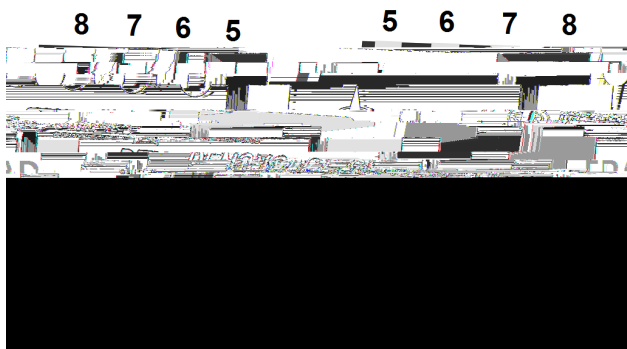




# BRCL3130DZZ

Rev.B Nov.-2025



Pin Number	Pin Name	Pin Description
1	VDD	
2,3,4	GND	
5,6,7,8	VM	
EPAD	GND	

## / Marking

## / Absolute Maximum Ratings(Ta=25 )

/Parameter	/Symbol	/Value	/Unit
V <sub>DD</sub> input pin voltage	V <sub>IN</sub>	-0.3 to +8	V
V <sub>VM</sub> input pin voltage	V <sub>VM</sub>	-8 to +10	V
Maximum Junction Temperature	T <sub>J</sub>	-40 to +145	
Storage Temperature	T <sub>stg</sub>	-55 to +145	
ESD HBM Mode	ESD	± 4000	V

## / Electrical Characteristics( Unless otherwise specified,Ta=25 )

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
<b>Power supply</b>						
Supply Voltage	V <sub>DD</sub>		0		6	V
Charger input voltage	V <sub>M</sub>		-6		6	V
<b>Detection voltage</b>						
Overcharge Detection Voltage	V <sub>OCV</sub>		4.25	4.3	4.35	V
Overcharge Release Voltage	V <sub>OCR</sub>		4.04	4.10	4.16	V
Overdischarge Detection Voltage	V <sub>ODV</sub>		2.30	2.40	2.50	V
Overdischarge Release Voltage	V <sub>ODR</sub>		2.90	3.00	3.10	V
<b>Detection current</b>						
Overdischarge Current Detection	I <sub>OCI</sub>		9	11.5	14	A
Load Short-Circuiting Detection	I <sub>SHORT</sub>		15	25	35	A
Overcharge Current Detection	I <sub>CHA</sub>		7	10	13	A
<b>Static current</b>						
Current Consumption in Normal Operation	I <sub>OPE</sub>	V <sub>M</sub> =0V		3.5	7	μA
Current Consumption in Dormancy	I <sub>PDN</sub>	V <sub>DD</sub> =1.8V		0.6	1.5	μA
<b>Pull-up and Pull-down Current from VM</b>						
Internal pull-up current	I <sub>PU</sub>			14		μA
Internal pull-down current	I <sub>PD</sub>	V <sub>M</sub> =1V		14		μA
<b>Equivalent FET on Resistance</b>						
Equivalent FET on Resistance	R <sub>DS</sub>	I <sub>VM</sub> =1A	12.5	16	18	m

/ Electrical Characteristics( Ta=25 )

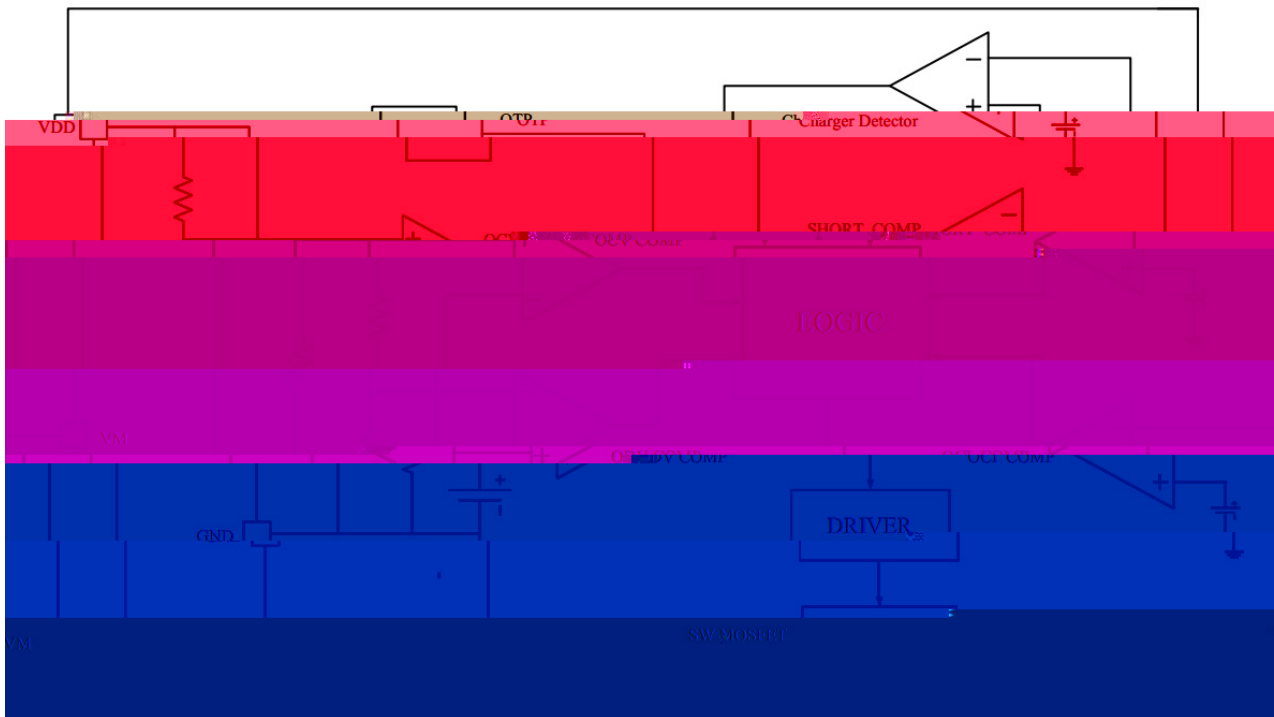
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
<b>Over temperature protection</b>						
Over-temperature protection	OTP			145		
Over-temperature protection release temperature	OTPR			120		
<b>Detection delay</b>						
Overcharge Voltage Detection Delay Time	T <sub>OCV</sub>			100		ms
Overdischarge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

\* (OTP)

OTPR

\*

/ FunctionI Block D6Emram



**/ Functional Description**

BRCL3130DZZ

MOSFET

16m

BRCL3130DZZ

**/ Normal Operating mode**

**/ Overcharge Voltage Condition**

			(V <sub>OCV</sub> )	
(T <sub>OCV</sub> )	BRCL3130DZZ	MOSFET		
	(T <sub>OCV</sub> )			
1	VM		(V <sub>CHA</sub> )	(V <sub>OCR</sub> )
2			(V <sub>OCV</sub> )	

**/ Overcharge Current Condition**

	I <sub>CHA</sub>	(T <sub>OCI</sub> )	MOSFET
	BRCL3130DZZ		

**/ Overdischarge Voltage Condition**

			(V <sub>ODV</sub> )
(T <sub>ODV</sub> )	BRCL3130DZZ		
	MOSFET		VDD 2.3V ( )
	(I <sub>PDN</sub> )		VDD 2.4V ( )
		(V <sub>ODR</sub> )	BRCL3130DZZ

**/ Overdischarge Current Condition**

		VM
VM		

**/ Load Short-circuiting Condition**

	VM	(V <sub>SHORT</sub> )
T <sub>SHORT</sub>	VM	

# BRCL3130DZZ

Rev.B Nov.-2025



DATA SHEET

## / Charger Detection

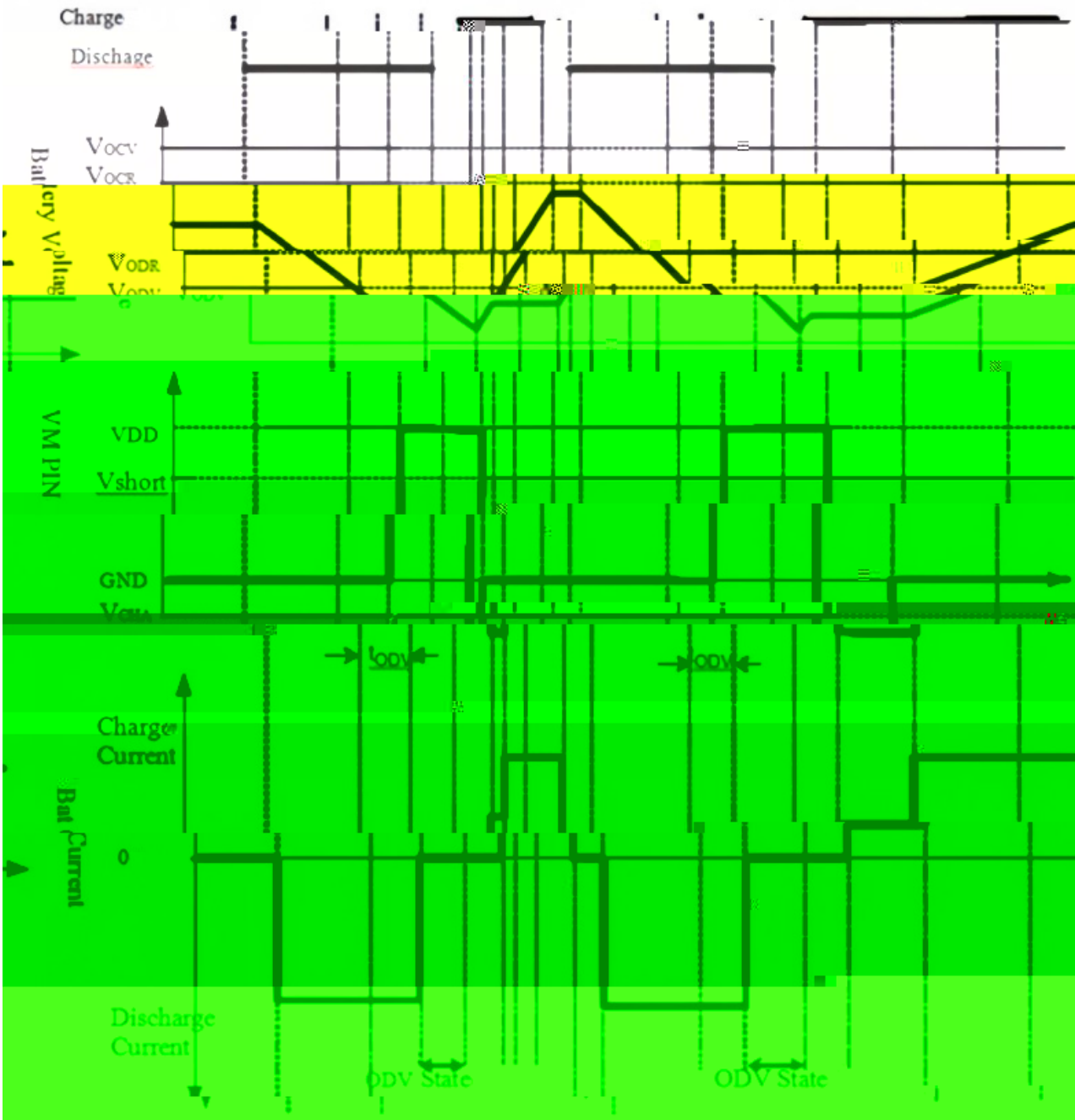
VM (V<sub>ODV</sub>) BRCL3130DZZ (V<sub>CHA</sub>)

## OV / 0V Battery Charging Function

OV 2.3z 4 2.3z 4 . e A

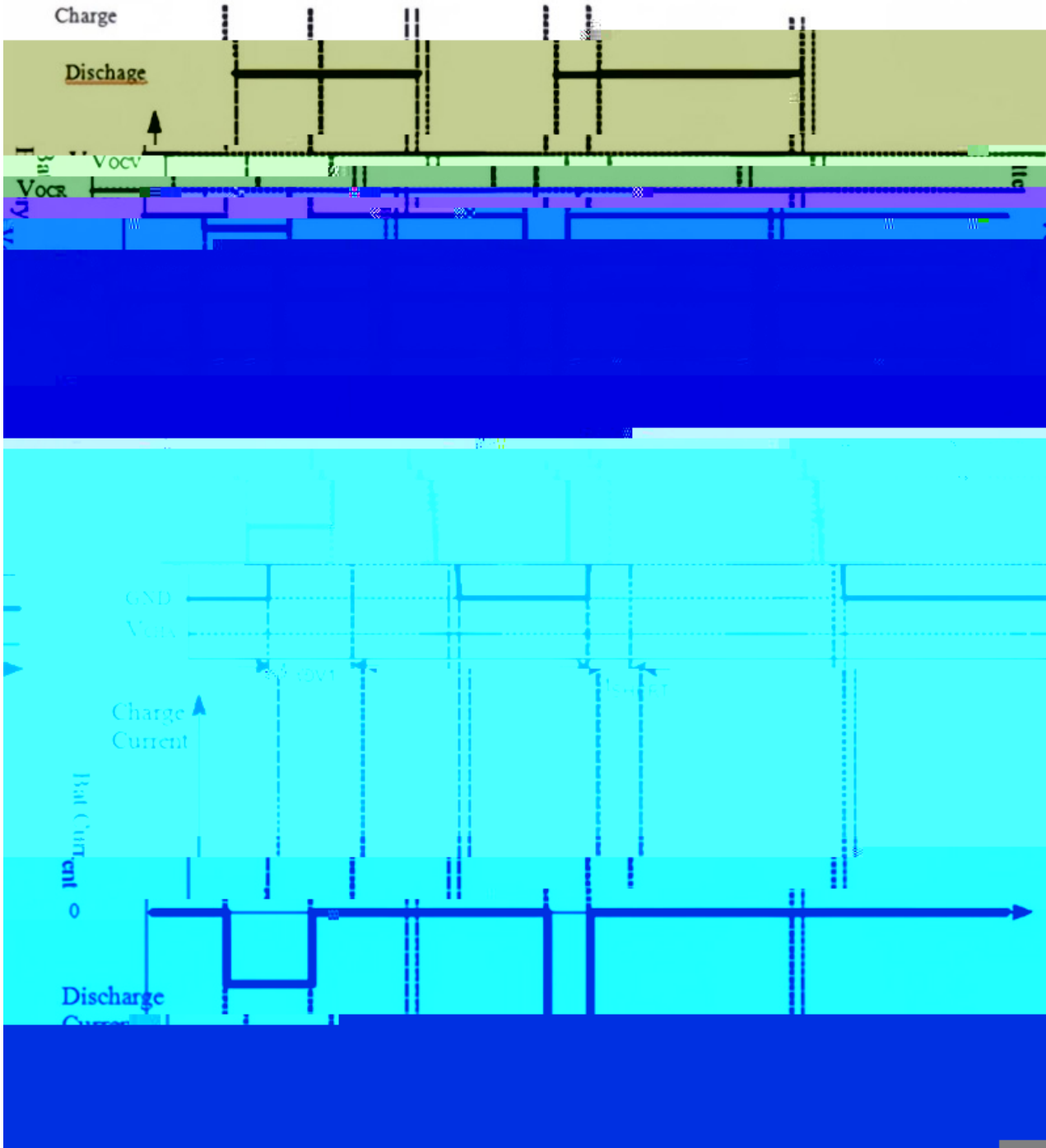
/ Timing Chart

/ Overdischarge    Charging    Normal Operation.



/ Timing Chart

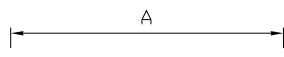
/ Discharge Overcurrent Normal Operation.



**/ Package Dimensions**

DFN2x2-8L-0.75

Unit:mm



Dimensions

Rev.00 202012

/ Marking Instructions



3130D  
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**BRCL3130DZZ**

Rev.B Nov.-2025

**DATA SHEET**