

## MQC883 Series

2023/08/01

### Outline

The MQC883 Series is 2-Series cell Li-ion/Li Polymer battery protection IC. The IC also monitors an abnormal temperature using external thermistor to protect battery pack and system. The IC integrates the battery voltage sensing terminal to be connected to system side, so that battery cells can be monitored accurately without depending on an impedance of protection circuit. This feature provides safer fast charging control.

### Product Series

For 2-cells

### Features

#### 1) Range and accuracy of detection voltage

- Overcharge detection voltage 4.1V to 5.0V, 5mV steps Accuracy±20mV
- Overdischarge detection voltage 2.1V to 3.0V, 50mV steps Accuracy±35mV
- Discharging overcurrent detection voltage 1 +6mV to +100mV, 0.1mV steps Accuracy±1.0mV
- Discharging overcurrent detection voltage 2 +15mV to +100mV, 0.1mV steps Accuracy±1.5mV
- Charging overcurrent detection voltage -100mV to -6mV, 0.1mV steps Accuracy±1.0mV
- Short detection voltage +30mV to +200mV, 10mV steps Accuracy±3.0mV
- 0V Battery Charging Inhibition Voltage 1.1V~1.4V Accuracy±0.2V

#### 2) Low current consumption

- Normal mode Typ. 6.0μA, Max. 10.0μA
- Stand-by mode (Overdischarge Latch "ENABLE") Max. 0.1μA
- Stand-by mode (Overdischarge Latch "DISABLE") Typ. 0.8μA, Max. 1.5μA

### Specifications

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Product name	Package	OV battery charge function	Overcharge release function	Overdischarge release function	Discharging overcurrent release function	Overcharge detection voltage [V]
MQC883EE3RB4	SQFN-12B	Prohibition	voltage	Latch	voltage	4.495
MQC883EE4RB4	SQFN-12B	Prohibition	voltage	Latch	voltage	4.525
MQC883EE5RB4	SQFN-12B	Prohibition	voltage	Latch	voltage	4.525

Product name	Overcharge release voltage [V]	Overdischarge detection voltage [V]	Overdischarge release voltage [V]	Discharging overcurrent detection voltage1 [V]	Charging overcurrent detection voltage [V]	Short detection voltage [V]	Overcharge detection delay time [s]
MQC883EE3RB4	4.295	2.600	2.600	0.0070	-0.0130	0.030	1.024
MQC883EE4RB4	4.325	2.600	2.600	0.0070	-0.0130	0.030	1.024
MQC883EE5RB4	4.325	2.600	2.600	0.0081	-0.0090	0.030	1.024

Product name	Overcharge release delay time [ms]	Overdischarge detection delay time [ms]	Overdischarge release delay time [ms]	Discharging overcurrent detection delay time 1 [ms]	Discharging overcurrent release delay time [ms]	Charging overcurrent detection delay time [ms]	Charging overcurrent release delay time [ms]
MQC883EE3RB4	16.0	64.0	4.0	64.0	4.00	16.0	4.0
MQC883EE4RB4	16.0	64.0	4.0	64.0	4.00	16.0	4.0
MQC883EE5RB4	16.0	64.0	4.0	64.0	4.00	16.0	4.0

Product name	Short detection delay time [ms]
MQC883EE3RB4	0.280
MQC883EE4RB4	0.280
MQC883EE5RB4	0.280

## Package

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SQFN-12B