Protection Circuit Module (PCM)

Recommendations for CoinPower

October 19

Protection Circuit Module (PCM)

CoinPower must be operated with PCM.

Protects in case of:

- ***Overcharge***
- ***Deep discharge***

- ***High discharge current***
- ***Overcharge current***

PCM can be placed everywhere:

- *direct to the cell*
- *on separate PCB*
- *on main PCB.*

Recommended PCM:

- **SG Micro**
  - **SGM41100V**
- **Ricoh**
  - **R5613L**
- **Seiko**
  - **S8211CAY**
  - **S8200A**
- **Texas Instruments**
  - **BQ 29700**
  - **BQ 29707**
- **Diodes**
  - **AP 9211**

Protection Circuit Module (PCM) – reference design

SG Micro SGM41100V

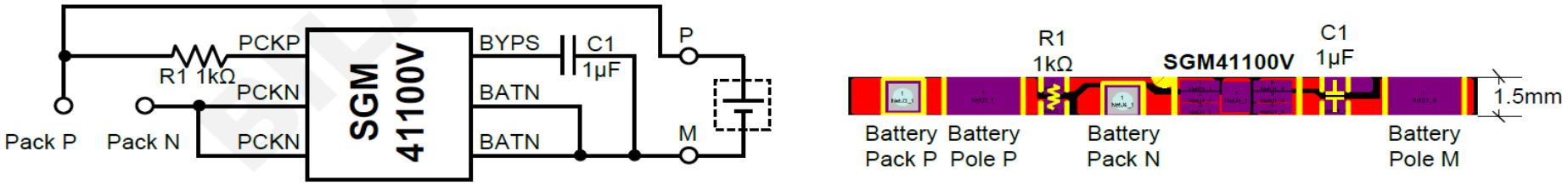
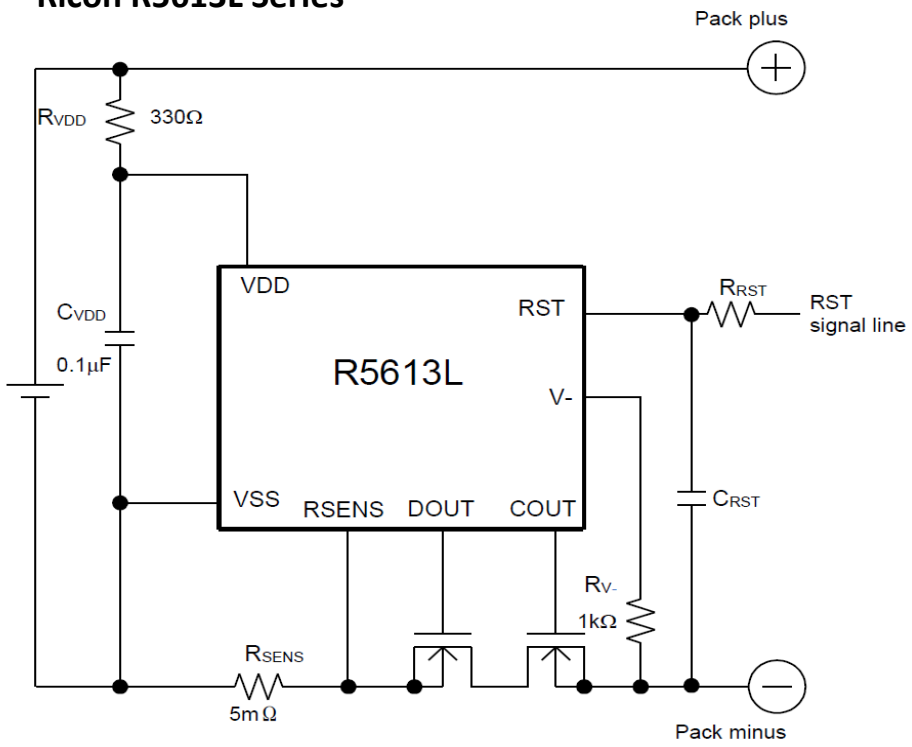


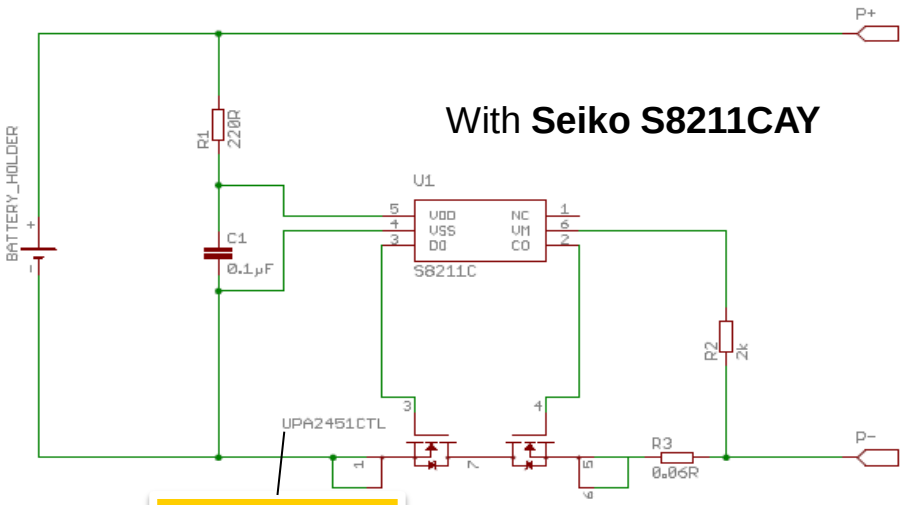
Figure 1. Typical Application Circuit and Demonstration Board Outline

Protection Circuit Module (PCM) – reference design

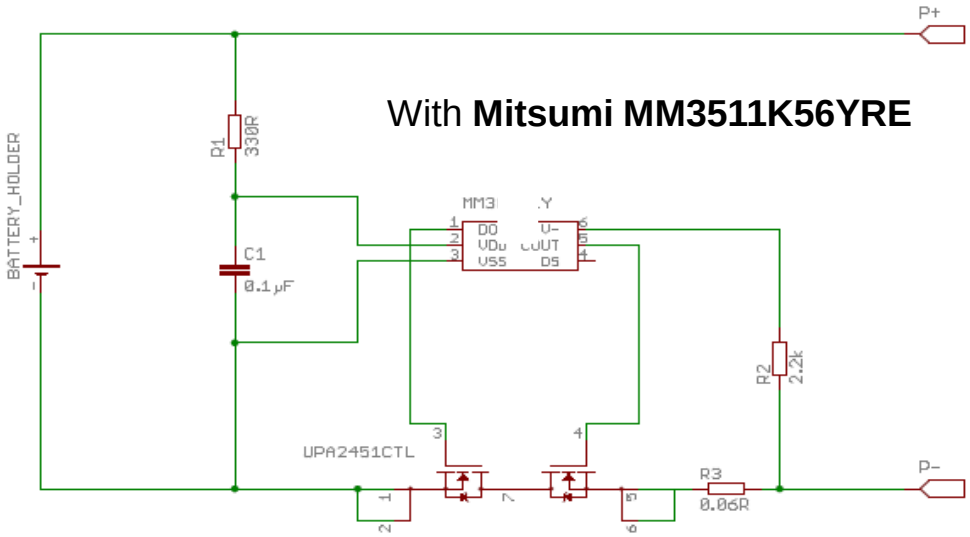
Ricoh R5613L Series



Protection Circuit Module (PCM) – reference design



The small series resistor R3 (60mOhm) allows overcurrent protection being active at 500mA overcurrent.



Protection Circuit Module (PCM) reference specification

CoinPower Series – general values

Overvoltage detection:	**4.3V +/- 0.025V**
Overvoltage detection release:	**4.1V +/- 0.025V**
Overvoltage detection delay:	**1s +/- 200ms**
Undervoltage detection:	**2.75V +/- 100mV**
Undervoltage detection release:	**3V +/- 100mV**
Undervoltage detection delay:	**20ms +/- 5ms**
Overcurrent detection delay:	**5ms +/-2ms**
Short circuit detection delay:	**500µs +/- 100µs**
Current consumption (normal):	***5.5µA***
Current consumption (shutdown):	***0.1µA***
Impedance:	***max. 500mOhm***

specific current values

CoinPower CP1254 A3 (60mAh)	
Overcurrent detection @ dsg:	**max. 220mA +/-10mA**
Overcurrent detection @ chg:	**max. 100mA +/-10mA***
Short-Circuit detection	**max. 400mA +/-10mA**
CoinPower CP1454 A3 (85mAh)	
Overcurrent detection @ dsg:	**max. 280mA +/-10mA**
Overcurrent detection @ chg:	**max. 120mA +/-10mA***
Short-Circuit detection	**max. 600mA +/-10mA**
CoinPower CP1654 A3 (120mAh)	
Overcurrent detection @ dsg:	**max. 380mA +/-10mA**
Overcurrent detection @ chg:	**max. 150mA +/-10mA***
Short-Circuit detection	**max. 700mA +/-10mA**

values for 1C-charging. For rapid charging values must be adjusted.

Contact details

The Netherlands

Elektrostraat 17
NL-7483 PG Haaksbergen

T: +31 (0)53 573 33 33
F: +31 (0)53 573 33 30
E: nl@texim-europe.com

Belgium

Zuiderlaan 14 bus 10
B-1731 Zellik

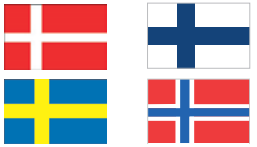
T: +32 (0)2 462 01 00
F: +32 (0)2 462 01 25
E: belgium@texim-europe.com

UK & Ireland

St. Mary's House, Church Lane
Carlton Le Moorland
Lincoln LN5 9HS

T: +44 (0)1522 789 555
F: +44 (0)845 299 22 26
E: uk@texim-europe.com

Nordic region



Sdr. Jagtvej 12
DK-2970 Hørsholm

T: +45 88 20 26 30
F: +45 88 20 26 39
E: nordic@texim-europe.com

Germany North

Bahnhofstrasse 92
D-25451 Quickborn

T: +49 (0)4106 627 07-0
F: +49 (0)4106 627 07-20
E: germany@texim-europe.com

Germany South

Martin-Kollar-Strasse 9
D-81829 München

T: +49 (0)89 436 086-0
F: +49 (0)89 436 086-19
E: germany@texim-europe.com

Austria

Warwitzstrasse 9
A-5020 Salzburg

T: +43 (0)662 216 026
F: +43 (0)662 216 026-66
E: austria@texim-europe.com

Italy

Via Matteotti 43
IT-20864 Agrate Brianza (MB)

T: +39 (0)39 971 3293
F: +39 (0)39 971 3293
E: italy@texim-europe.com