

/ Descriptions

BRCL4070ZR-4.2	1.2A	/
i	κ	BRCL4070ZR-4.2
P-MOSFET	τ i	j
4.2V		4.2V
α	β	6
	BRCL4070ZR-4.2	1/10
	α	

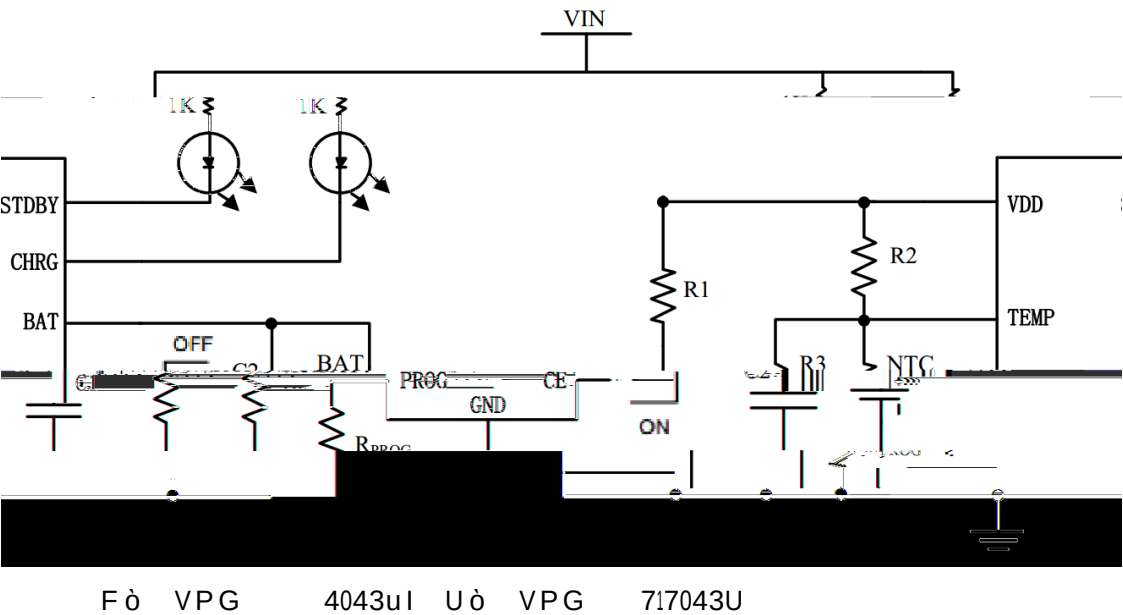
/ Features

- ◆ 6.8V OVP
- ◆ 36V
- ◆
- ◆ 0V
- ◆ 1.2A
- ◆ / / s
- ◆
- ◆
- ◆ 2.8V
- ◆
- ◆ DFN3×3B-8L
- ◆ RoHS

/ Applications

- ◆ XVE
- ◆
- ◆
- ◆

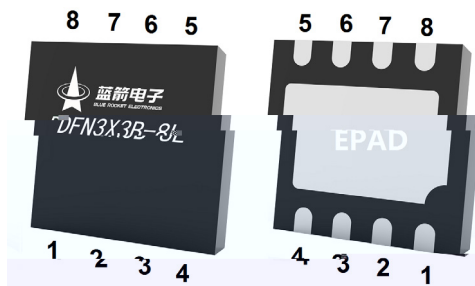
/ Application Circuit



BRCL4070ZR-4.2

Rev.B Mar.-2026

/ Pinning



PIN Num.	Symbol	Function
1	TEMP	j
2	SUR J	
3	GND	Q
4	VDD	8Y
5	BAT	
6	STDBY	6
7	CHRG	
8	CE	Q H Q ß
EPAD	GND	Q

/ 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

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

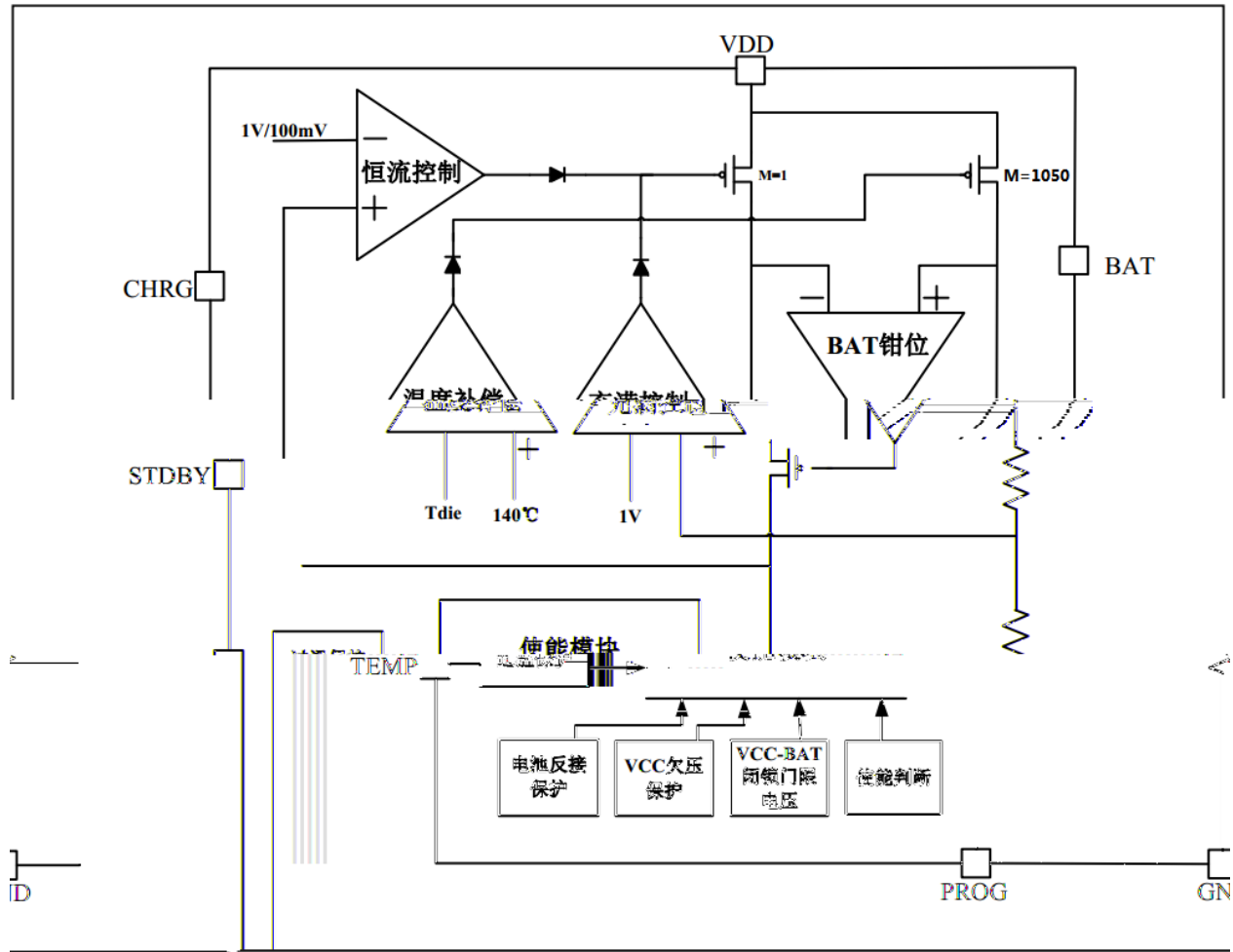
BAT Pin Current

I

/ Electrical Characteristics(Ta=25)

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Indicator Pin Status CHRG/STDBY						
CHRG Pin Output Current	I _{CHRG}	V _{DD} =5V;V _{CHRG} =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}	WHPS QWF	43%* VDD	45%* VDD		V
Low Temperature Detection Threshold	T _{OTPL}	WHPS QWF		80%* VDD	82%* VDD	V

/ Principle block diagram



/ Function description



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



VDD 6 UVLO i PROG ъ 1%
љ ѣ BAT H 2.8V,
Q 1/5 6
K BAT 6 2.8V i %
BAT BRCL4070ZR-4.2
6 1/10 ѣ



$I_{CH}=1050/R_{PROG}$ T I_{CH} H
 R_{PROG} R_{PROG} H 200mA İ
 $R_{PROG}=1050/0.2=5.25K\Omega$
 R_{PROG} 1% T :

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



ñ ѣ ß BRCL4070ZR-4.2 o T 2ms ε T_{RECHARGE} ζ
BAT i í 6 4.05V ε 7 80 6 90 ζ
İ ѣ ε ζ
ѣ

/ Function description



Q 6 140 i BRCL4070ZR-4.2 y
I ß Q ÷ ε y



Q VDD VDD 6 i Q
UVLO ψ VDD 6 200mV Q j



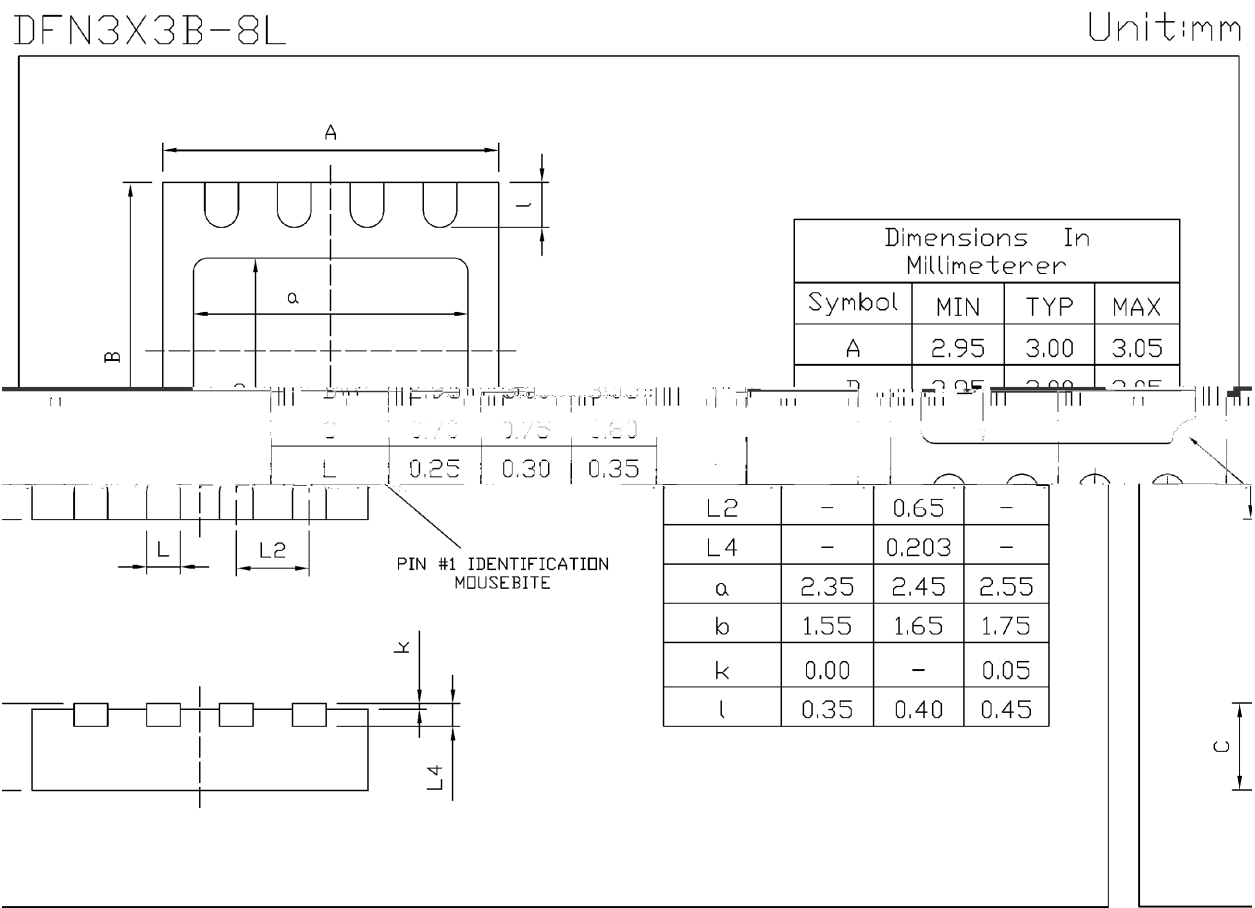
BRCL4070ZR-4.2 I Q VDD
i Q VDD i * Q
*



BRCL4070ZR-4.2 CHRG STDBY
CHRG H STDBY CHRG STDBY
j I j

	CHRG/	STDBY/
*		
H +WHPS ,		
YGG j		

/ Package Dimensions



Rev.00 202006

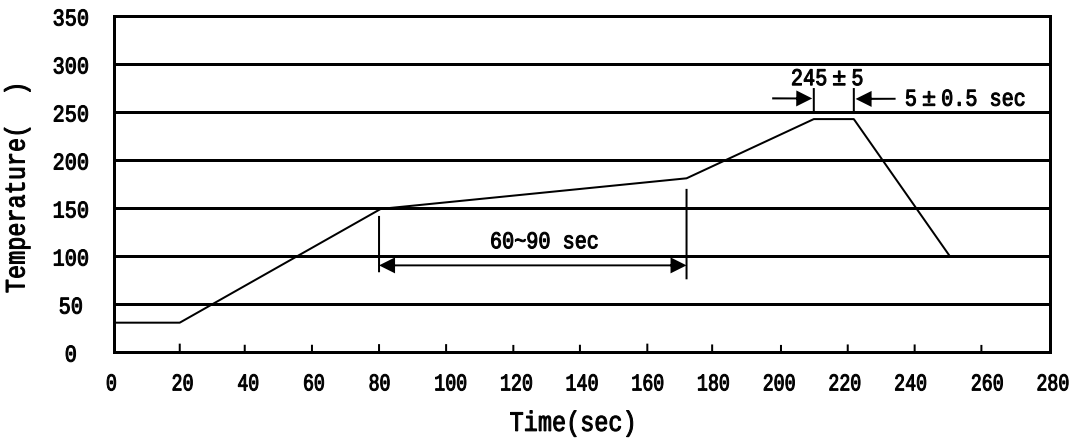
/ Marking Instructions



EU И
7373 N
XX İ
---- N N ψ

N	
BRCL4070ZR-4.2	BR/4070-42/****

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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)
DFN3×3B-8L	5,000	2	10,000	6	60,000	13	×12	360×360×50	380×335×366

/ Notices

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