

Parameters Subject to Change Without Notice

DESCRIPTION

JW[®]3311 is a multi-cell battery protection IC that includes high-accuracy voltage detection circuits and delay circuits. It is possible for users to monitor the status of 8~10 series cell lithium-ion rechargeable battery pack.

JW3311 provides multiple protect functions including over-charge, over-discharge, over-current, over-temperature and open wire detection. More JW3311s can operate in cascade to protect long string battery.

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FEATURES

- Wide range of operation voltage 6V to 60V
- Monitor 8~10 series cell battery and support cascaded operation
- High-accuracy voltage detection for each cell
Overcharge detection voltage V_{OC} :
3.6~4.4V (50mV step)
Accuracy $\pm 25mV$
Overcharge release hysteresis V_{OCH} :
0.1~0.4V (100mV step)
Over discharge detection voltage V_{OD} :
2.3~3.0V (100mV step) Accuracy $\pm 80mV$
Over discharge release hysteresis V_{ODH} :
0.2~0.5V (100mV step)
- Charge over current detection voltage: V_{COI}
10 mV, 30 mV, 50 mV, none
- Discharge over current detection in 3-step
1st detection voltage V_{DOI1} :
0.05~0.2V (50mV step) Accuracy $\pm 10mV$
2nd detection voltage V_{DOI2} :
 $2V_{DOI1}$ (100mV step) Accuracy $\pm 20mV$

- Short circuit detection voltage V_{SHT} :
0.4~0.7V (100mV step) Accuracy $\pm 80mV$
- High-accuracy battery temperature detection
Charging over-temperature protection threshold:
0.85V (50°C) Accuracy $\pm 30mV$ ($\pm 4^\circ C$)
Charging under-temperature protection threshold:
0.23V (-10°C) Accuracy $\pm 30mV$ ($\pm 4^\circ C$)
Discharging over-temperature protection threshold:
0.98V (70°C) Accuracy $\pm 25mV$ ($\pm 4^\circ C$)
- Overcharge protection and release delay time, Over discharge protection and release delay time, Load short circuit protection and release delay time is fixed
- Programmable by external capacitor:
Discharge over current detection delay time,
1st: 0.1~10s 2nd: (0.1~10s) $\times 1\%$
- Discharge disable mode selectable
- Open wire detection
- Charging Permission (CP) condition check
- Wide range of operation temperature
-40°C to +85°C
- Low current consumption
Full power mode 20uA max. (T=25°C)
Sleep mode 12uA max. (T=25°C)
Shutdown mode 350nA max. (T=25°C)
- Package: 24-Pin TSSOP

APPLICATIONS

- Rechargeable lithium-ion battery pack
- Electric Bicycles, Motorcycles
- Backup Battery Systems
- Hybrid Electric Vehicles