

5 é / Descriptions

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¤ª / Features

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Ð ÷ / Applications

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- ÚZ 6 OT 4 [SHKX	- df 6 OT 4 GSK	- a ϕ 6 OT *KYIXOVZOUT
	VDD	› €
	- 4 *	/ Ì ^a kN P / ç â

< 3

Absolute Maximum Ratings(Ta=25 ;)

@ f/Parameter	... Z/Symbol	f › /Value	% y/Unit
V _{DD} input pin voltage	V _{IN}	-0.3 to +8	V
V _{VM} input pin voltage	V _{VM}	-8 to +10	V
Maximum Junction Temperature	T _J	-40 to +145	
Storage Temperature	T _{stg}	-55 to +145	
ESD g HBM Mode h	ESD	f 4000	V

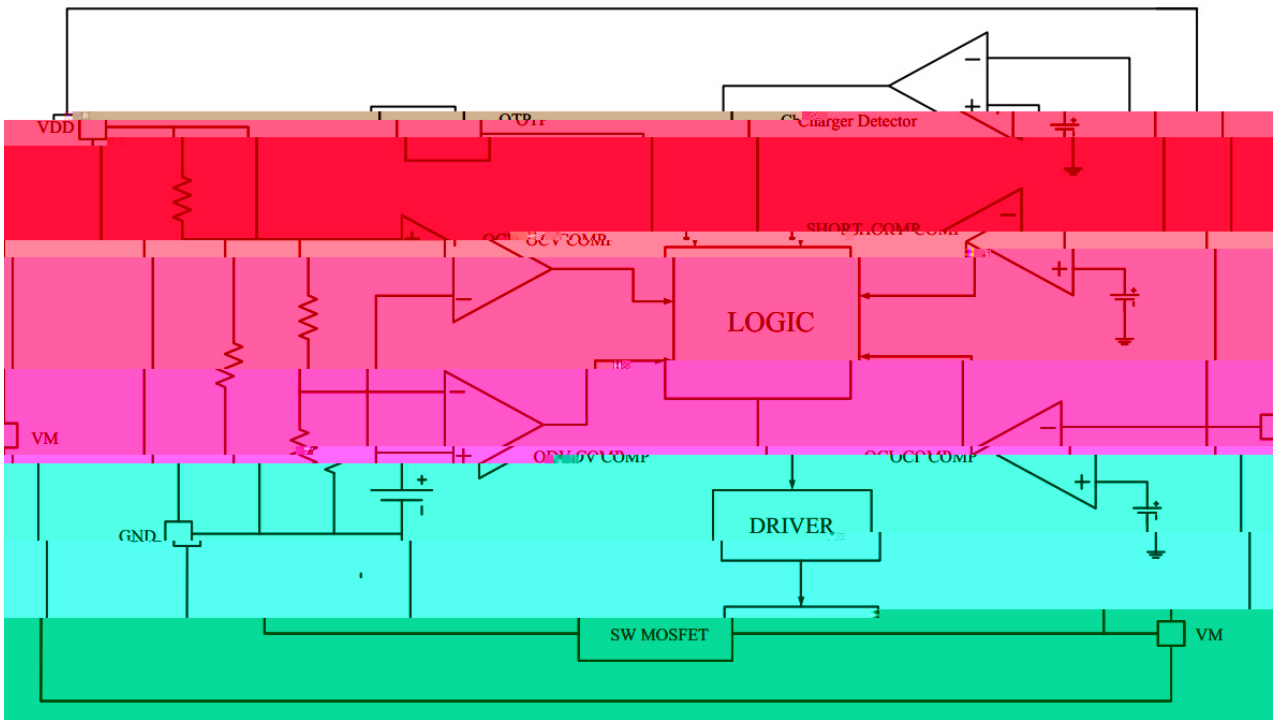
Electrical Characteristics(Unless otherwise specified,Ta=25 ;)

@ f Parameter	... Z Symbol	y j Ú ^ Test Condition	Â 4 › Min	Á ° › Typ	Â Ý › Max	% y Unit
Power supply						
Supply Voltage	V _{DD}		0		6	V
Charger input voltage	V _M		-6		6	V
Detection voltage						
Overcharge Detection Voltage	V _{OCV}		4.25	4.3	4.35	V
Overcharge Release Voltage	V _{OCR}		4.04	4.10	4.16	V
Overdischarge Detection Voltage	V _{ODV}		2.30	2.40	2.50	V
Overdischarge Release Voltage	V _{ODR}		2.90	3.00	3.10	V
Detection current						
Overdischarge Current Detection	I _{OCI}		9	11.5	14	A
Load Short-Circuiting Detection	I _{SHORT}		15	25	35	A
Overcharge Current Detection	I _{CHA}		7	10	13	A
Static current						
Current Consumption in Normal Operation	I _{OPe}	V _M =0V		3.5	7	A
Current Consumption in Dormancy	I _{PDN}	V _{DD} =1.8V		0.6	1.5	A
Pull-up and Pull-down Current from VM						
Internal pull-up current	I _{PU}			14		A
Internal pull-down current	I _{PD}	V _M =1V		14		A
Equivalent FET on Resistance						
Equivalent FET on Resistance	R _{DS}	I _{VM} =1A	12.5	16	18	m

Electrical Characteristics ($T_a=25^\circ\text{C}$;)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Over temperature protection						
Over-temperature protection	OTP			145		
Over-temperature protection release temperature	OTPR			120		
Detection delay						
Overcharge Voltage Detection Delay Time	T _{OCV}			100		ms
Overdischarge Voltage Detection Delay Time	T _{ODV}			100		ms
Overdischarge Current1 Detection Delay Time	T _{IOV1}			8		ms
Overdischarge Current2 Detection Delay Time	T _{IOV2}			2		ms
Load Short-Circuiting Detection Delay Time	T _{SHORT}			150		ms

Functional Block Diagram



BRCL3130DZR
Rev.A Jun.-2025

x 5 é Functional Description

Charger Detection

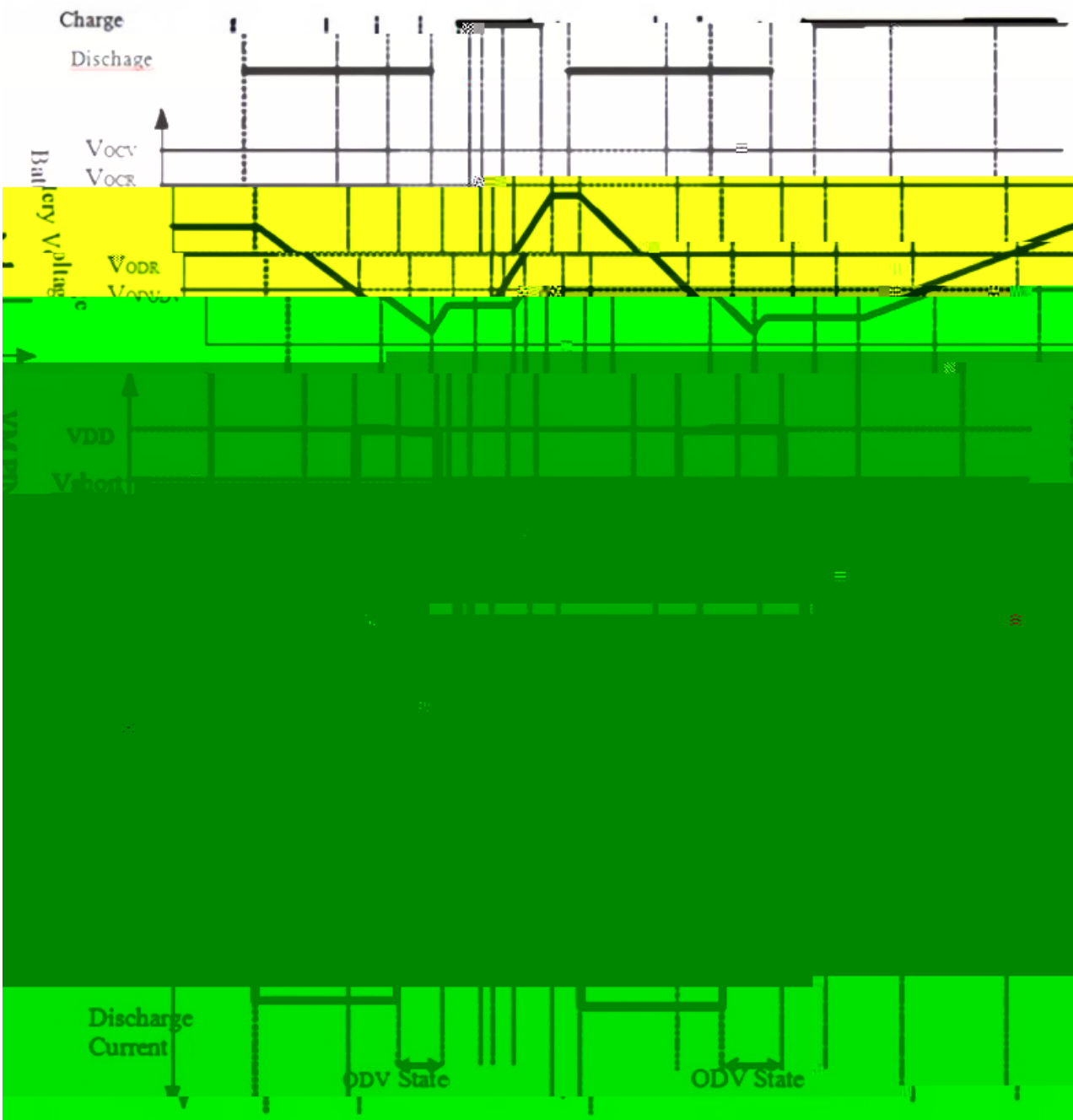
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9 Y 9 ^ 9 y y 9 < 5 * < k (8) 2 * @ 8 1 K y y Û Á o ž

0V Battery Charging Function

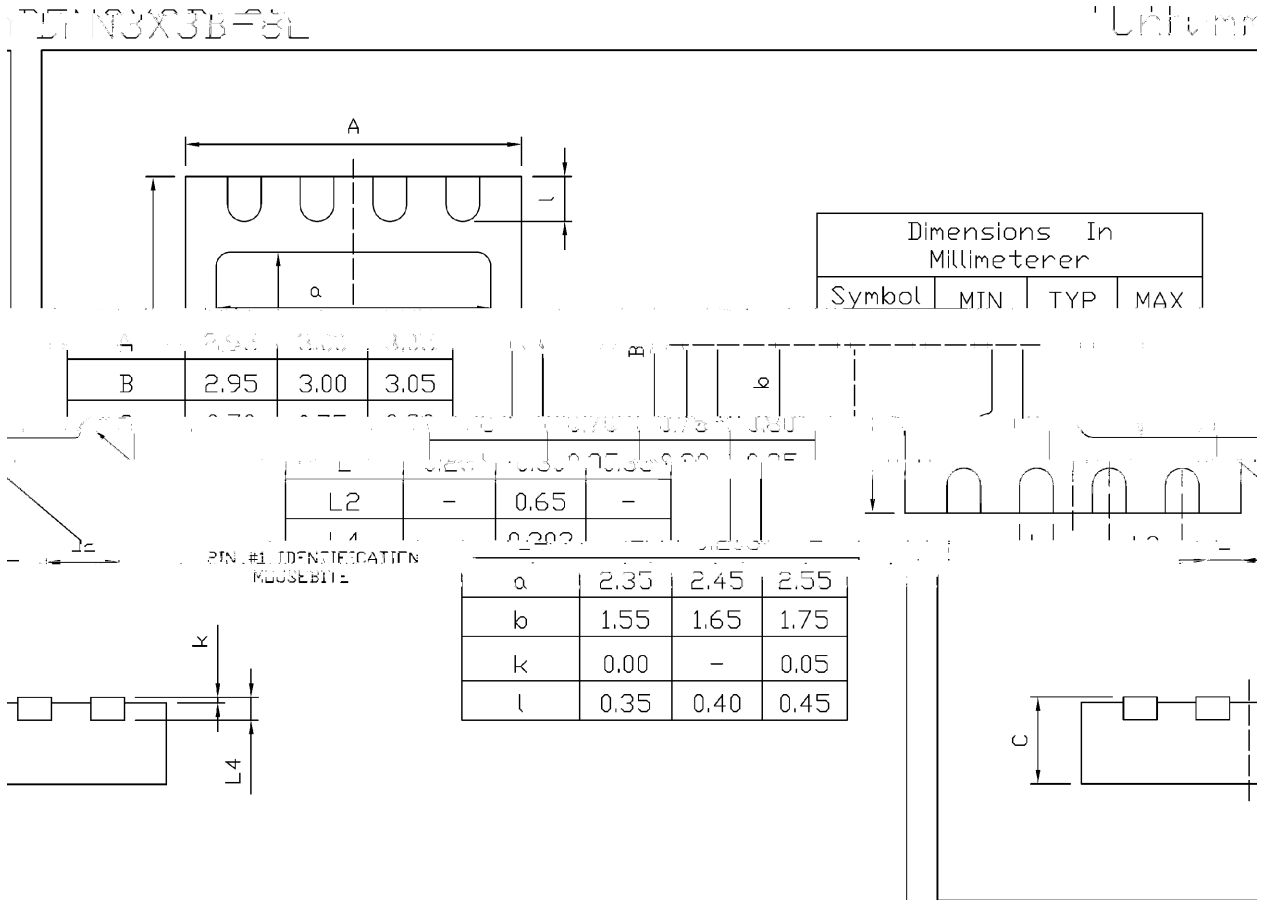
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Timing Chart

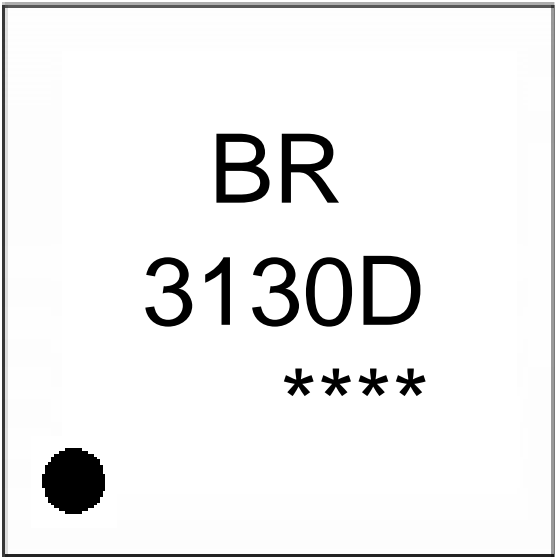
Overdischarge Charging Normal Operation.



∅ ≡) φ / Package Dimensions

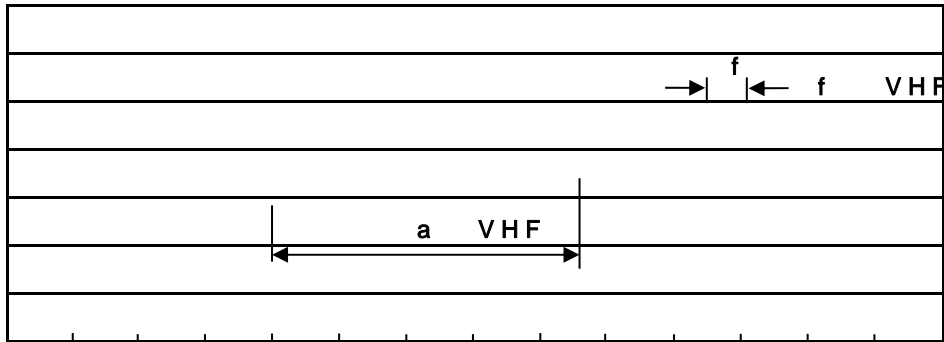


, M y f / Marking Instructions



^aç y
(8 y , [WA
* y ° ZWA
y ÿD ZW A k š ÿD ZJ

šWD t...•Žç (x/) / :KSVKXGZ[XK 6XULORK LUX /8 8KLRU] 9URJKXOTM 6



p P A• 0 A• Å 1± D p P ip 0 2'g9 ^X0@1• pt P 0

0 hR^Uv' S f &pÐ p # ÐP c

^a ç y

1o• Å ½ “ † 150 ½180 - k ž • 60 ½90sec;

2o• Q › “ † 245 r5 - k ž • 4 Ò 5 r0.5sec;

3o•D N ò i Ò 0 , † 2 ½10 - /sec.

Note:

1.Preheating:150~180 - , Time:60~90sec.

2.Peak Temp.:245 r5 - , Duration:5 r0.5sec.

3. Cooling Speed: 2~10 - /sec.

ÂD /Cã p ~ »] / Resistance to Soldering Heat Test Conditions

“ † y 260 r5 -

ž • y 10 r1 sec.

Temp.:260±5

Time:10±1 sec

G P á / Packaging SPEC.

2 & x / REEL

Package Type 7>û ~ E	Units ;>û !H					Dimension ;>û p . (unit Åmm ³)		
	Units/Reel / --	Reels/Inner Box -- /-	Units/Inner Box /-	Inner Boxes/Outer Box - /!ç	Units/Outer Box /!ç	Reel	Inner Box	Outer Boxç
DFN3x3B-8L	5,000	2	10,000	6	60,000	13 s x12	360x360x50	380x335x366

„Ð y f / Notices

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