

BRCL4070ZR-4.2

Rev.B Mar.-2026



DATA SHEET

/ Descriptions

BRCL4070ZR-4.2	1.2A	/	BRCL4070ZR-4.2
P-MOSFET			
4.2V		4.2V	1/10
BRCL4070ZR-4.2			

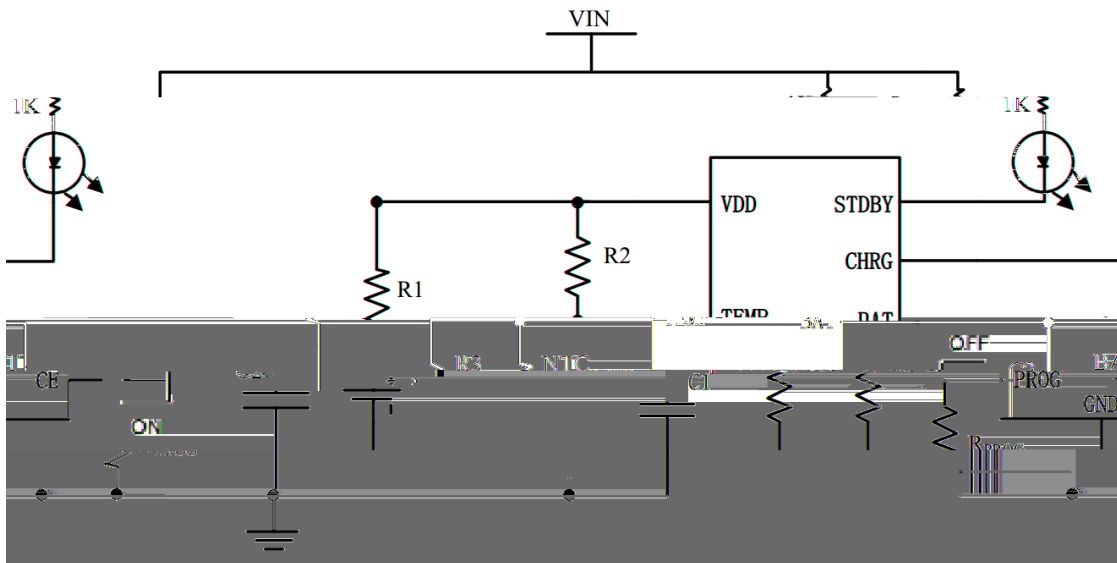
/ Features

- 6.8V OVP
- 36V
- 0V
- 1.2A
- / /
- 2.8V
- DFN3x3B-8L
- RoHS

/ Applications

LJ9

/ Application Circuit

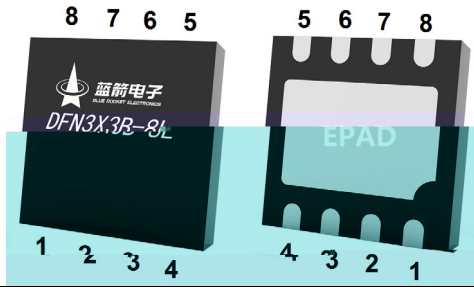


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/ Pinning



PIN Num.	Symbol	Function
1	TEMP	
2	GI F >	
3	GND	
4	VDD	, M
5	BAT	
6	STDBY	
7	CHRG	
8	CE	
EPAD	GND	

/ Absolute Maximum Ratings(Ta=25)

PARAMETER	SYMBOL	RATINGS	UNITS
VDD/CHRG/STDBY Pin Voltage	$V_{VDD/CHRG/STDBY}$	-0.3~30	V
VCE Pin Voltage	V_{CE}	-0.3~36	
BAT Pin Voltage	V_{BAT}	-5~15	
PROG Pin Voltage	V_{PROG}	-0.3~6	
TEMP Pin Voltage	V_{TEMP}	-0.3~25	
Operating Ambient Temperature Range	T_{OP}	-40~+85	°C
Storage Temperature	T_{stg}	-55~+150	°C
Lead Temperature (Soldering, 10s)	T_{solder}	260	°C
ESD	HBM	2000	V
	MM	200	V

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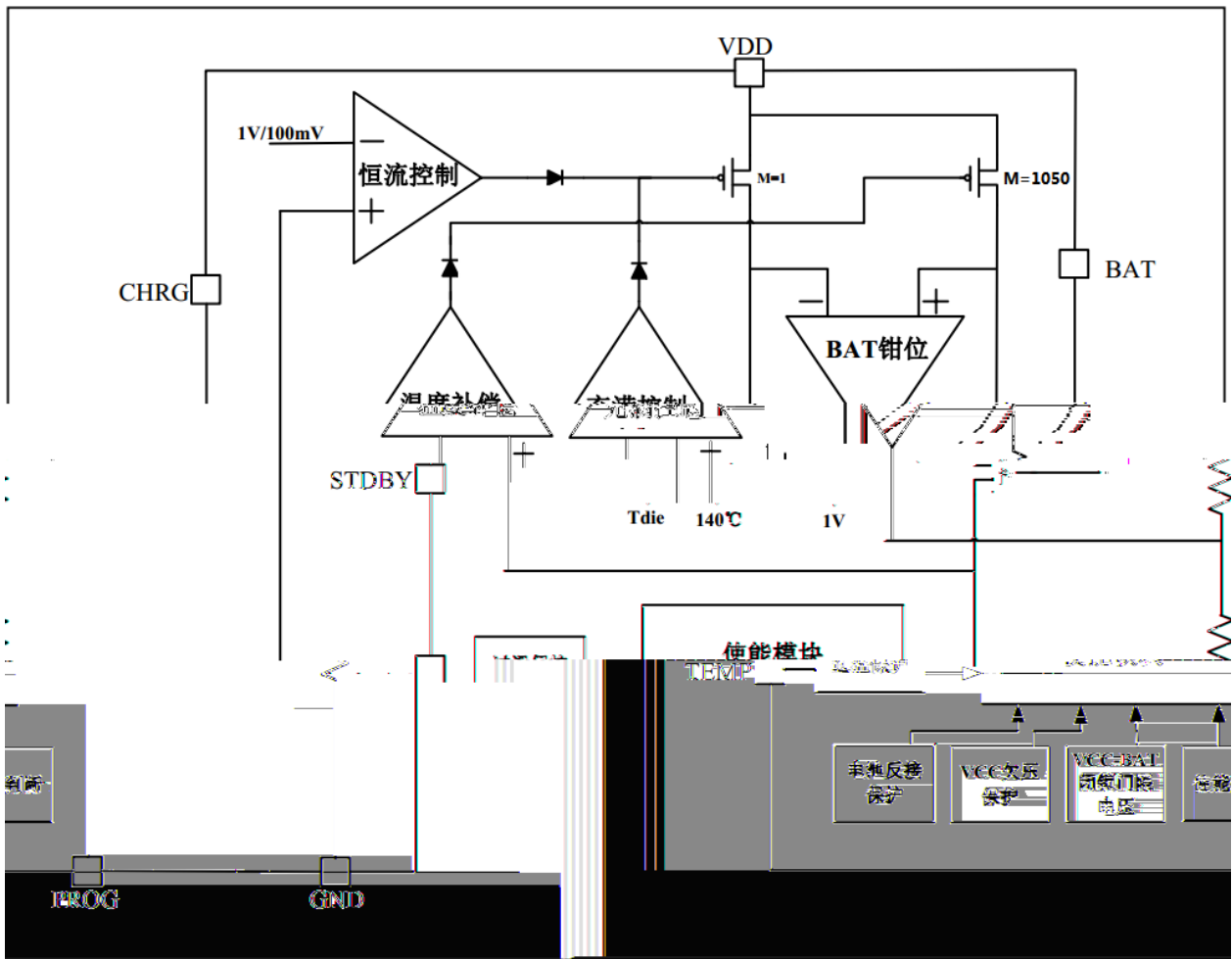
PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Power Supply						
Input Supply Voltage	V _{DD}		4.5	5.0	6.0	V
V _{DD} Under Voltage Lockout Threshold	V _{DD_UV}	V _{DD} from Low to High		3.8		V
V _{DD} Under voltage Lockout Hysteresis	V _{DD_UV_HYS}	V _{DD} from High to Low		200		mV
Input Over-Voltage Protection Voltage	V _{DD_OVP}		6.3	6.8	7.3	V
Input Over-Voltage Protection Voltage Hysteresis	V _{DD_OVP_HYS}			500		mV
Input Power Supply Current	I _{CC}	Charging mode (R _{PROG} =1K)		240	360	μA
		Standby mode, charging terminated		70	120	μA
		Shutdown mode (R _{PROG} not connected, V _{CC} <V _{BAT})		50	100	μA
Charging Current Setting						
R _{PROG} voltage at Constant Current Mode	V _{PROG}	V _{DD} =5V;R _{PROG} =1K	0.85	1	1.15	V

BAT Pin Current I=5V;R

/ Electrical Characteristics(Ta=25)

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Indicator Pin Status CHRГ/STDBY						
CHRГ Pin Output Current	I _{CHRГ}	V _{DD} =5V;V _{CHRГ} =1V	1	2.5	5	mA
STDBY Pin Output Current	I _{STDBY}	V _{DD} =5V;V _{STDBY} =1V	1	2.5	5	mA
Internal Temperature Compensation						
Internal Temperature Compensation	T _{OTC}			140		
Overtemperature Detection Threshold	T _{OTPH}	K<D G E K:	43%* V _{DD}	45%* V _{DD}		V
Low Temperature Detection Threshold	T _{OTPL}	K<D G E K:		80%* V _{DD}	82%* V _{DD}	V

/ Principle block diagram



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DATA SHEET

/ Function description

BRCL4070ZR-4.2 /
 BRCL4070ZR-4.2 USB AC 1.2A ,
 36V 6.8V

VDD UVLO PROG 1%
 BAT 2.8V,
 1/5
 BAT 2.8V
 BAT BRCL4070ZR-4.2
 1/10

$I_{CH} = 1050/R_{PROG}$ I_{CH}
 R_{PROG} R_{PROG} 200mA
 $R_{PROG} = 1050/0.2 = 5.25K$
 R_{PROG} 1%
 R_{PROG}

$R_{PROG}(K\Omega)$	$I_{CH}(mA)$
1	1050
1.2	875
1.5	700
5	205
10	100

BAT BRCL4070ZR-4.2 2ms $T_{RECHARGE}$
 4.05V 80 90

/ Function description

140

BRCL4070ZR-4.2

UVLO

VDD VDD
VDD 200mV

BRCL4070ZR-4.2

VDD

VDD

BRCL4070ZR-4.2
CHRG STDBY

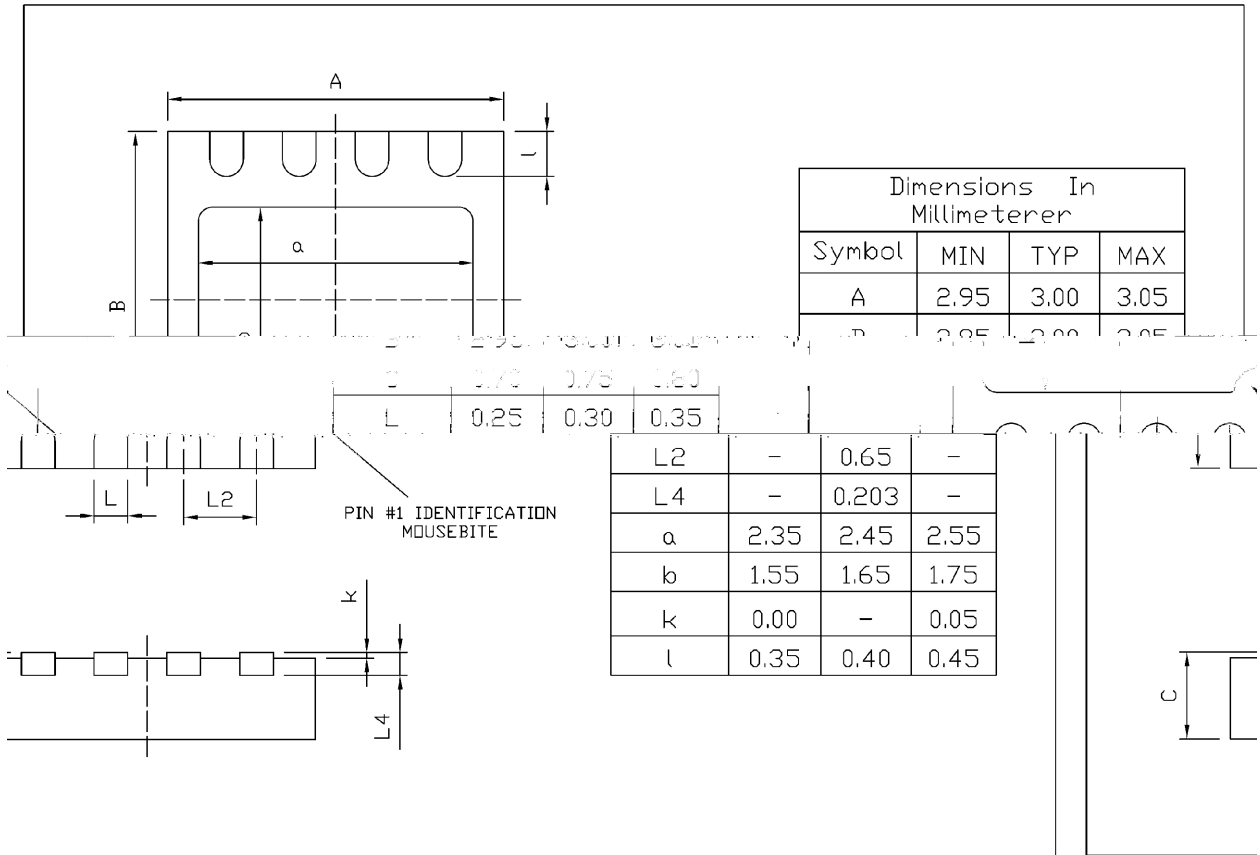
CHRG STDBY
CHRG STDBY

	CHRG/	STDBY/
$\dot{K} < D G \quad \dot{z}$		
M ;		

/ Package Dimensions

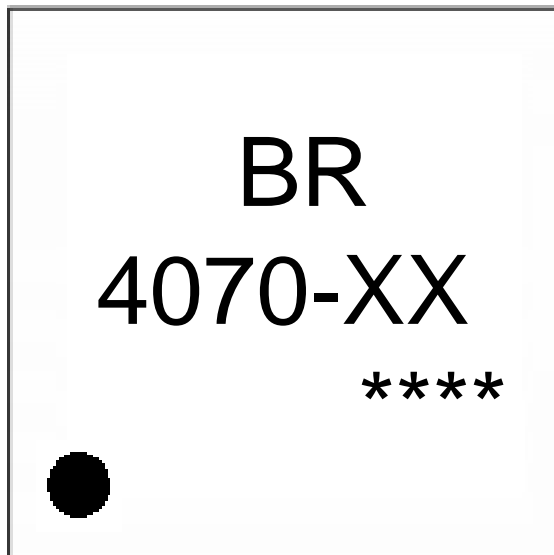
DFN3X3B-8L

Unit:mm



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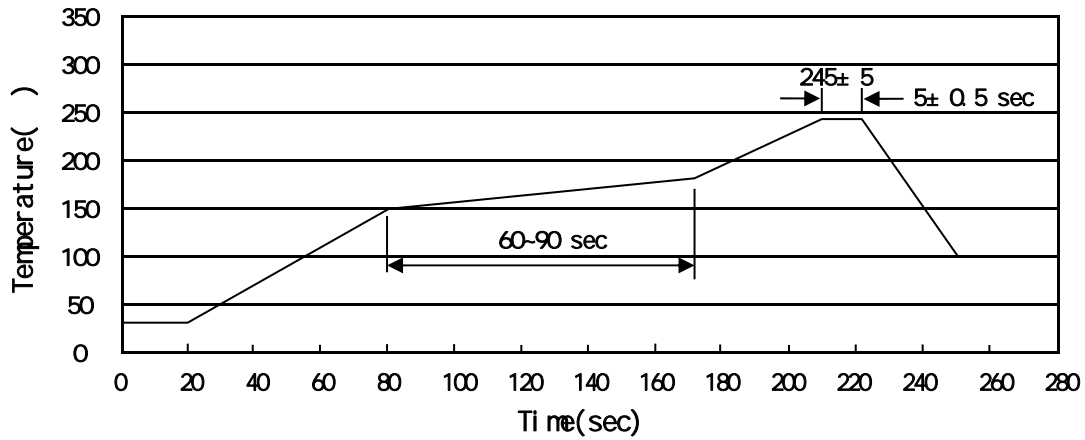
/ Marking Instructions



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Note:

- 1 150 180 60 90sec; 1.Preheating:150~180 , Time:60~90sec.
- 2 245±5 5±0.5sec; 2.Peak Temp.:245±5 , Duration:5±0.5sec.
- 3 2 10 /sec. 3. Cooling Speed: 2~10 /sec.

/ Resistance to Soldering Heat Test Conditions

260±5 10±1 sec. Temp.:260±5 Time:10±1 sec

/ Packaging SPEC.

/ REEL

Package Type	Units					Dimension (unit mm ³)		
	Units/Reel /	Reels/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Reel	Inner Box	Outer Box
DFN3x3B-8L	5,000	2	10,000	6	60,000	13 x12	360x360x50	380x335x366

/ Notices

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