



# EnerCera<sup>®</sup> Pouch EC382704P-Hr

## Key Features of EnerCera Pouch

- Ultra-thin lithium-ion rechargeable battery, ideal for IoT and compact electronics.
- Proprietary crystal-oriented ceramic technology enables:
  - High energy capacity
  - Thin and compact design
  - Low internal resistance
  - Excellent heat resistance
- Only 0.45 mm thick, suitable for embedding in IC cards. Compliant with ISO/IEC 10373-1 bending durability.

## Features of EC382704P-Hr

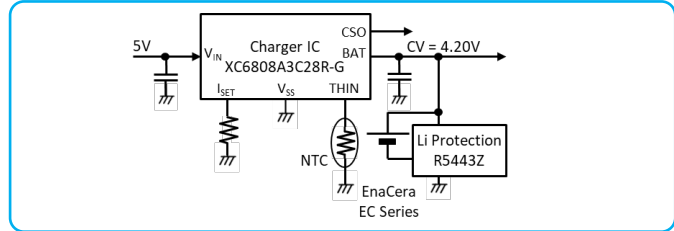
- High-Heat Resistant Model for Hot Lamination.

	High heat resistance
<b>Model Number</b>	<b>EC382704P-Hr</b>
Dimensions (without terminals)	38mm × 27mm
Thickness (with terminals)	0.45mm
Nominal Capacity (Charging Voltage)	20mAh (4.2V)
Nominal Voltage	3.8 V
Charging Method	Constant Current (CC) – Constant Voltage (CV) charging
Charging Voltage	4.2V
Operating Voltage	3.0V ~ 4.2V
(Ref.) Peak Discharge Current ※1	130mA
Operation Temperature	Discharge : -20°C~60°C (Charge : 0°C~60°C)

※1 Voltage drop is less than 0.5V with continuous discharge for 0.1 sec. (at 25°C)

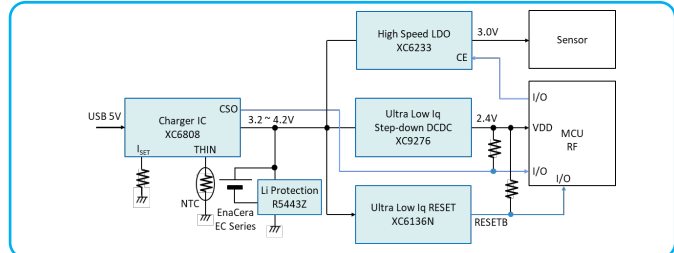
**[Precautions]** Please refer to the second page before using this product. Please obtain the “User Guide” and read the sections “Safety Precautions” and “Usage Notes” before use.

## Example charging circuit



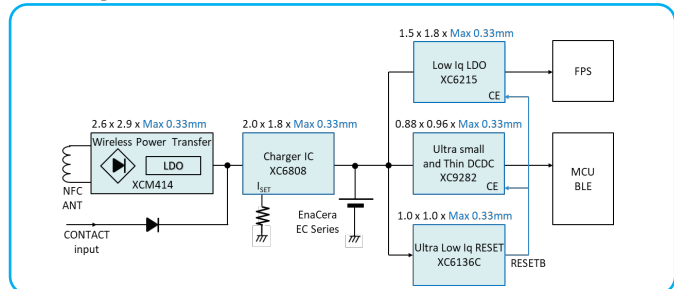
Select a charging IC compatible with the battery’s voltage and recommended temperature range. Use an NTC thermistor near the battery and enable the IC’s temperature control function. A lithium battery protection circuit is required and must be added externally, as it is not built into the battery.

## Example Circuit for IoT Applications



Ultra-low-power DC/DC supplies MCU/comms; high-speed LDO powers sensors. Li-ion protection IC prevents overcharge, overdischarge, and overcurrent.

## Example Circuit for Smart Card



Supports power supply from both NFC antenna and contact terminals. Due to the lack of a Li-ion protection IC suitable for Smart Card thickness, a low-power reset IC is used to turn off power ICs during undervoltage, providing basic overdischarge protection.

## Precautions

# EnerCera<sup>®</sup> Pouch EC382704P-Hr

EnerCera batteries sold online are intended for experimental and evaluation purposes only.

If you are considering using them for mass production, please contact us in advance.

These products are not intended for use by general consumers, including charging/discharging, integration into devices, or removal from devices.

Please contact us before using this product in any of the following applications:

- Nuclear control systems, transportation equipment (railways, vehicles, aircraft, ships, etc.), medical devices, safety equipment, or any systems, machinery, or devices where failure could pose a risk to human life or property.
- Any other applications requiring exceptionally high reliability or safety, similar to those listed above.

While this product is designed for heat and pressure-based integration, certain implementation constraints apply. Please contact us beforehand for guidance.

Note: This product is not compatible with reflow soldering.

This product is shipped in a charged state. Do not short-circuit the positive (+) and negative (-) terminals.

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