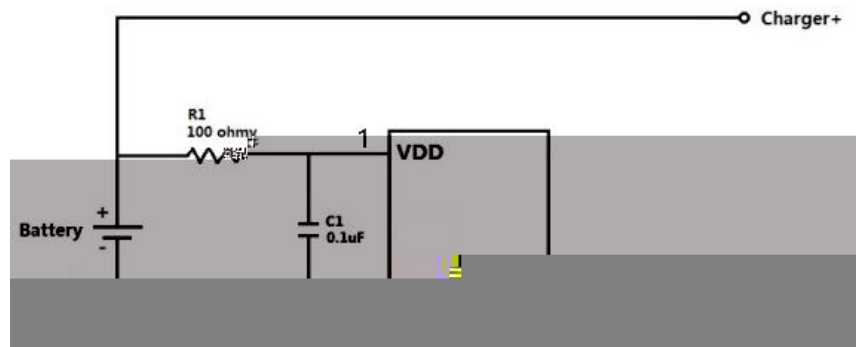


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Notes:

- (1) The chip power consumption shall not exceed the maximum power consumed by the package.
- (2) This product has anti-sic protec on func on, but do not exceed the maximum capacity of the product withs nd s atic elec icity





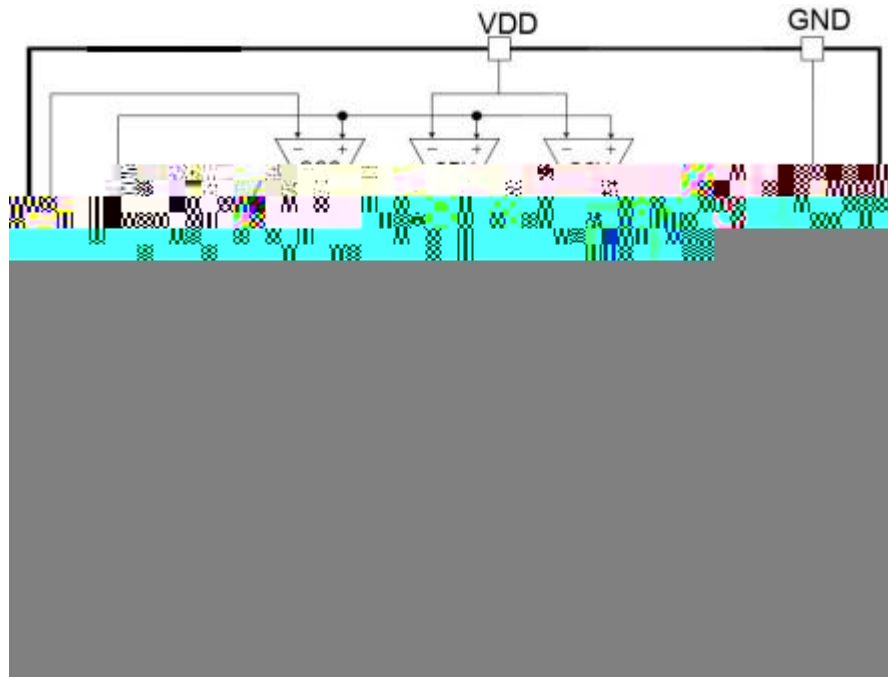
/Parameter

/Symbol

/Value

/Unit

Functional Block Diagram



Functional Description

BRCL3130ZF

MOSFET

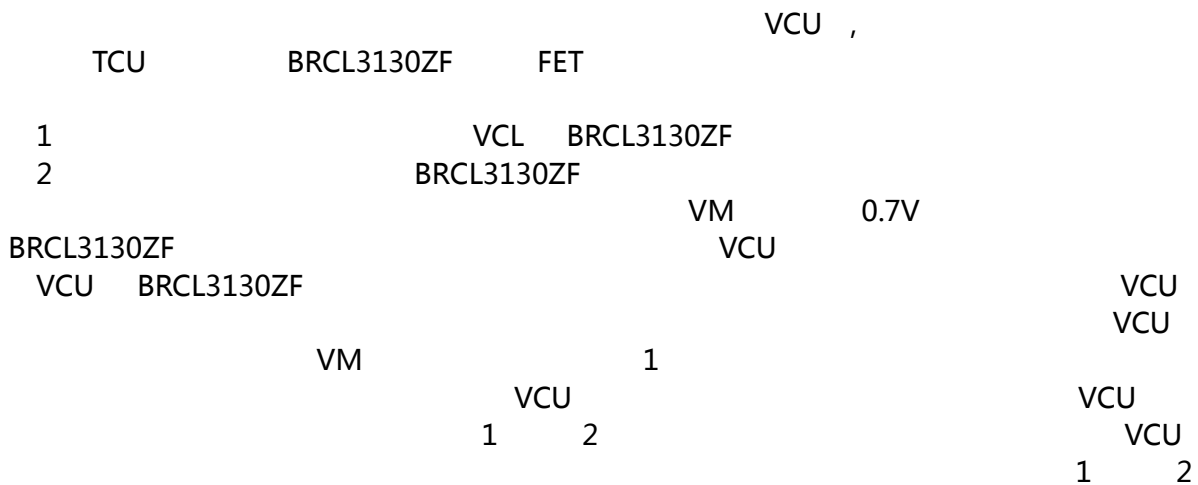
50mΩ

The BRCL3130ZF monitors the voltage and current of a battery and protects it from being damaged due to overcharge voltage, overdischarge voltage, overdischarge current, and short circuit conditions by disconnecting the battery from the load or charger. The peripheral circuit is very simple. The MOSFET is integrated and its $R_{DS(ON)}$ is as low as 50mΩ typical.

Normal Operating mode

If no exception condition is detected, charging and discharging can be carried out freely. This condition is called the normal operating mode.

Overcharge Condition



When the battery voltage becomes higher than the overcharge detection voltage (VCU) during charging under normal condition and the state continues for the overcharge detection delay time (TCU) or longer, the BRCL3130ZF turns the charging control FET off to stop charging. This condition is called the overcharge condition.

The overcharge condition is released in the following two cases:

- 1 When the battery voltage drops below the overcharge release voltage (VCL), the BRCL3130ZF turns the charging control FET on and returns to the normal condition.
- 2 When a load is connected and discharging starts, the BRCL3130ZF turns the charging control FET on and returns to the normal condition.

BRCL3130ZF

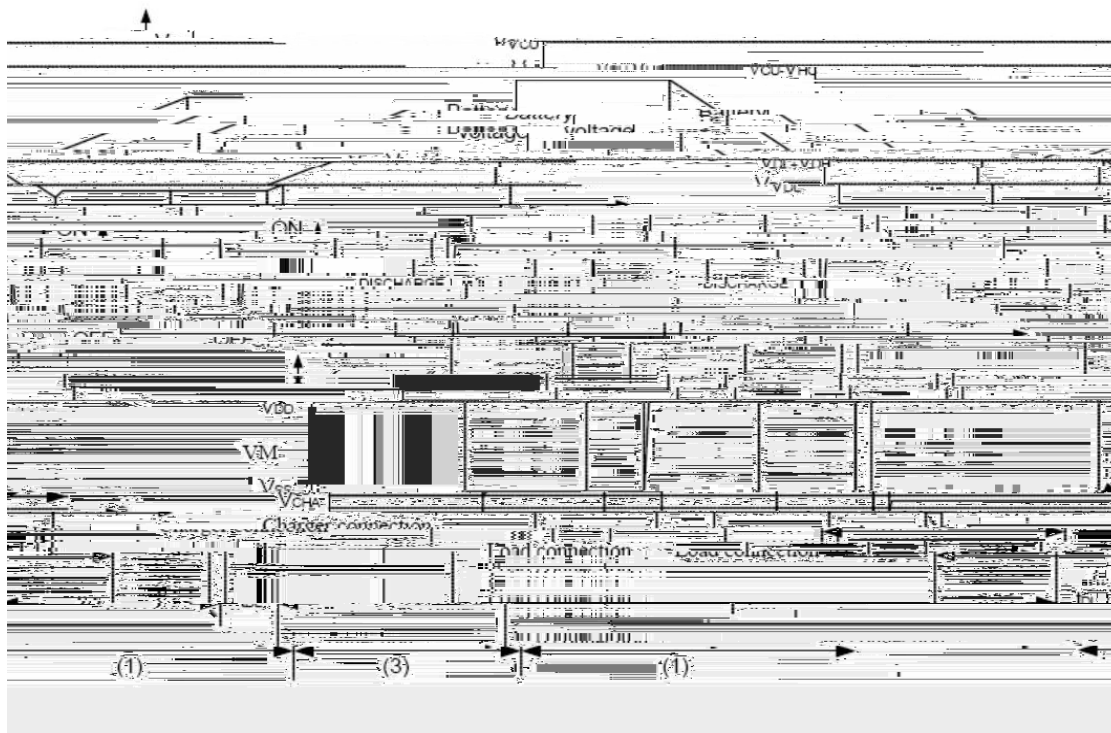
Rev.D

Timing Chart

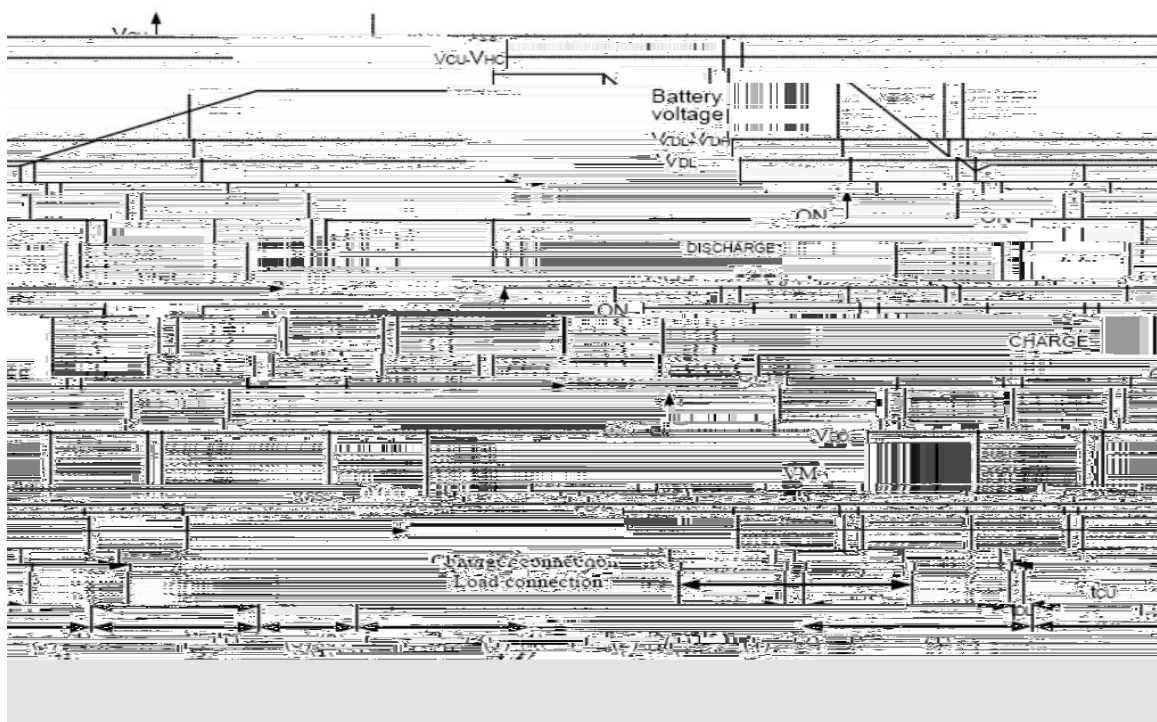
Overcharge And Overdischarge Detection

Timing Chart

Charger Detection



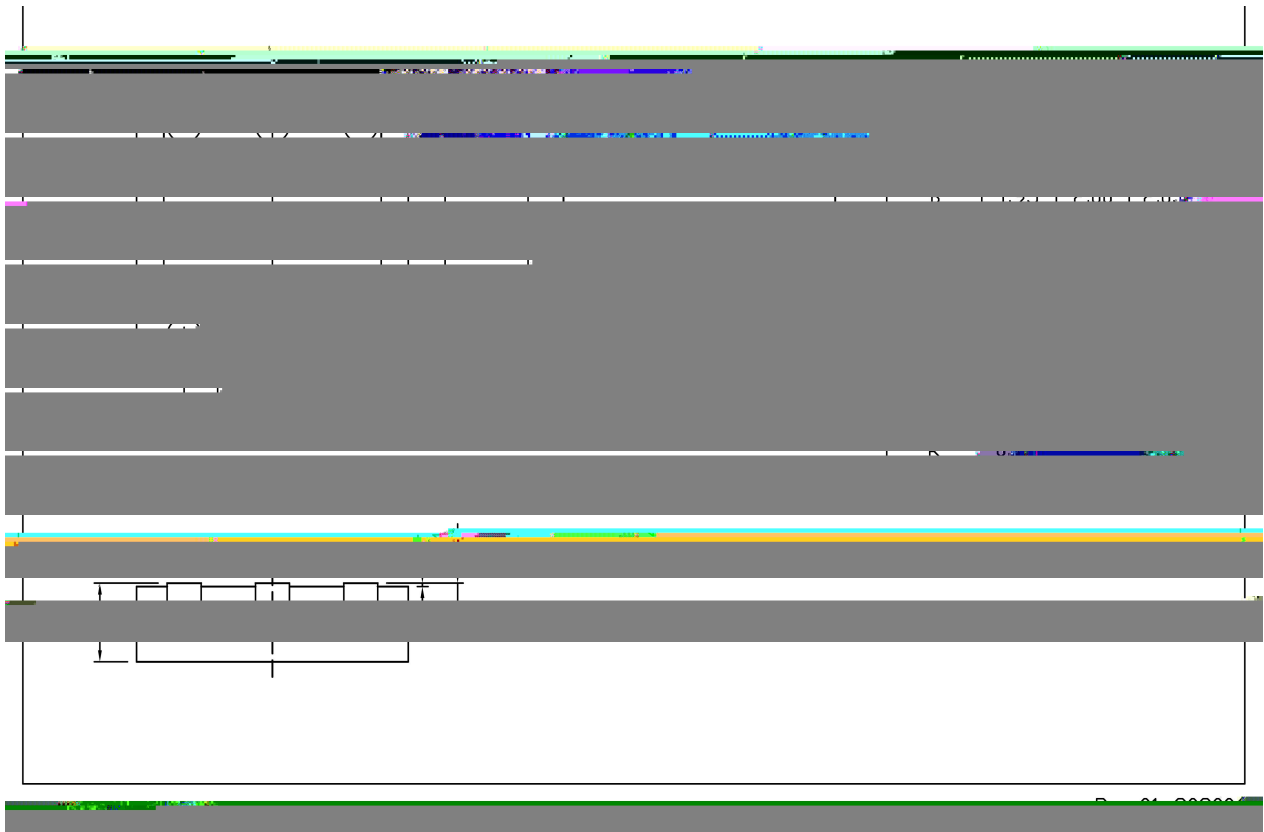
Abnormal Charge Detection



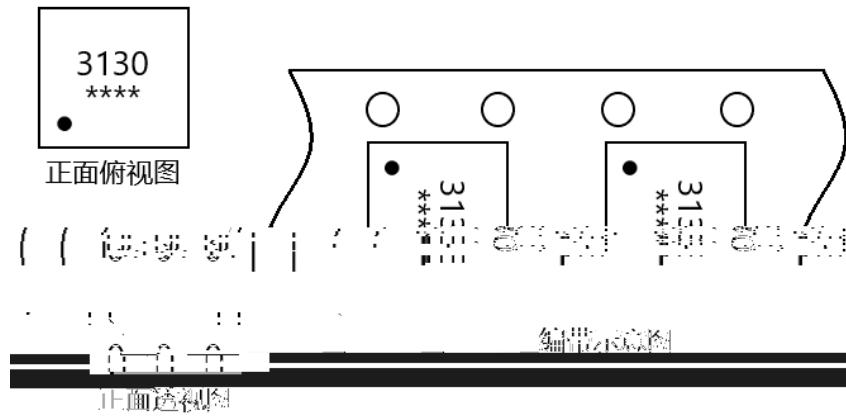
Notes: (1) Normal condition (2) Overcharge voltage condition (3) Overdischarge voltage condition (4) Overcurrent condition



/ Package Dimensions



/ Marking Instructions



3130

Note:

3130: Product Type.

****: Lot No. Code, code change with Lot No.



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