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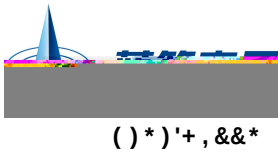
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Notes:

- (1) The chip power consumption shall not exceed the maximum power consumed by the package.
- (2) This product has anti-

Parameter	Symbol	Value	Unit
V _{DD} input pin voltage	V _{IN}	-0.3 to +6	V
V _M input pin voltage	V _{VM}	-6 to +10	V
Power Dissipation	P _D	400	mW
Maximum Junction Temperature	T _J	125	°C
Lead Temperature	T _L	300	°C
Operating Junction Temperature	T _{opr}	-40 to +85	°C
Storage Temperature	T		

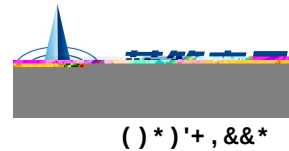


&K<0/ ;= . 98' : &* '59' . 1018; 94. '						
Equivalent FET on Resistance	R _{DS}	V _{dd} =3.6V, I _{VM} =1A	15	25	40	mΩ
L / . 3'8. F 7 . 3; 8<3. '7358. 48059'						
Over Temperature Protection	OTP		125	140	155	°C
Over Temperature Recovery Degree	OTPR		100	115	130	°C
(. : ; @ ' 80 F . '						
Overcharge Current Detection Delay Time	T _{OCC}	V _{dd} =3.6V	5.6	8	10.4	ms
Overcharge Voltage Detection Delay Time	T _{CU}	V _{DD} =3.6V-4.4V	165 0	sc 950	47 (185 6)	175 BT 15 10.56 0 0 10.56 0

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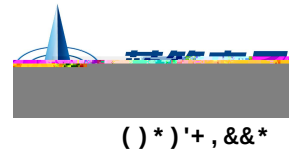
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The BRCL3230BME detects this voltage and releases the overcharge condition. Consequently, in the case that the battery voltage is equal to or lower than the overcharge detection voltage (VCU), the BRCL3230BME returns to the normal condition immediately, but in the case the battery voltage is higher than the overcharge detection voltage (VCU), the chip does not return to the normal condition until the battery voltage drops below the overcharge detection voltage (VCU) even if the load is connected. In addition, if the VM pin voltage is equal to or lower than the overcurrent 1 detection voltage when a load is connected and discharging starts, the chip does not return to the normal condition.

Note: If the battery is charged to a voltage higher than the overcharge detection voltage (VCU) and the battery voltage does not drop below the overcharge detection voltage (VCU) even when a heavy load, which causes an overcurrent, is connected, the overcurrent 1 and overcurrent 2 do not work until the battery voltage drops below the overcharge detection voltage (VCU). Since an actual battery has, however, an internal impedance of several dozens of mΩ, and the battery voltage drops immediately after a the o



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ČÆß à Ʀ t Ũ ¼ ũ Œ b b Œ Ø Ð ĩ § Ð ê : & Ł Ū Ą r b ¾ Ø Ð ĩ § Ð Œ b Œ ĸ À b ¾ Ū Ÿ Ʀ ũ Ů Ą
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² Œ Œ b Œ 4¼ Œ Œ b Œ 2 Ą Ą Ą × c b Œ Ů ° Œ Œ b Œ Œ Œ Œ Ů Ą r Ą N ĵ ĵ ŵ p Ą r ¹ b ř ĩ × Ē ³ ° ũ ř Ĵ
Ą Ą Œ Ē Ĵ ¼ Ą r b ¾ Ø Ð Ą ĵ ĵ K Ą Ą Ą b ř Ĵ & b ¾ °
ġ Ð Ą r Ą N ĵ ĵ Ĵ Œ Œ Ē Ē p Ą r ¹ b ř ¼ ũ Ą Ą ň Ĵ Ą r b ¾ ŵ Ĵ ř Ģ b Ĵ ° ũ ĸ Ą ř Ą r b Ĵ Ą Ð Œ Œ
4 ĸ Ą b ¾ ¼ Ą Ą Ÿ ř ČÆ Ē ĸ °

When the discharging current becomes equal to or higher than a specified value (the VM pin voltage is
equal to or higher than the overcurrent detection voltage) during discharging under normal condition
and the state continues for the overcurrent detection delay time or longer, the BRCL3230BME turns off
the discharging control FET to stop discharging. This condition is called overcurrent condition. (The
overcurrent includes overcurrent, or load shortcircuiting.) The VM and GND pins are shorted internally
by the RVMS resistor under the overcurrent condition. When a load is connected, the VM pin voltage
equals the VDD voltage due to the load.

Because of the connection between the VM and the GND by the RVMS resistor¼when the load is
removed, the VM pin goes back to the GND potential since the VM pin is shorted the GND pin with the
RVMS resistor. Detecting that the VM pin potential is lower than the overcurrent detection voltage
(VIOV1), the IC returns to the normal condition.

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ČÆĒ b Ą ¼ Ĵ ř Ą r b ¾ § ř Ē b Ą b ¾ Œ Ů Œ Œ B1đ ¼ Ÿ Ʀ ũ Ů Ą Œ Œ Œ Ē b Œ Œ Ą Ą Ą Œ Œ
Œ»] Ů đ¼ Ap]q Ů ň Ē b ° s»¼ Ů Ů Œ b ° É ó Œ Œ Ĵ æ ŠÆĒ b b Œ Ą Ą °
ň Ĵ Ē b Ĵ ¼ Ą r Ą N ĵ ĵ Ĵ Œ Œ b ¾ § Ð Ē b Ĵ ĸ Ą b ¾ Œ Œ B1đ Ą ŠÆĒ b b Œ Ʀ t « ŷ ° ġ Ð 3 Ą b □
Ē b ¶ Ů M ´ N § Ð L ČÆ b Œ Ē b ĸ Ą ¼ b □ b ¾ Ē Ą & b □ Č P µ Œ 3 Ą Ē b Ą ¼ ŠÆĒ b b Œ ĸ Ą
Œ Ĵ L Ĵ Ą °

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
BRCL3230BME turns the charging control FET off and stops charging. This action is called abnormal
charge current detection.

Abnormal charge current detection is leased 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.

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Ĵ ř Ą r b ¾ § Ð × c Ÿ Ĵ b ¾ Ū Ą ¹ B , p» Ů Ą Ÿ Ʀ ũ Ů Ą Œ Œ Ů Œ × c ĸ Ą Ą Ą Ą Œ Œ Ů Ĵ ¹ B , p» Ů Ą
Ap]q Œ Ē Ą Ą ň Ĵ Ů Œ b ° ũ Ą r b ¾ Ą Ð × c Ÿ Ĵ b ¾ Ū Ą ¹ B , p» Ů Ą ¼ Œ Ą Ą ŵ Π
ŷ ¼ Ą Ą × c Œ Œ Œ « ŷ °

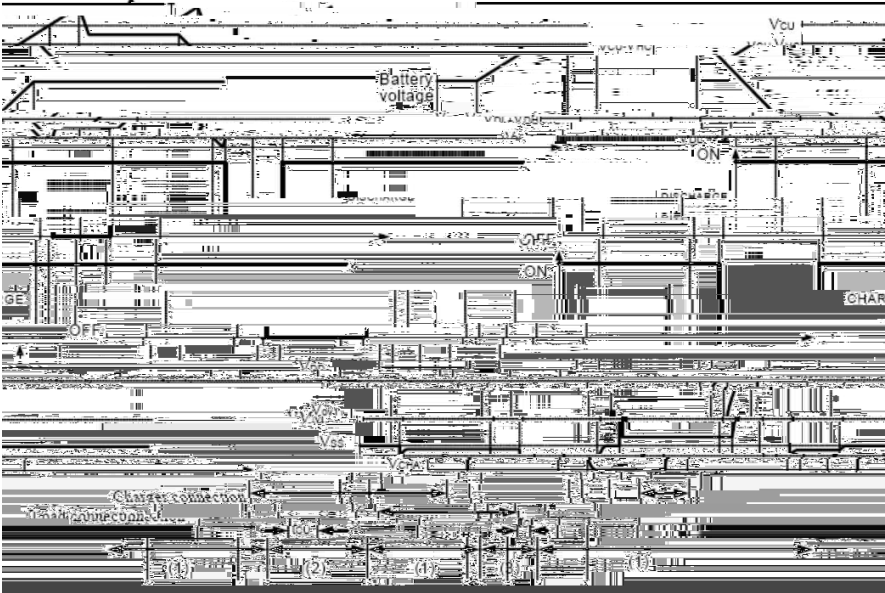
If voltage of VM pin is higher short circuiting protection voltage (SHORT) and it continues for the
tSHORT or longer, the BRCL3230BME will stop discharging and battery is disconnected from load.
This status is released when voltage of VM pin is higher than short protection voltage (VSHORT), such
as when disconneg the load.

0V / \$R' ;88.3@' J;3?09?':<948059

P ¶ Ü a Ð Σ æ T ‡ Œ b ř 3A& b □ μ Ž Y £ b ° ũ £ b Í Φ ž Ā¼Ŧ Ň Ō + ð á Ě š † I b □ μ Ž £
b ¼ ũ b □ b ¾ § Ð Ō Œ b ¿ À b ¾ Ū A k q Ů Ā ¼ ¥ † A † μ Z Ĉ Æ ß à Γ ć °
I ā 4 d X Ψ Ω Ĩ ‡ Œ b Ž & b □ ¼ L Ÿ á ŵ Y 9 £ b ¼ É v ġ y b □ & Q é ¬ : & ° Ě ģ í b □ ñ ` Ů ¼
ě Ğ Û α β & b □ v γ Ä ĝ ð Ÿ á ø 3A b □ £ b ε & ¶ Ü ¼ ζ ν δ η υ ø 3A b □ £ b ε & ¶ Ü °
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¶ Ü & A † ¼ P b □ b ¾ † â & Ā κ Ŧ λ . £ b ° b □ b ¾ â Ð Ō Œ b ¿ À b ¾ Ū A k q Ů Ō Ů Ā ¼ L Ů μ
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Š A r š Ĩ b ¾ Ø Đ N j k b ¾

/ * 0 F 0 9 ? ' J ; 3 8

/ L / . 3 4 J ; 3 ? . ') 9 2 ' L / . 3 2 0 1 4 J ; 3 ? . ' (. 8 . 4 8 0 5 9



注： () 正常情况 () 过充电压情况 () 过放电压情况

/ Overcharge L / . 3 2 0 1 4 J ; 3 ? . ' < 3 3 . 9 8 ' (. 8 . 4 8 0 5 9

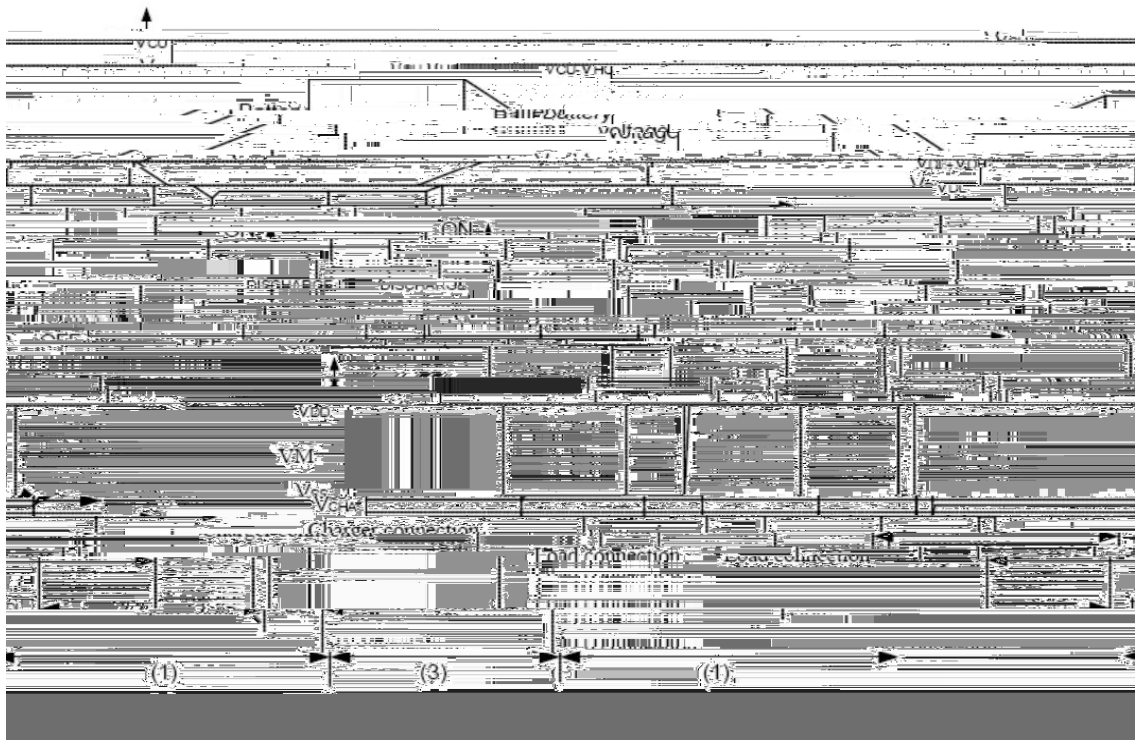


注： () 正常情况 () 过充电流状态 () 过放电流状态



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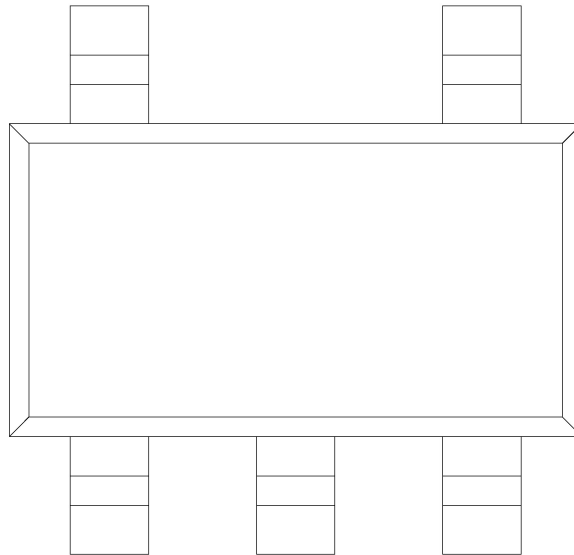
/ J ; 3 ? . 3 ' (. 8 . 4 8 0 5 9



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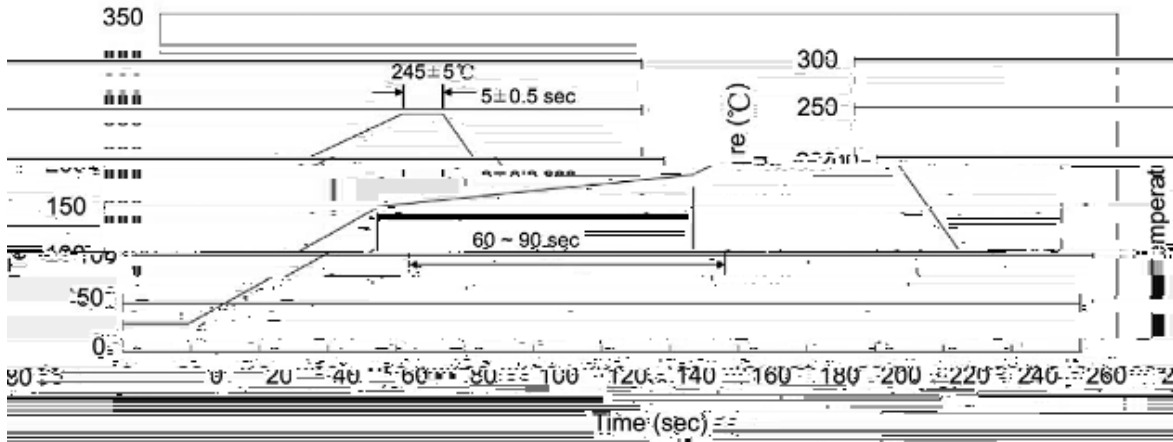
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Note:

3230B: Product m3s

Temperature Profile for IR Reflow Soldering(Pb-Free)



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- 1 | ⌘ ⌘ ŷ ā 150ψ180ω¼ Å Ò 60ψ90sec;
- 2 | ⌈ ⌘ ŷ ā 245ü5ω¼ Å Ò ŷ Ůæ 5ü0.5sec;
- 3 | è Ⓔ . Š ó ú ó ā æ 2ψ10ω/sec.

Note:

- 1.Preheating:150~180ω, Time:60~90sec.
- 2.Peak Temp.:245ü5ω, Duration:5ü0.5sec.
3. Cooling Speed: 2~10ω/sec.

' ' ' ' .1018;94.'85'+5-2.309?', . ;8'*.18' 592080591'

ŷ ā ā 260ü5ω Å Ò ā 10ü1 sec. Temp.:260ü5ω Time:10ü1 sec

' ' ' ' A;4>;?09?'+A& Ů'

È Ë ± k / REEL

Package Type	Units			Dimension (unit mm ³)		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Boxes	Units/Outer Box	
	/	/	/	/	/	Reel Inner Box Outer Box