## 1 Outline

This specification is suitable 3-serial-cell Lithium ion Battery Protection circuit

## 2 Application

Lithium-ion rechargeable battery packs
Lithium-ion polymer battery packs

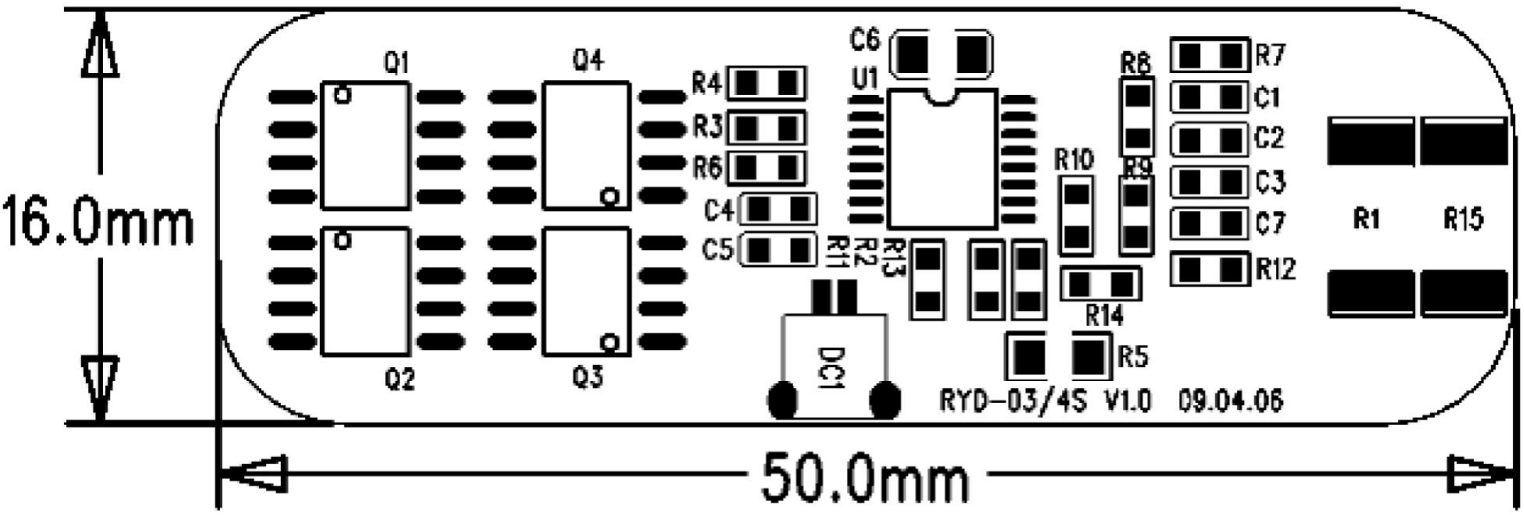
## 3 Electrical characteristics

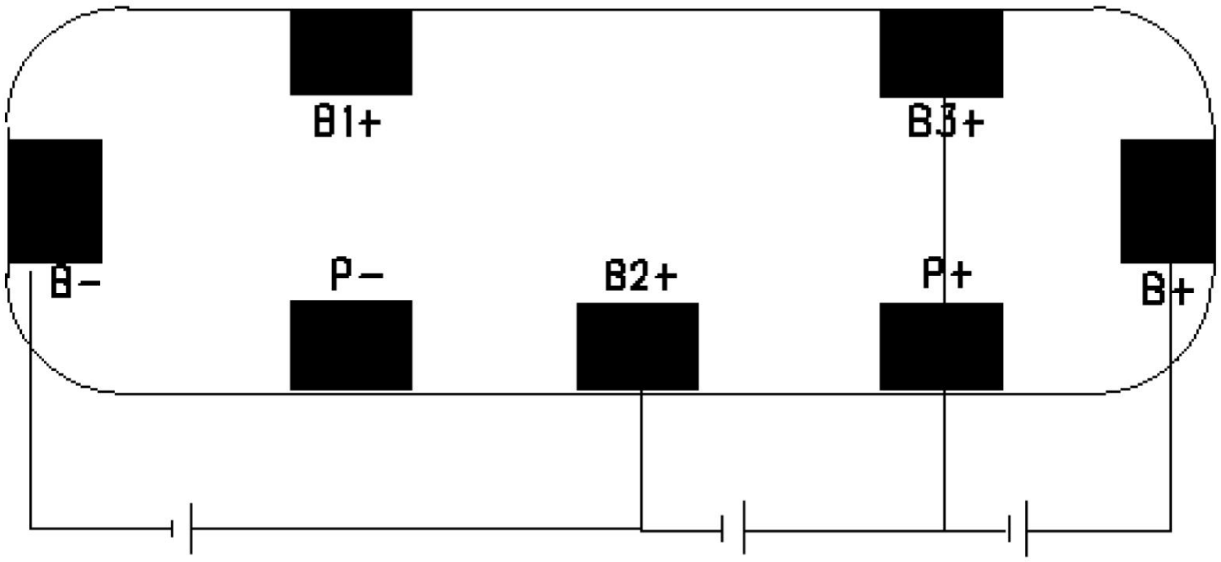
| Item | Content | Criterion |
|---|---|---|
| Over charge Protection | Over charge detection voltage | 4.35±0.025V |
| | Over charge release voltage | 4.15±0.05V |
| Over discharge protection | Over discharge detection voltage | 2.4±0.08V |
| | Over discharge release voltage | 3.0±0.1V |
| | Rated operational current | 5A |
| Over current protection | Over current detection current | 5.7-7.7A |
| | Release condition | Cut load |
| | Detection delay time | 8.0～16.0ms |
| Short protection | Detection condition | Exterior short circuit |
| | Release condition | Cut short circuit |
| Interior resistance | Main loop electrify resistance | $V_C$=4.2V； $R_{DS}$≤60mΩ |
| Current consumption | Current consume in normal operation | 30μA Max |
| Dimension(L*W*H) | 50*16*1.1mm | |

## 4 Parts list

| No | Part name | Specification | Pack type | Location | Q'ty | Remark |
|---|---|---|---|---|---|---|
| 1 | Resistance | 0Ω-1/16W-0603-5% | 0603 | R14 | 1 | |
| 2 | Resistance | 1K-1/16W-0603-5% | 0603 | R2,R7--12，R13 | 8 | |
| 3 | Resistance | 1M-1/16W-0603-5% | 0603 | R4 | 1 | |
| 4 | Resistance | 5.1K-1/16W-0603-5% | 0603 | R3,R6 | 2 | |
| 5 | Resistance | 51Ω-1/10W-0805-5% | 0805 | R5 | 1 | |
| 6 | Resistance | 30m-1W-2512-1% | 2512 | R1 | 1 | |
| 7 | Capacitance | 2.2uF-25V-0805-10% | 0805 | C6 | 1 | |
| 8 | Capacitance | 0.1uF-50V-0603-10% | 0603 | C1--5，C7 | 6 | |
| 9 | MOSFET | AO4429 | SO-8 | Q2-3 | 2 | |
| 10 | IC | S-8254AAFFT | TSSOP-16 | U1 | 1 | |
| 11 | PCB | Print circuit board FR4 no lead | double-face | RYD-034S V1.0 | 1 | |

## 5 PCM layout




## 6 Terminal explanations

6.1 B+：Connected to the third battery's positive terminal
6.2 B3+：Connected to the second battery's positive terminal
6.3 B2+：Connected to the first battery's positive terminal
6.4 B1+：NO connected
6.5 B-：Connected to the first battery's negative terminal
6.6 P+：Connected to the battery's output or the charger's positive terminal
6.7 P-：Connected to the battery's output or the charger's negative terminal