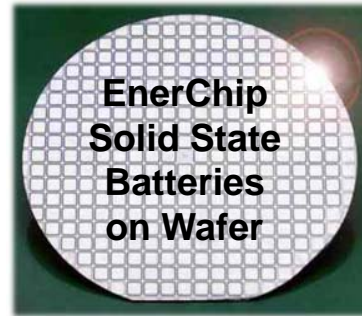# EnerChip™ Smart Rechargeable Batteries
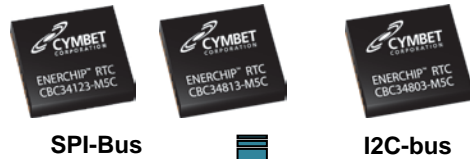
Meeting Customer Needs

- Never replace batteries
- Eco-friendly, no disposal issues
- Low cost automated assembly
- Thin profile - Small footprint
- Embed at board or chip level
- Flexible attachment options

EnerChip Solid State Batteries on Wafer

With Superior Solutions

- Simple "drop in" power
- SMT/Reflow solder tolerant
- No special transportation or disposal
- Rechargeable – Lasts life of product
- 2 Fabs for high volume production
- Many applications, many industries

RTC with Integrated EnerChip Backup

ENERCHIP™ RTC CBC34123-M5C

ENERCHIP™ RTC CBC34813-M5C

ENERCHIP™ RTC CBC34803-M5C

SPI-Bus　　　　**I2C-bus**

Healthcare

Networks

Wireless

Industrial

Embedded Energy

EnerChip Bare Die Batteries

Co-Package with other ICs

3D Bare Die Stacking

EnerChip Bare Die
µController, Sensor, RTC

Internet of Things and Nano-Wearable Tech

EnerChip Bare Die Batteries
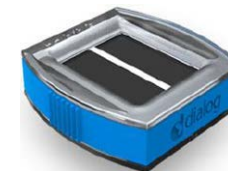
Energy Manager for Battery Extension

ENERCHIP™ RTC CBC34123-M5C

Bluetooth Smart Beacon

Internet of Things Wireless Sensors
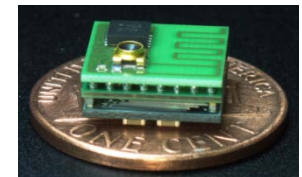
Feature	EnerChip	SuperCap	CoinCell
Small surface area	✓	?	!
High cycle life	✓	✓	!
Low self discharge	✓	!	✓
No hazardous chemicals	✓	!	!
Stable output voltage	✓	!	✓
Medical ready – Non-cytotoxic	✓	!	!
Low cost SMT assembly	✓	✓	?
Embed with other ICs	✓	!	!
Advanced power management	✓	!	!
Energy Manager/RTC	✓	!	!

Products	Description
▪	**CBC005 – EnerChip bare die 5uAh Rechargeable Battery 1.7 x 2.25mm**
▪	**CBC012 – EnerChip bare die 12uAh Rechargeable Battery 2.8 x 3.5mm**
▪	**CBC050 – EnerChip bare die 50uAh Rechargeable Battery 5.7 x 6.1mm**
▪	**CBC910 – Power Management bare die for EnerChip battery management 1.1 x 1.1mm**
	CBC34123 – EnerChip RTC: Real Time Clock + EnerChip + PMIC 5x5mm 16-pin QFN, SPI
	CBC34803 – EnerChip RTC: RTC+ EnerChip + PMIC 5x5mm 16-pin QFN I2C-bus
	CBC34813 – EnerChip RTC: RTC+ EnerChip + PMIC 5x5mm 16-pin QFN SPI-bus
	CBC-EVAL-12 – EnerChip RTC Eval kit – USB to PC with tabs for 34123, 34803 or 34813

RTC + EnerChip + PMIC in a Chip

30 hours Backup   **100 hours Backup**

**CBC34123
SPI-bus
NXP RTC**

**CBC34803 I2C-bus
CBC34813 SPI-bus
Ambiq Micro RTC**

Key Customer Power Backup Questions:

1. Backing up time, data registers, other?
2. Current draw of the device to be powered?
3. Determine back-up time, 99.7% are < 4 hours?
4. Is small footprint, thin package important?
5. Issues using coin cells or supercaps?
6. Is battery replacement or disposal important?
7. Is SMT, reflow solder & RoHS needed?
8. Need Power Fail Detect or Using V_{BAT} pin?

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