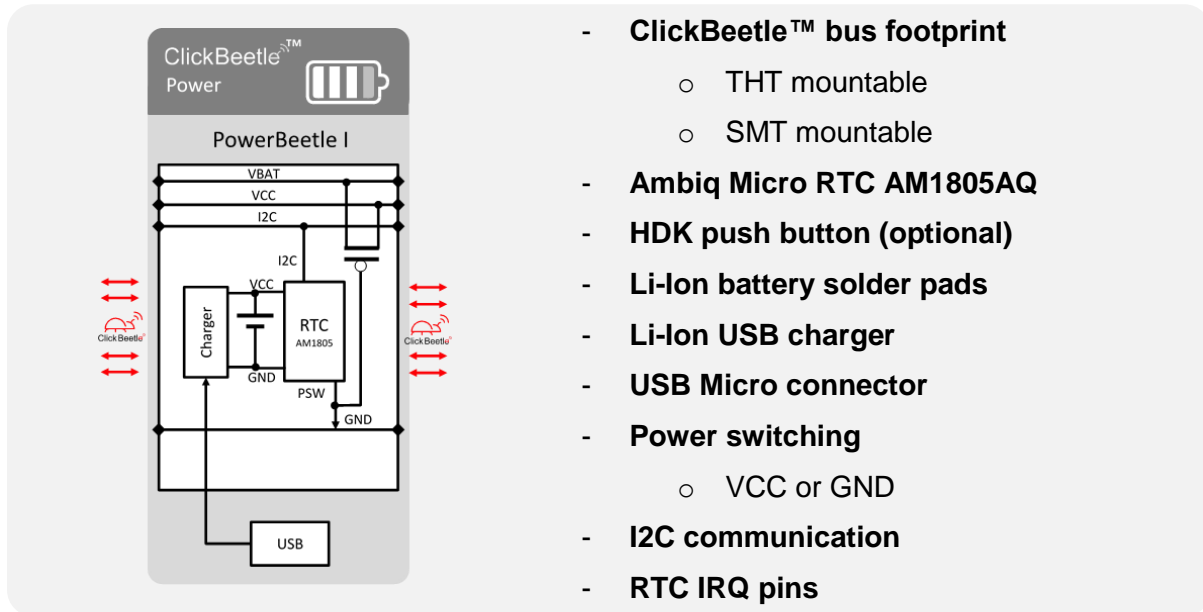


FEEU ClickBeetle[™] - Reference Platform: PowerBeetle I

PowerBeetle I is part of the ClickBeetle Reference Platform and adds a power features with RTC/PMIC and charger to the application. PowerBeetle I contains an Ambiq Micro RTC with ultra-low-power consumption bundled with a LiPo charger chip.



Ambiq Micro RTC AM1805AQ:

- **Ultra-low supply current of:**
 - o 22nA (calibrated RC clock)
 - o 55nA (crystal oscillator)
- **Advanced timekeeping features:**
 - o Integrated power optimized RC oscillator
 - o Advanced crystal calibration to ± 2 ppm
 - o Advanced RC calibration to ± 16 ppm
 - o Automatic calibration of RC oscillator to crystal oscillator
 - o Watchdog timer with hardware reset
 - o 256 bytes of general purpose RAM
- **Power management features:**
 - o Integrated $\sim 1\Omega$ power switch for off-chip components such as a host MCU
 - o System sleep manager for managing host processor wake/sleep states
 - o External reset signal monitor
 - o Reset output generator
 - o Supercapacitor trickle charger with programmable charging current
 - o Automatic switchover to VBAT
 - o External interrupt monitor
 - o Programmable low battery detection threshold
 - o Programmable analog voltage comparator
- I2C (up to 400 kHz) and 3-wire or 4-wire SPI (up to 2 MHz) serial interfaces available
- Operating voltage 1.5-3.6 V
- Clock and RAM retention voltage 1.5-3.6 V
- Operating temperature -40 to 85 °C
- All inputs include Schmitt Triggers
- 3x3 mm QFN-16 package
- Also available in wafer form

Li-Ion USB charger:

- Can charge a LiPo cell via USB
 - o For Example: 7.000.8-PCM-M of lipopower.de: 80 mAh, 3.7V, one-cell 1C with protection circuit and cable

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