



BRCL3160MF /
MOSFET
BRCL3160MF SOT23-6
BRCL3160MF

BRCL3160MF





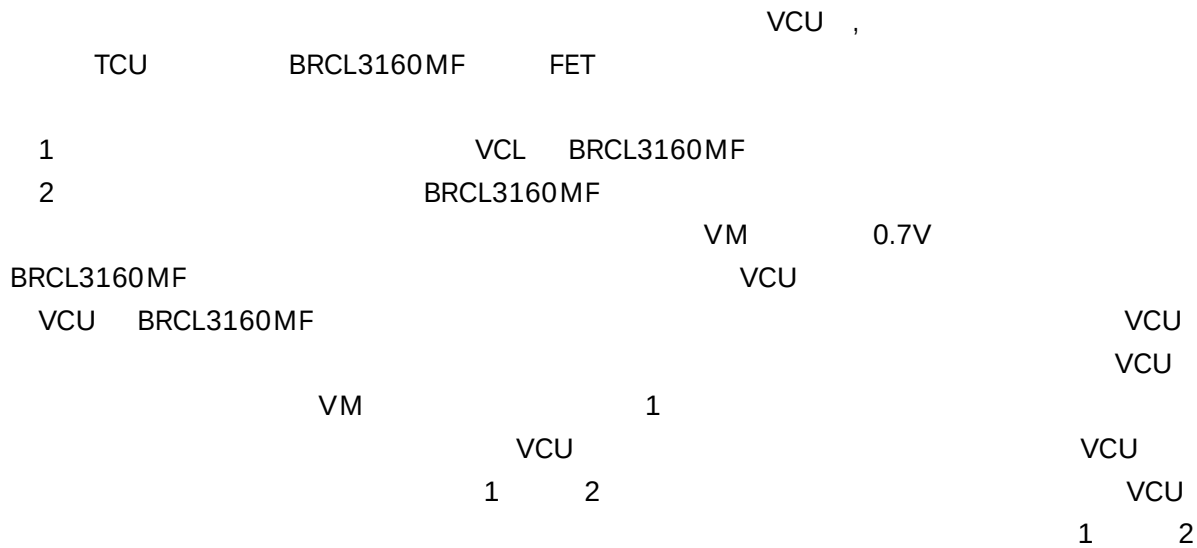
BRCL3160MF

50mΩ

MOSFET



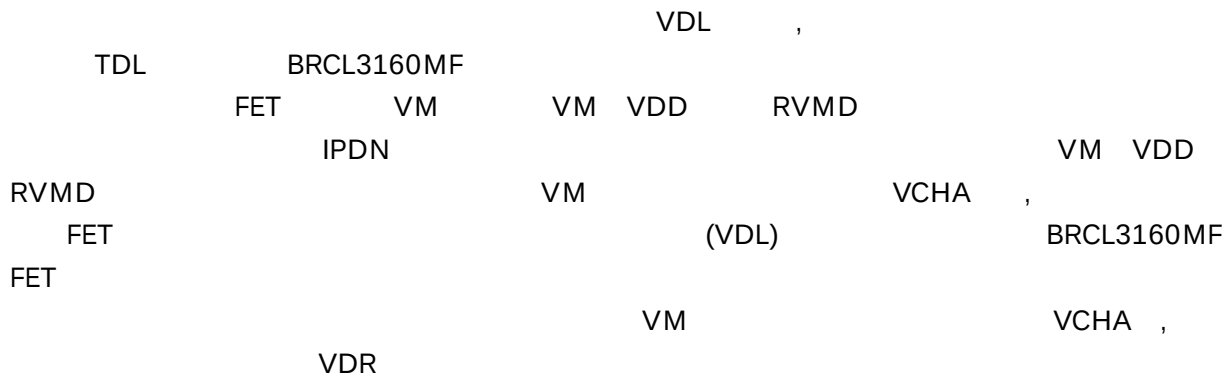
If no exception condition is detected, charging and discharging can be carried out freely. This condition is called the normal operating mode.



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 BRCL3160MF turns the charging control FET off to stop charging. This condition is called the overcharge condition.

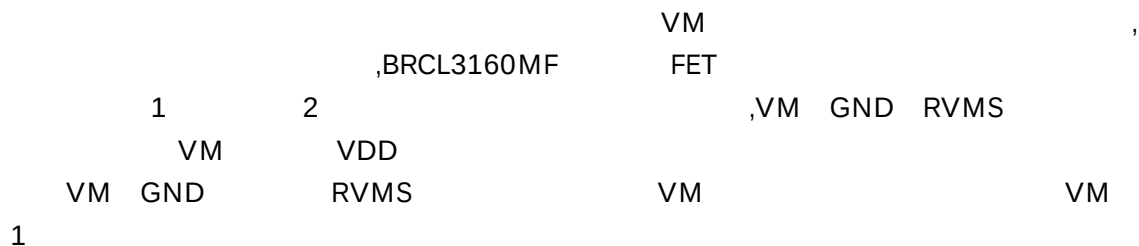
The overcharge condition is released in the following two cases:

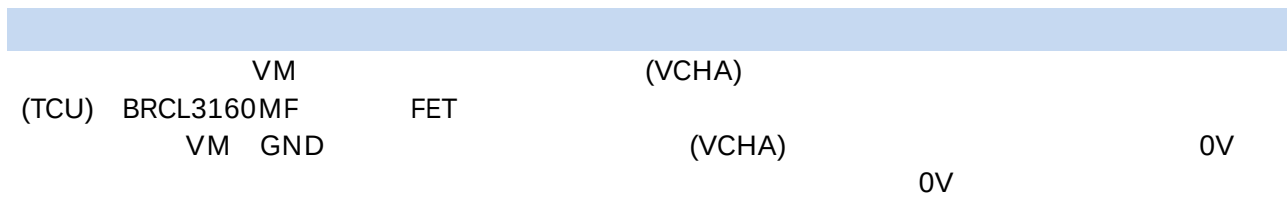
- 1 When the battery voltage drops below the overcharge release voltage (VCL), the BRCL3160MF turns the charging control FET on and returns to the normal condition.
- 2 When a load is connected and discharging starts, the battery voltage drops below the overcharge release voltage (VCL), the BRCL3160MF turns the charging control FET on and returns to the normal condition.



When the battery voltage drops below the overdischarge detection voltage (VDL) during discharging under normal condition and it continues for the overdischarge detection delay time (tDL) or longer, the BRCL3160MF turns the discharging control FET off and stops discharging. This condition is called overdischarge condition. After the discharging control FET is turned off, the VM pin is pulled up by the RVMD resistor between VM and VDD in BRCL3160MF the current of the chip is reduced to the power-down current (IPDN). This condition is called power-down condition. The VM and VDD pins are shorted by the RVMD resistor. The power-down condition is released when a charger is connected and the potential difference between VM and VDD becomes typical or higher, at this time, the FET is still off. When the battery voltage becomes the overdischarge detection voltage (VDL) or higher (see note), the BRCL3160MF turns the FET on and changes to the normal condition from the overdischarge condition.

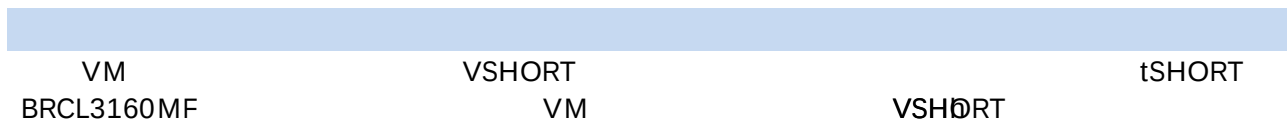
Note: If the VM pin voltage is no less than the charger detection voltage (VCHA), when the battery under overdischarge condition is connected to a charger, the overdischarge condition is released (the discharging control FET is turned on) as usual, provided that the battery voltage reaches the overdischarge release voltage (VDR) or higher.



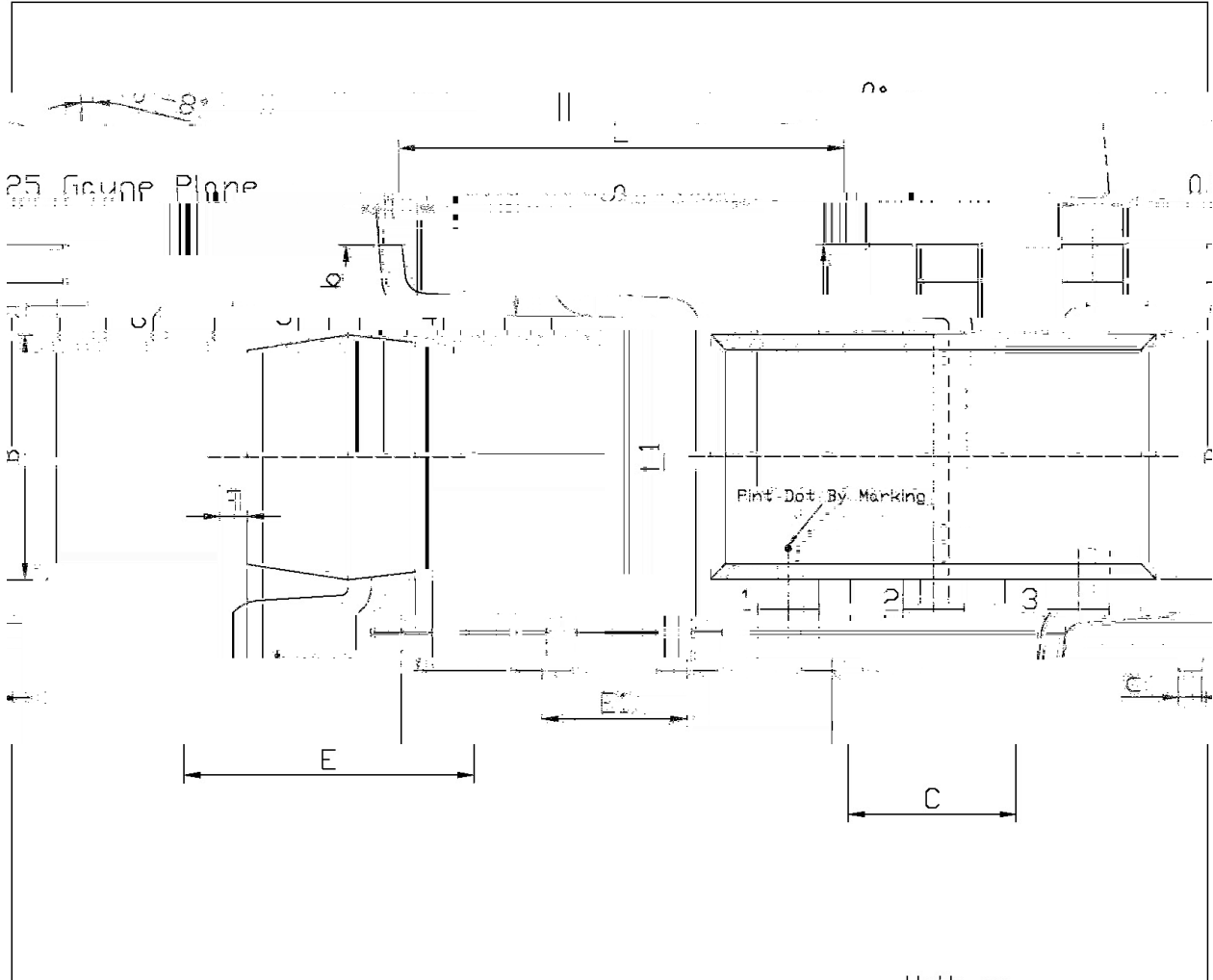


If the VM pin voltage drops below the charger detection voltage (VCHA) during charging under the normal condition and it continues for the overcharge detection delay time (TCU) or longer, the BRCL3160MF turns the charging control FET off and stops charging. This action is called abnormal charge current detection.

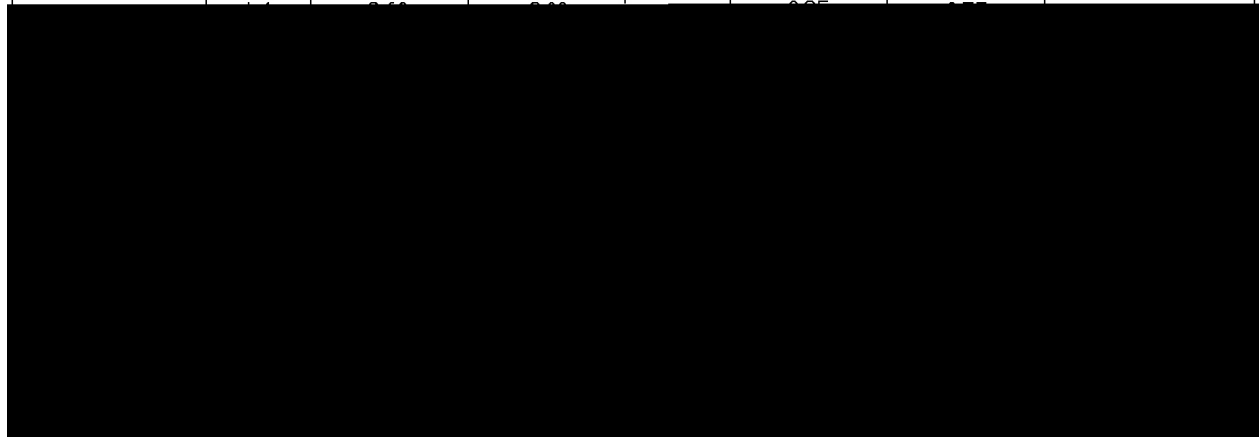
Abnormal charge current detection is released when the voltage difference between VM pin and GND pin becomes higher than the charger detection voltage (VCHA) by separating the charger. Since the 0 V battery charging function has higher priority than the abnormal charge current detection function, abnormal charge current may not be detected by the product with the 0 V battery charging function while the battery voltage is low.

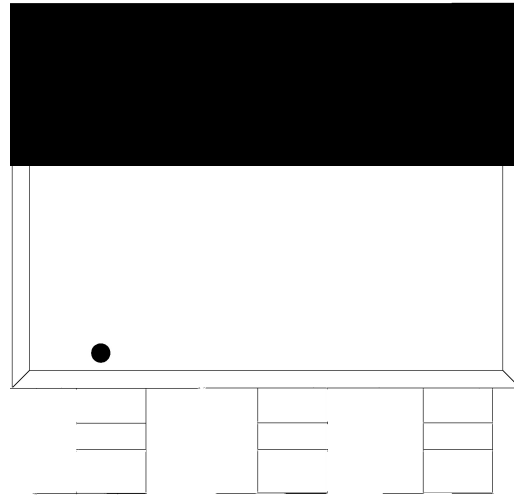






UNIT OF MM		TOLERANCE		MATERIAL		QUANTITY		REMARKS	
35	0.50								
40	0.20								
45	0.10								
50	0.05								
55	0.02								
60	0.01								
65	0.005								
70	0.002								
75	0.001								
80	0.0005								
85	0.0002								
90	0.0001								
95	0.00005								
100	0.00002								







350

1300

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