BRCL4058PSE-4.2

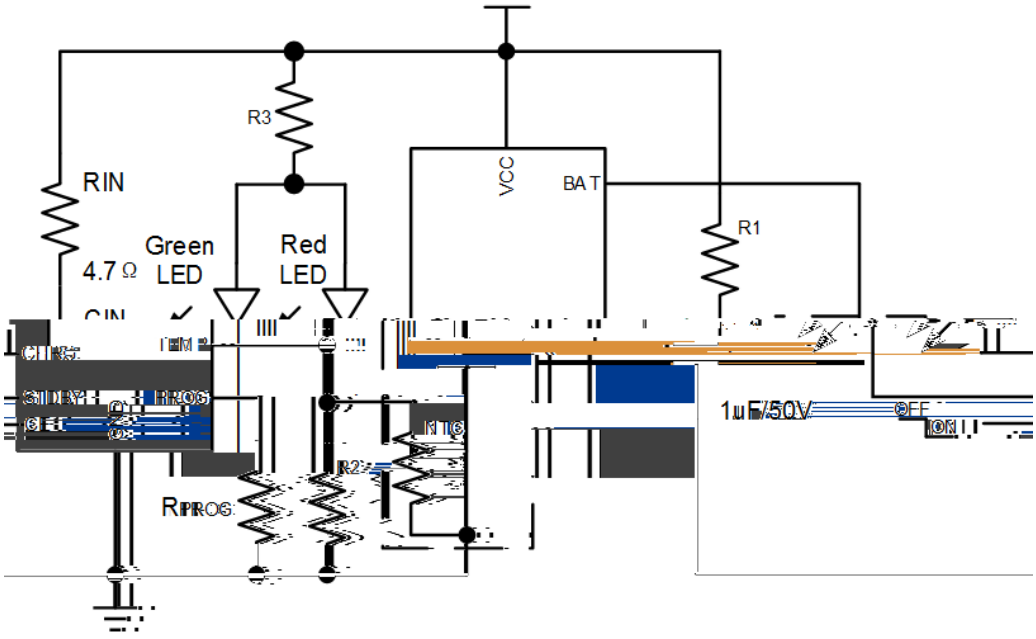
BRCL4058PSE-4.2 /
BRCL4058PSE-4.2 USB
BRCL4058PSE-4.2 PMOSFET

4.2V PROG 1.0A
BRCL4058PSE-4.2 2μA
BRCL4058PSE-4.2

BRCL4058PSE-4.2 ESOP-8 6 PCB
BRCL4058PSE-4.2 -40°C to +85°C

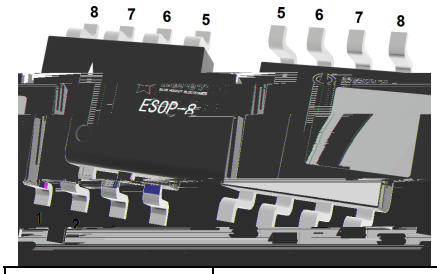
- 36V 6.1V
- 1% 4.2V
-
- BAT-VDD
- <2μA
- 55μA
- 0V
- 1.0A
- / /
-
-
-
-
-
- RoHS

- PDAs MP3
- USB
-



1 VCC VCC CIN 4.7Ω VCC

2 CE MCU CE GND BRCL4058PSE-4.2 CE VCC



1	TEMP	
2	PROG	GND
3	GND	
4	VCC	
5	BAT	
6	STDBY	
7	CHRG	
8	CE	⊘ † †

Rev.B May.-2025

V_{CC} Under voltage Lockout Hysteresis	$V_{CC\_UV\_HYS}$		100	200	300	mV
V_{CC}-V_{BAT} Lockout Threshold	V_{ASD}	V_{CC} from Low to High	100	125	150	mV
		V_{CC} from High to Low	30	65	100	mV
C/10 Charging Termination Current	I_{TERM}	R_{PROG}=1.02k	90	100	110	mA
R_{PROG} voltage at Constant Current Mode	V_{PROG}	R_{PROG}=1.02k, Current mode	0.9	1.0	1.1	V
CHRG outputs low voltage	V_{CHRG}	I_{CHRG}=5mA		0.3	0.6	V
STDBY outputs low voltage	V_{STDBY}	I_{STDBYG}=5mA		0.3	0.6	V

◆

BRCL4058PSE-4.2 /
1.0A PCB ±1%
BRCL4058PSE-4.2 P MOSFET
BRCL4058PSE-4.2 USB

◆ ₇

VCC UVLO PROG 1%
BAT V_{TRIKL}
BRCL4058PSE-4.2 1/10

BAT V_{TRIKL} BAT
V_{FOLOAT} BRCL4058PSE-4.2
1/10

◆

PROG PROG
900

$R_{PROG}=900/I_{CHG}$ $I_{CHG}=900/R_{PROG}$

BAT PROG

$I_{BAT}=(V_{PROG}\times 900)/R_{PROG}$

0.5A

R_{PROG}

R_{PROG}(KΩ)	I_{CHG}(mA)
3.00	305
2.32	400
2.05	450
1.91	485
1.80	520
1.58	590
1.47	640
1.37	690
1.27	755
1.21	800
1.10	910
1.02	1000

◆ 6

1/10

PROG PROG 100mV t_{TERM}

1.8ms BRCL4058PSE-4.2

55μA C/10

BAT PROG DC 1/10

100mV 1.8ms t_{TERM}

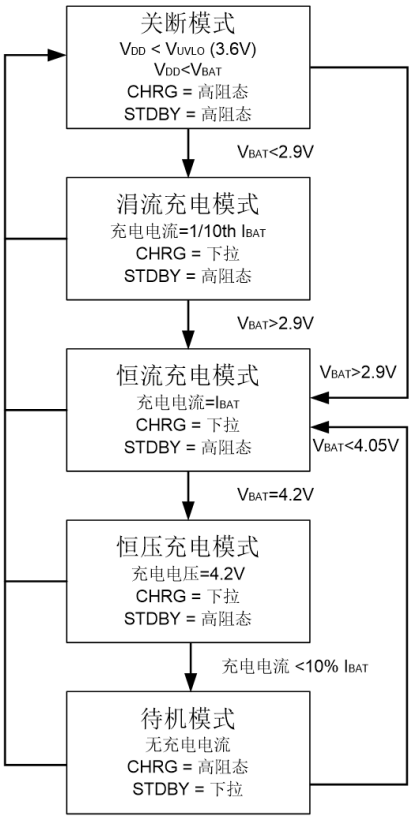
1/10 BRCL4058PSE-4.2

BAT BAT

BRCL4058PSE-4.2 BAT 4.05V

V_{RECHRG}

PROG



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BRCL4058PSE-4.2 CHRG STDBY BRCL4058PSE-4.2
CHRG CHRG STDBY
CHRG STDBY
TEMP BAT 10μF
LED LED 1-4s

	LED CHRG	LED STDBY
BAT 10uF (TEMP=GND)	LED LED 1-4s	

◆

145
BRCL4058PSE-4.2
BRCL4058PSE-4.2

◆

BRCL4058PSE-4.2
TEMP TEMP NTC

BRCL4058PSE-4.2 TEMP VLOW VHIGH
BRCL4058PSE-4.2 VLOW 45%×Vcc VHIGH
80%×Vcc
TEMP VTEMP<VLOW VTEMP>VHIGH
TEMP VTEMP VLOW VHIGH TEMP

◆

R1 R2

TL~TH TL TH)

NTC RTL TL RTH TH RTL RTH

TL TEMP

$$VTEMPL = \frac{R2||RTL}{R1 + R2||RTL}VIN$$

TH TEMP

$$VTEMPL = \frac{R2||RTH}{R1 + R2||RTH}VIN$$

$$VTEMPL = VHIGH = k2 \times Vcc(k2 = 0.8)$$

$$= VLOW = k1 \times Vcc(k1 = 0.45)\ VTEMPH$$

$$R1 = \frac{RTL \times RTH(k2 - k1)}{(RTL - RTH)k2 \times k1}$$

$$\frac{RTL \times RTH(k2 - k1)}{(RTL - RTH)k2 \times k1}$$

PTC

$$R1 = \frac{RTL \times RTH(k2 - k1)}{(RTH - RTL)k2 \times k1}$$

$$R2 = \frac{RTL \times RTH(k2 - k1)}{RTH(k1 - k2 \times k1) - RTL(k2 - k2 \times k1)}$$

Vcc R1 R2 RTH RTL

RTH RTL

R2 R1

R1

◆ **α** **β**

VCC

UVLO UVLO VCC

100mV

◆

BRCL4058PSE-4.2 1.8ms BAT
4.05V 80% 90%

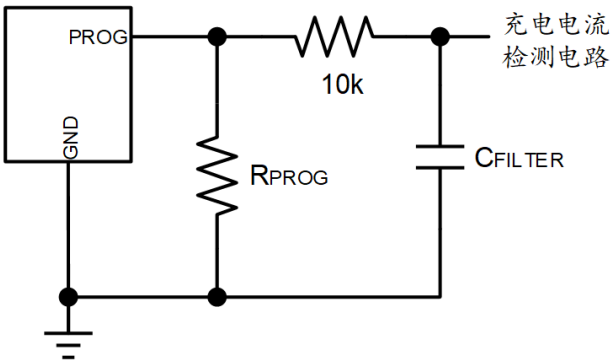
CHRG

◆

ESR
1Ω
PROG PROG
PROG RPROG 20kΩ PROG
PROG 100kHz
PROG CPROG RPROG

$$R_{PROG} \leq \frac{1}{2\pi \cdot 10^5 \cdot C_{PROG}}$$

BAT PROG
RC PROG
10k



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PCB
PD

$$T_J = P_D \times \theta_{JA} + T_A$$

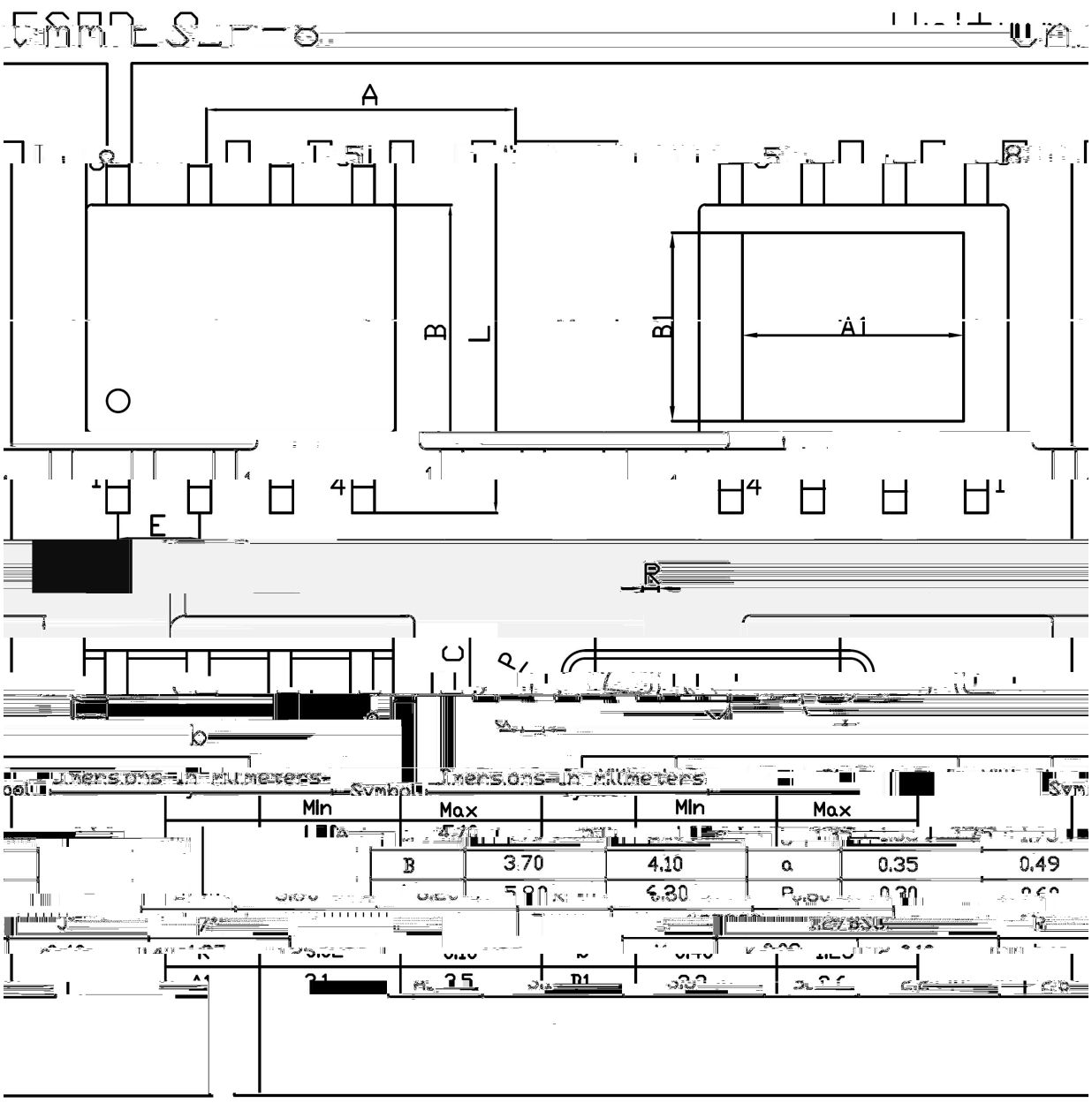
◆

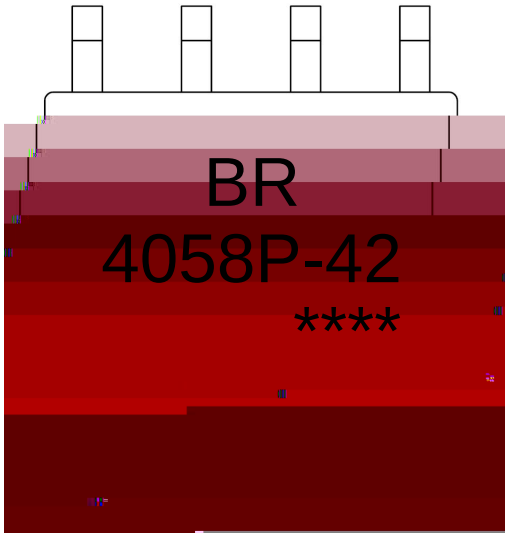
IC PD V_{IN}-V_{BAT} I_{CHG} :

P_D= V_{IN}-V_{BAT} *I_{CHG}

3.6V

4.0V 5%~10% PD


A
B
L
B1
A1
E
C
b
Min
Max
Min
Max
B 3.70 4.10
a 0.35 0.49



BR

4058P

42 4.2v

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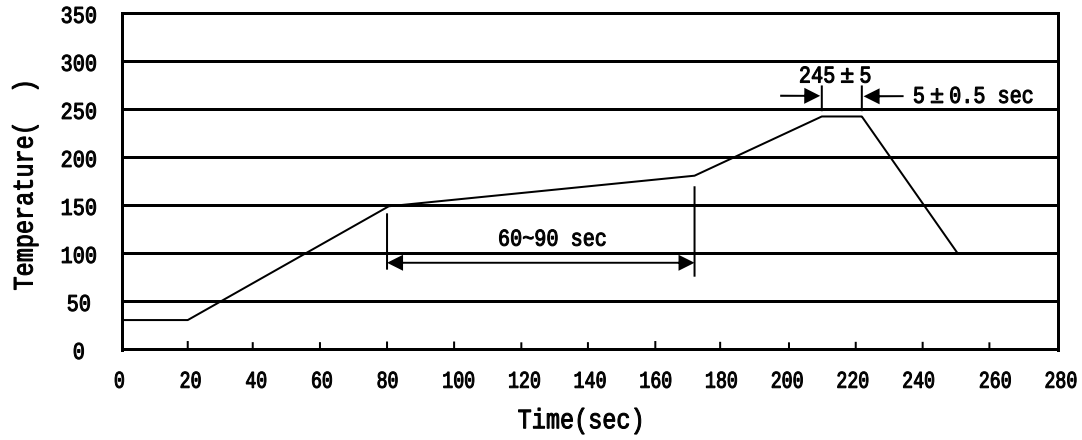
Wh p shrdwxrh Prriioh irr IU Uhiorw Vroghriqj+Pe-Frhh,



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.

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

/ REEL

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit：mm³)		
	Units/Reel 只/卷盘	Reels/Inner Box 卷盘/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Reel	Inner Box 盒	Outer Box 箱
SOP/ESOP-8	4,000	2	8,000	6	48,000	13 ×12	360×360×50	380×335×366