BRCL4070ZR-4.2

Rev.B Mar.-2026

DATA SHEET

BRCL4070ZR-4.2 1.2A /
í ﮬ א BRCL4070ZR-4.2
P-MOSFET ﺍ i گ j ﮬ ﮕ ﯖ
4.2V ﮕ 4.2V ں⁶ 1/10
ɑ ฿
BRCL4070ZR-4.2 ɑ

6.8V OVP

ﺮ 36V

ﺮ

0V

1.2A

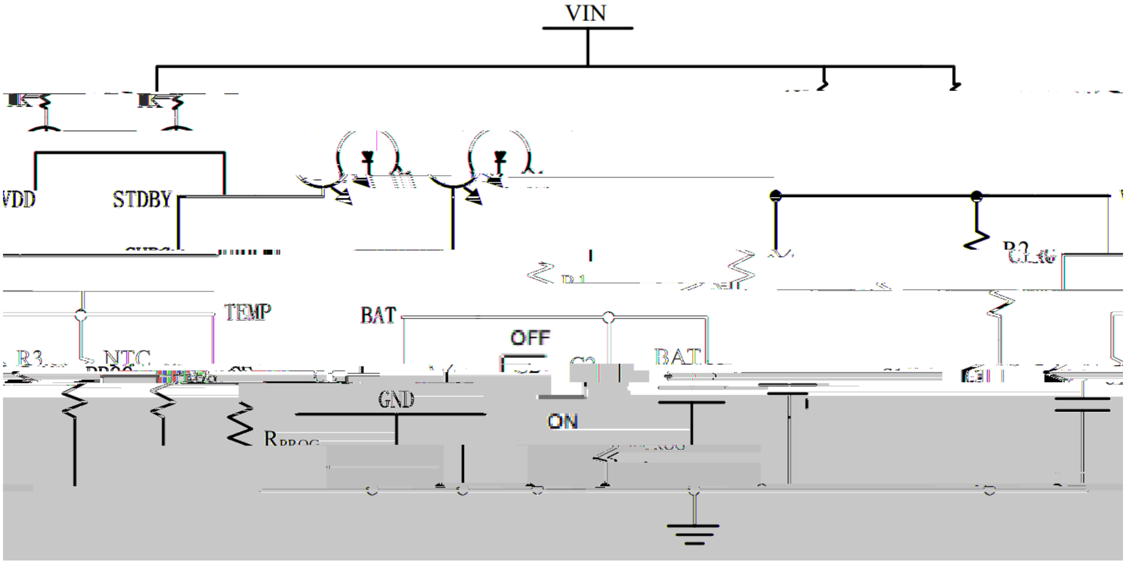
/ / s

2.8V

DFN3×3B-8L

RoHS

XVE



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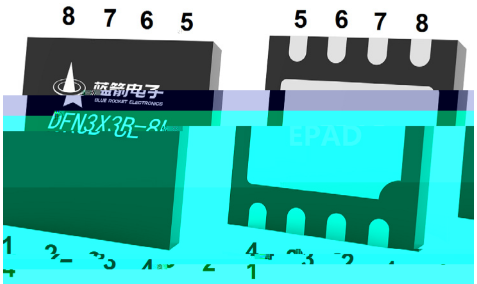
/ Pinning



PIN Num.	Symbol	Function
1	TEMP	j
2	SUR J	گ
3	GND	ɑ
4	VDD	8Y
5	BAT	
6	STDBY	6
7	CHRG	
8	CE	ɑ س Ḩ ح ɑ ฿
EPAD	GND	ɑ

/ 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

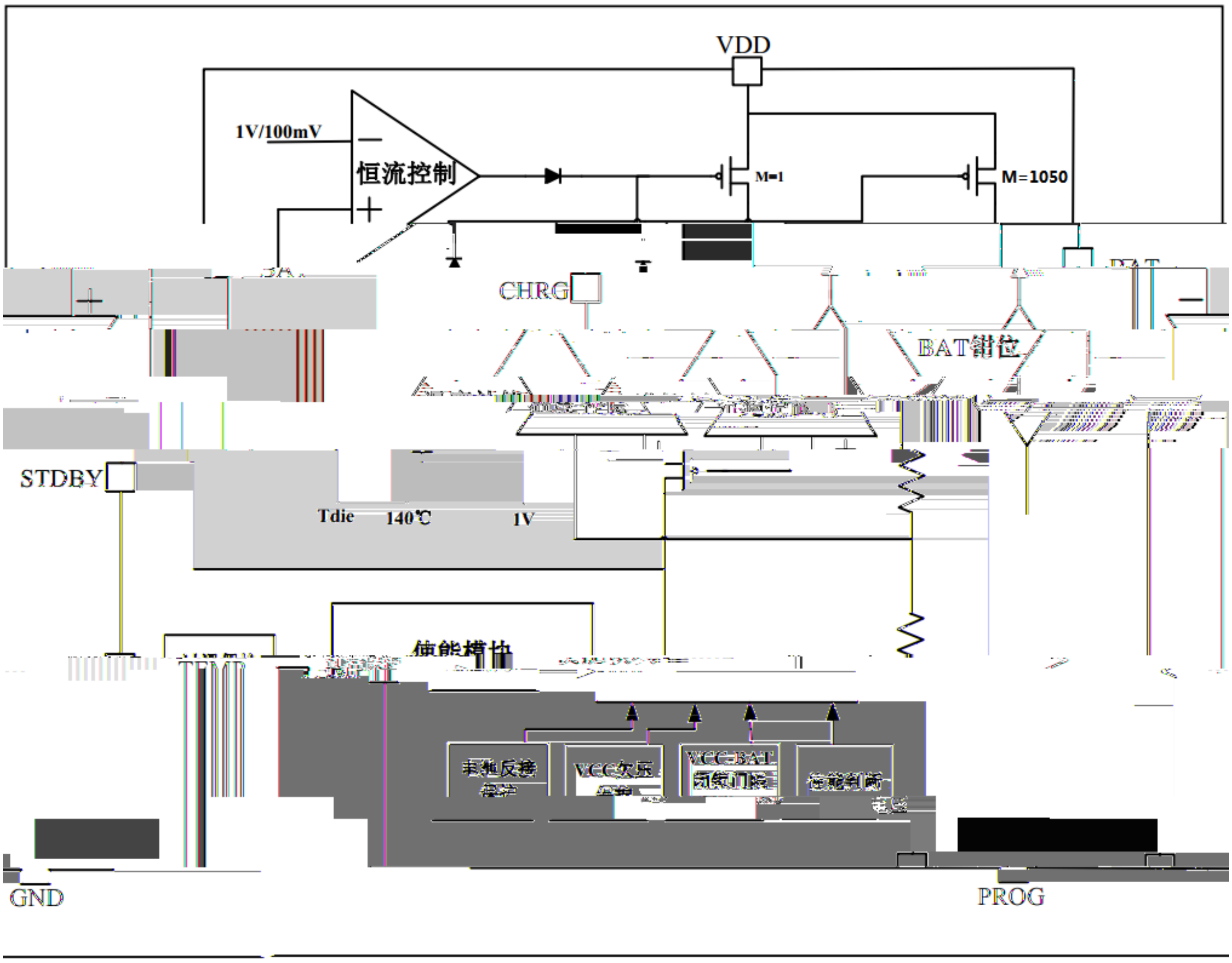
PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Power Suplly						
Input Supply Voltage	V_{DD}		4.5	5.0	6.0	V
V_{DD} Under Voltage Lockout Threshold	V_{DD_UV}	V_{DD} from Low to High		3.8		V
V_{DD} Under voltage Lockout Hysteresis	$V_{DD\_UV\_HYS}$	V_{DD} from High to Low		200		mV
Input Over-Voltage Protection 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 ڳ	43%* VDD	45%* VDD		V
Low Temperature Detection Threshold	T_{OTPL}	WHPS QWF ڳ		80%* VDD	82%* VDD	V

/ Principle block diagram



BRCL4070ZR-4.2 ḣ /

BRCL4070ZR-4.2 ᴶ ˎ USB AC1.2A ,

6.8V

UVLO PROG 1%

BAT 2.8V,

1/5

BAT \l 2.8V

BAT BRCL4070ZR-4.2 ḣ

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I $_{CH}$ =1950/R_{PROG} I_{CH}

R_{PROG} R_{PROG} 200mA

R_{PROG} =1950/0.2 = 5.25KΩ

R_{PROG} 1%

گ ᴉ ȵ R_{PROG}

R_{PROG}(K) I	$_{CH}$(mA)
1	1950
1.2	875
5	205
10	100

Ʊ 2ms $T_{RECHARGE}$

BAT i \l 4.05V 80

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/ Function description

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ı گ฿ ɑ ⁝ ɛ ﻻ

ɑ ڈ ڿ VDD VDD ₆ ڈ ڿ ڎ ں i ɑ
UVLO Ψ VDD ₆ ܢ200mV ɑ j

BRCL4070ZR-4.2 ı ɑ VDD
i ɑ VDD ï ں *
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BRCL4070ZR-4.2 CHRG STDBY
CHRG Ḩ STDBY ܢگ CHRG STDBY ܢگ
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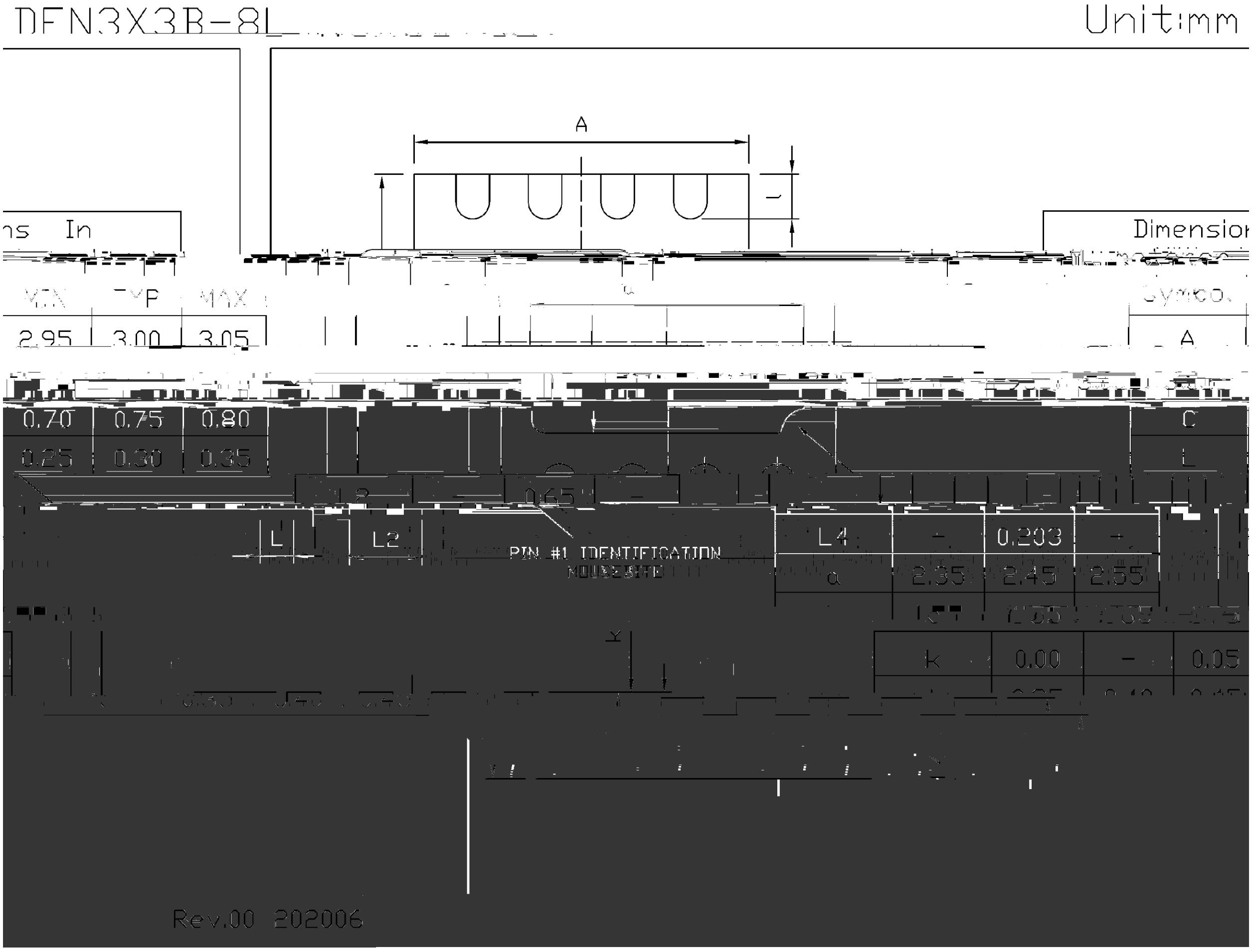
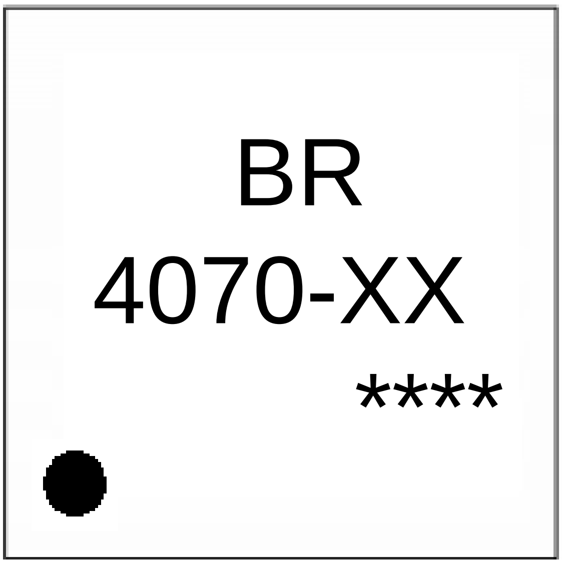
	CHRG/	STDBY/
*		
ܢ Ḩ ڭ +WH P S ,		
YGG j	ڈ	

/ Package Dimensions



/ **Marking Instructions**



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

( ) /

1 أ 150 180 ژ 60 90sec;
2 245±5 ژ 5±0.5sec;
3 ɔ 2 10 /sec.

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

/ Resistance to Soldering Heat Test Conditions

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

/ Packaging SPEC.

/ REEL

Package Type	Units	Dimension (unit mm^3)