

Protection IC for 1-Cell Battery Pack

Features

- Detection Accuracy
 - Over-charge Detection: $\pm 40\text{mV}$
 - Over-discharge Detection: $\pm 100\text{mV}$
 - Discharge Over-current Detection: $\pm 20\text{mV}$
- High Withstand Voltage
 - Absolute maximum ratings: 24V (V- pin and CO pin)
- Ultra Small Package
 - SOT-23-6

Description

The CS213A is the 1-cell protection IC for lithium-ion/lithium-polymer rechargeable battery pack.

This protection IC was developed for use with lithium-ion/lithium polymer 1-cell serial batteries.

It detects over-charge, over-discharge, discharge over-current and other abnormalities, and functions to protect the battery by turning off the external FETs.

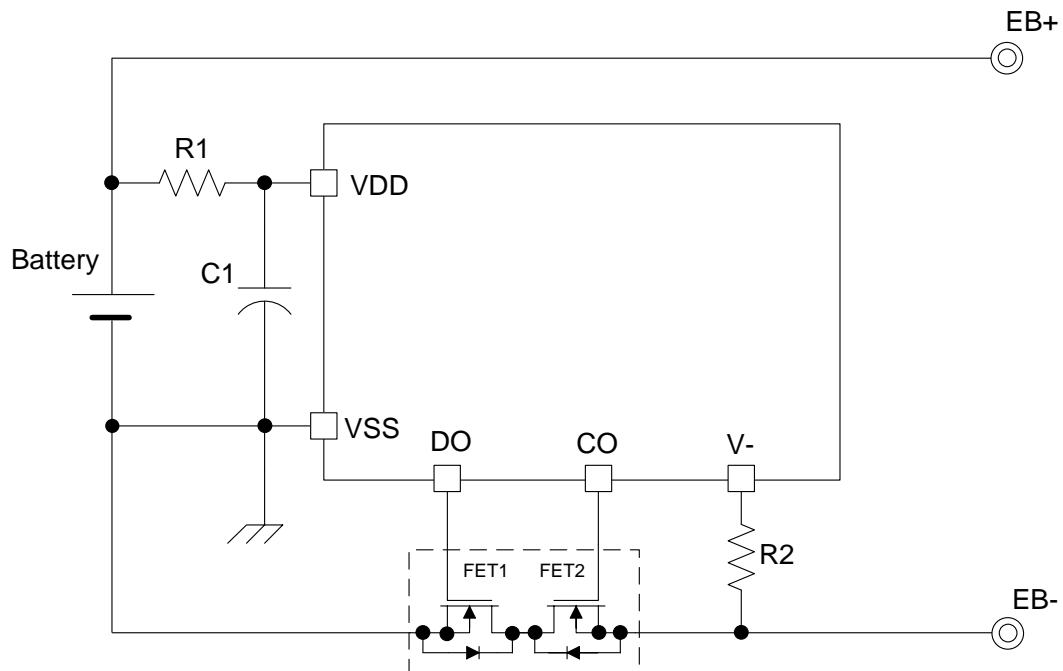
The IC also has a built-in timer circuit (for detection delay times), so fewer external parts can be used in protection circuit configuration.

The tiny package is especially suitable for compact portable device, i.e. slim mobile phone and Bluetooth earphone.

Application

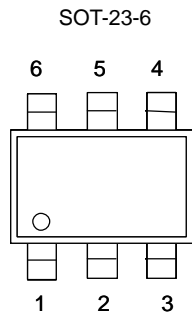
- Mobile phone battery packs
- Digital camera battery packs
- Bluetooth earphone Li-ion battery module

Typical Application Circuit



Package and Pin Description

CS213A

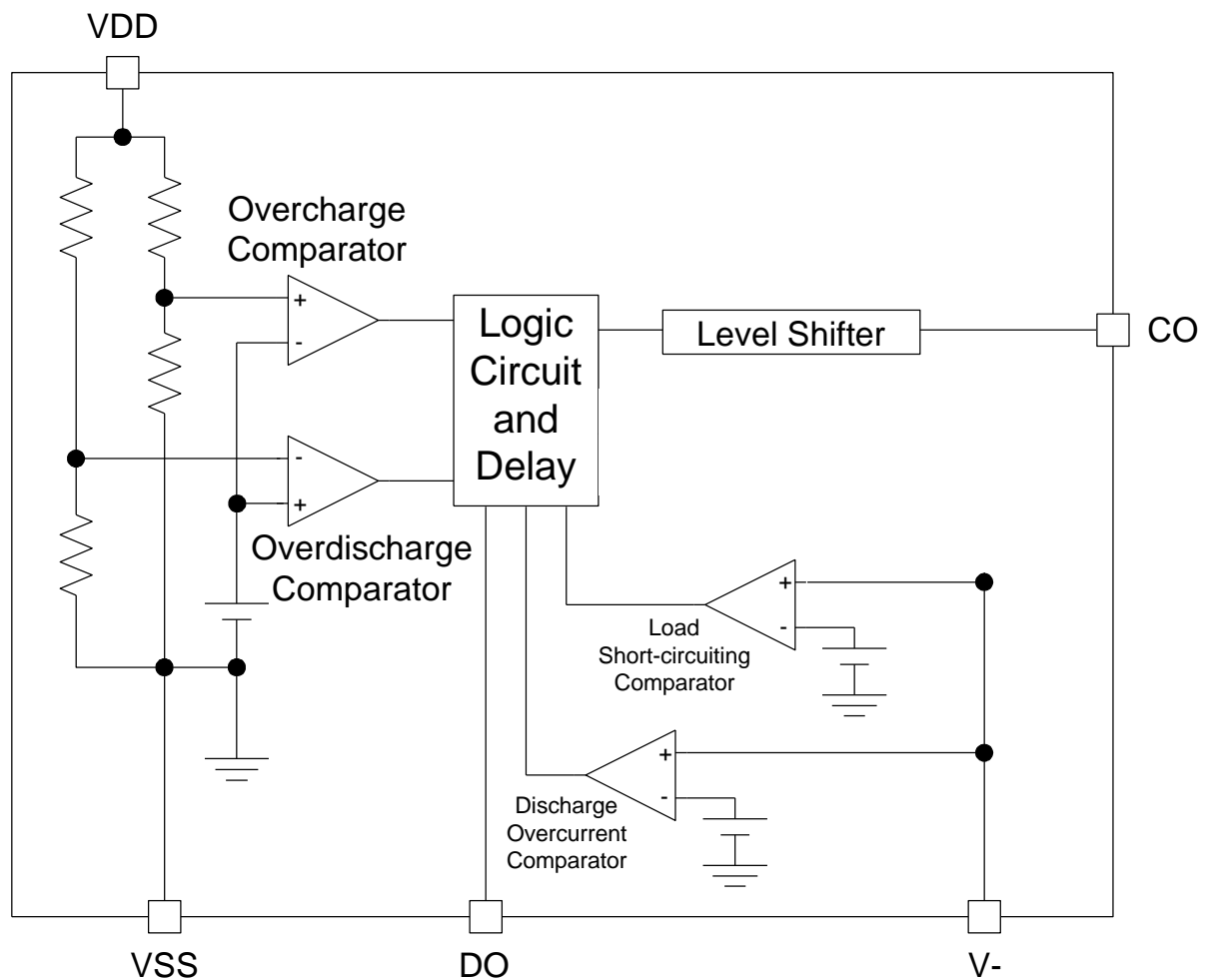


Pin No.	Symbol	Description
1	DO	Connection of discharge control FET gate
2	V-	Voltage detection between V- pin and VSS pin (Over-current / charger detection pin)
3	CO	Connection of charge control FET gate
4	NC	No connection
5	V _{DD}	Connection for positive power supply input
6	V _{SS}	Voltage detection between V- pin and VSS pin (Over-current / charger detection pin)

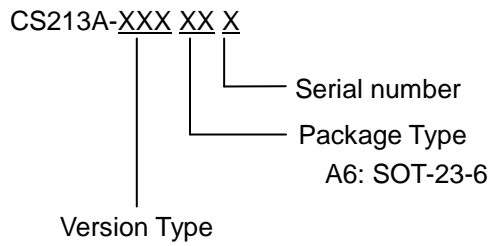
Pin assignment compatible with

RICOH R542X,
 SEIKO S-8261,
 RICHTEK RT9541CER,
 FORTUNE DW-01, DW-02.

Block Diagram



Ordering Information



Product version code:

Product Name	Version Code	Package Type	Over-charge detection Voltage V_{DET1} (V)	Over-charge release Voltage V_{REL1} (V)	Over-discharge detection voltage V_{DET2} (V)	Discharge over-current detection voltage V_{DET3} (V)	0V Battery Charge Function	Power down mode Function
CS213A	XLK	A6	4.290	4.090	2.500	0.150	Available	No

Remark: Please contact our sales office for the products with detection voltage value other than those specified above.