

/ Descriptions

BRCL4070ZR-4.2

1.2A

/

BRCL4070ZR-4.2

P-MOSFET

4.2V

4.2V

1/10

BRCL4070ZR-4.2

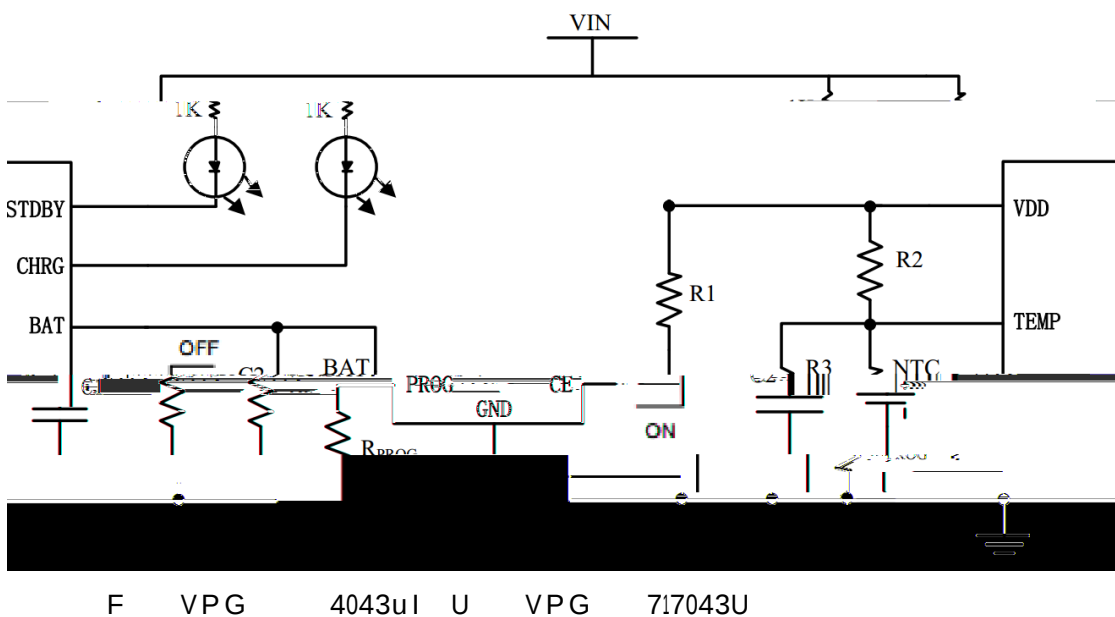
/ Features

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

/ Applications

- ◆ XVE

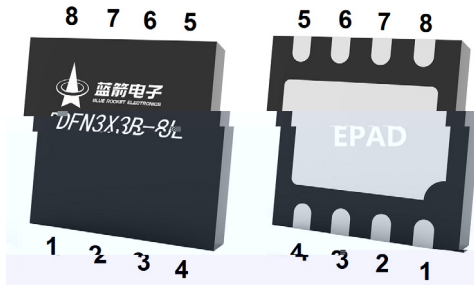
/ Application Circuit



BRCL4070ZR-4.2

Rev.B Mar.-2026

/ Pinning



PIN Num.	Symbol	Function
1	TEMP	
2	SUR J	
3	GND	
4	VDD	8Y
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

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

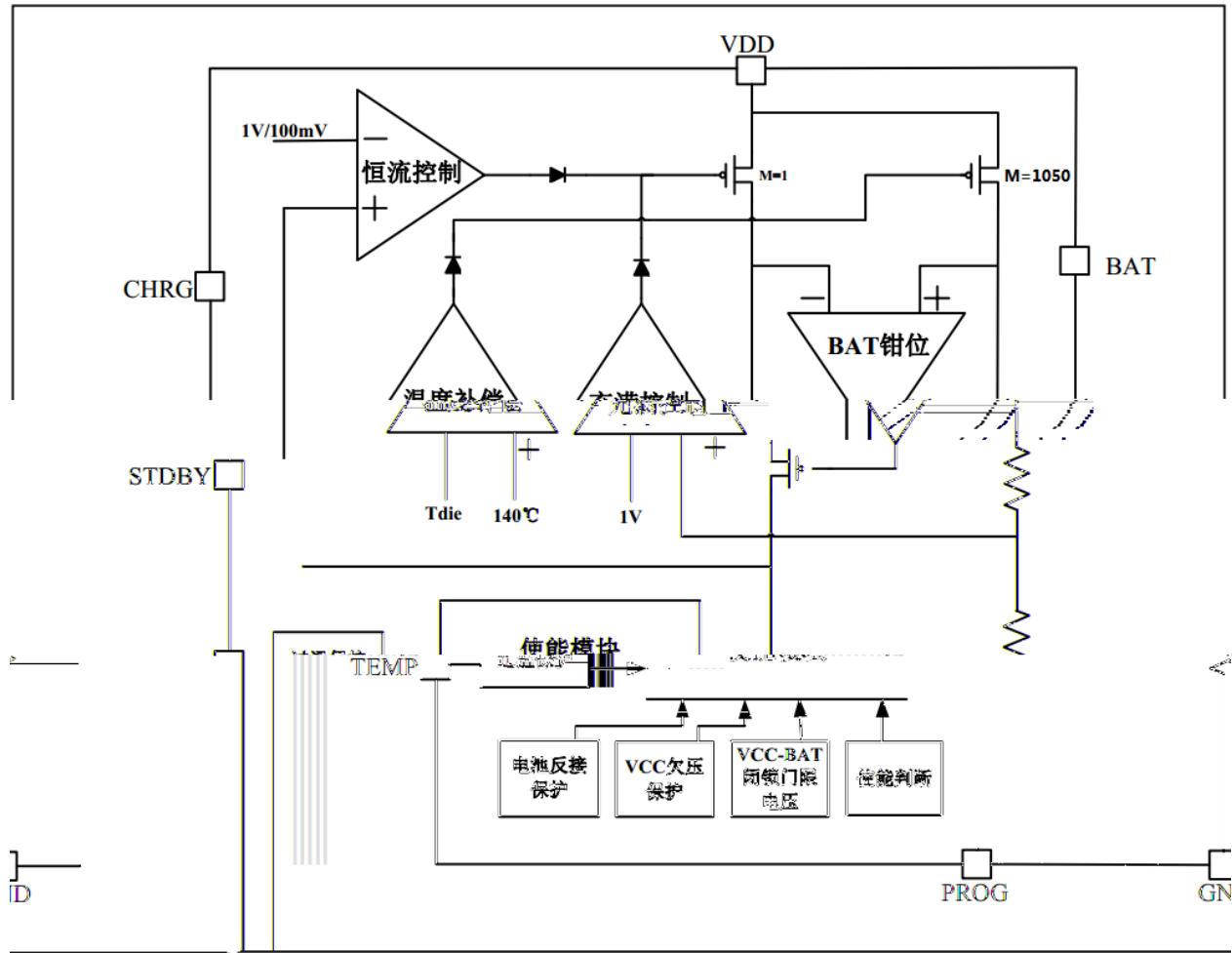
BAT Pin Current

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



VDD UVLO PROG BAT 1%
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
 $R_{PROG}=1050/0.2=5.25K\Omega$
 R_{PROG} 1%
 R_{PROG}

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



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

/ Function description



140BRCL4070ZR-4.2



UVLOVDDVDD
VDD200mV



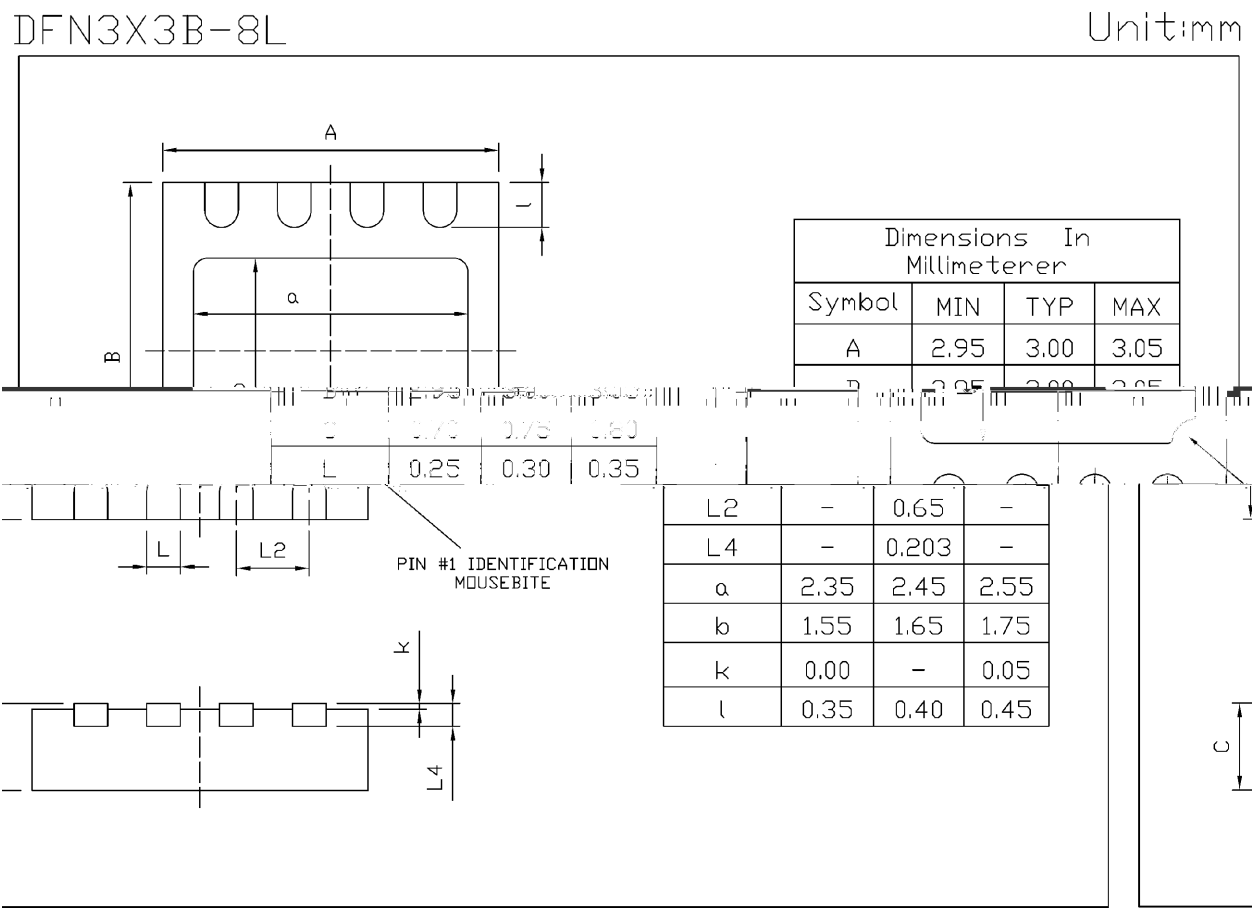
BRCL4070ZR-4.2VDD
VDD



BRCL4070ZR-4.2CHRG STDBY
CHRG STDBYCHRG STDBY

	CHRG/	STDBY/
+WHPS ,		
YGG		

/ Package Dimensions



Rev.00 202006

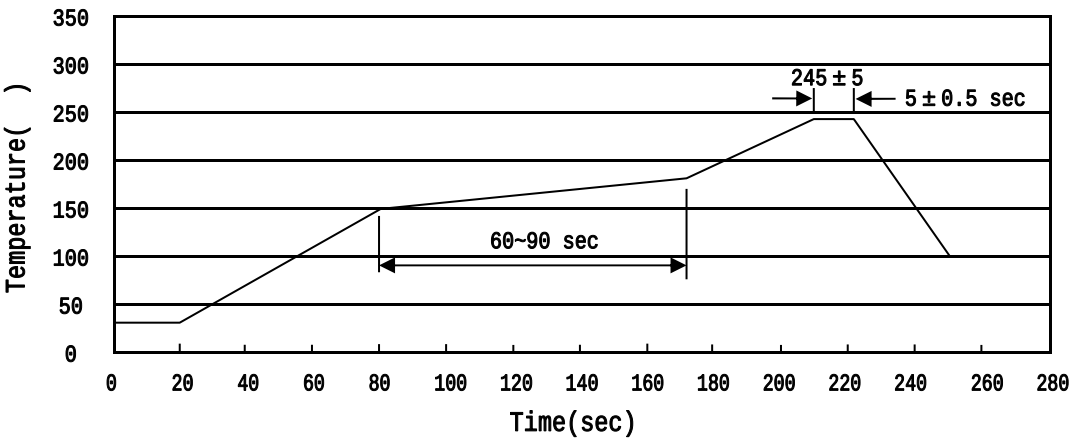
/ Marking Instructions



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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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