JW3370

4~10 Series Cell Battery Monitor and Protection IC

Preliminary Specifications Subject to Change without Notice

DESCRIPTION

JW®3370 is a multi-cell battery stack monitoring and protection IC that includes a 14-bit ADC for battery voltage and temperature sense, a 16-bit ADC for charge/discharge current sense.

JW3370 provides passive balance function for each cell and allows at most 3 consecutive cells being discharged simultaneously.

JW3370 communicates with external control unit via SPI interface. More JW3370 can operate in series to monitor long string battery.

JW3370 integrates complete protection function including over/under voltage, over/under temperature, over charge/discharge current, short and open wire.

JW3370 supports both Sleep mode and Ship mode to achieve high efficiency with low power when charge/discharge current is minor.
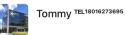
FEATURES

- Monitor 10 series cell battery and support series operation
- 14-bit ΔΣ ADC samples battery voltage and accuracy is $\pm$7mV@2.3~4.3V
- Provide filtering mode

- 3 channels thermal sense and accuracy is ±1℃ (no considering NTC resistor offset)
- Battery over/under voltage protection
- Battery over/under temperature protection
- Open wire connection detection
- 10 cells passive balance
  On-chip passive cell balancing switches
  Provide off-chip passive balancing
- 16-bit ΔΣ ADC senses charge/discharge current and accuracy is
  ±150µV@(-100 mV ~100mV),
  ±300µV@(-190 mV ~190mV),
- Over Charge/Discharge current protection
- Discharge Short protection
- Reliable SPI communication (mode3)
- 3.3V LDO output for external application
- External protection N-MOSFETs
- Low power consumption
  During operation   1mA typ. 1.5mA max
  (Power consumption of communication and temperature detection is not included)
  During Sleep   18µA typ. 20µA max
  During Ship   3µA typ. 4µA max
- Package: TSSOP38

APPLICATIONS

- Electric Bicycles, Motorcycles.
- Backup Battery Systems
- Hybrid Electric Vehicle

JW3370 Rev.0.2
2022/03/01

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1

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