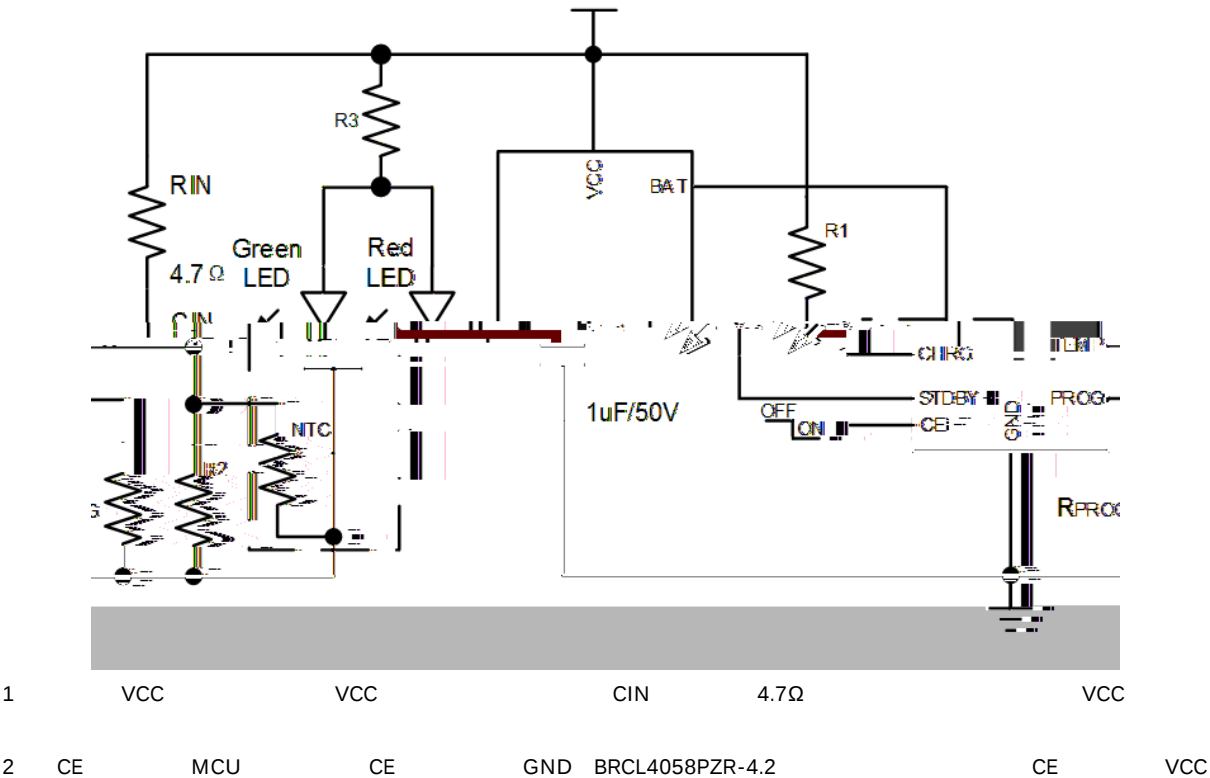
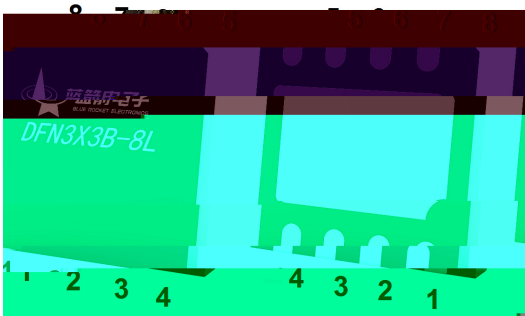


BRCL4058PZR-4.2							
BRCL4058PZR-4.2	/						
BRCL4058PZR-4.2					USB		
BRCL4058PZR-4.2	PMOSFET						
4.2V		PROG		1.0A			
BRCL4058PZR-4.2		2μA					
BRCL4058PZR-4.2							
BRCL4058PZR-4.2	DFN		6		PCB		
BRCL4058PZR-4.2	-40°C to +85°C						

/ Application Circuit



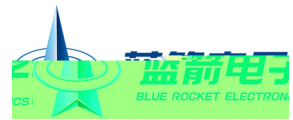
/ Pinning



PIN Num.	Symbol	Function
1	TEMP	
2	PROG	GND
3	GND	
4	VCC	
5	BAT	
6	STDBY	
7	CHRG	
8	CE	

BRCL4058PZR-4.2

Rev.B May.-2025



DATA SHEET

BRCL4058PZR-4.2

Rev.B May.-2025

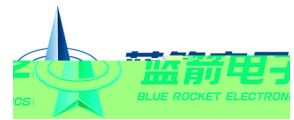


DATA SHEET

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
V _{CC} Under voltage Lockout Hysteresis	V _{CC_UV_HYS}	V	100	200	300	mV
V _{CC} -V _{BAT} Lockout Threshold	V _{ASD}	V				

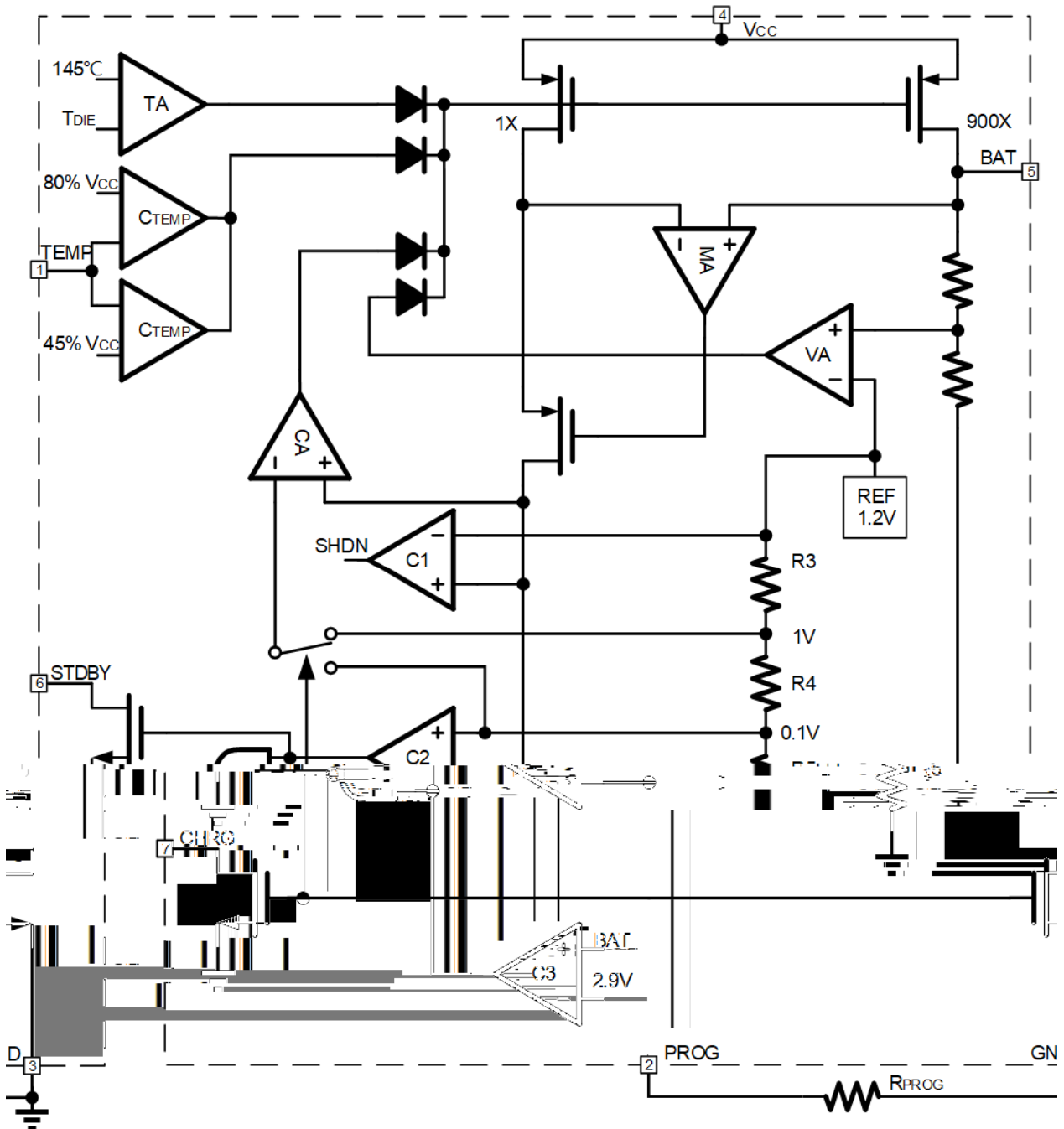
BRCL4058PZR-4.2

Rev.B May.-2025

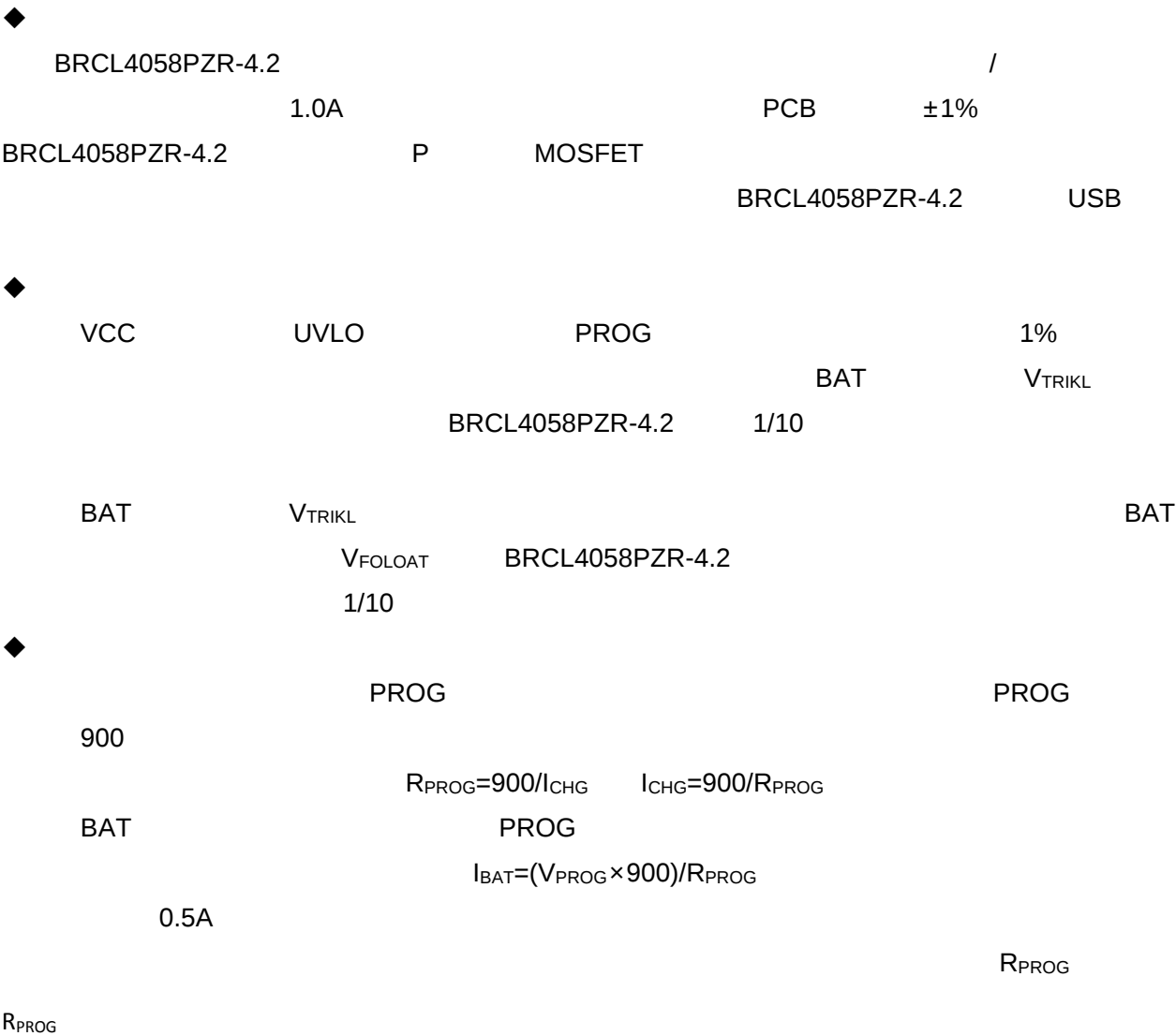


DATA SHEET

/ Principle block diagram

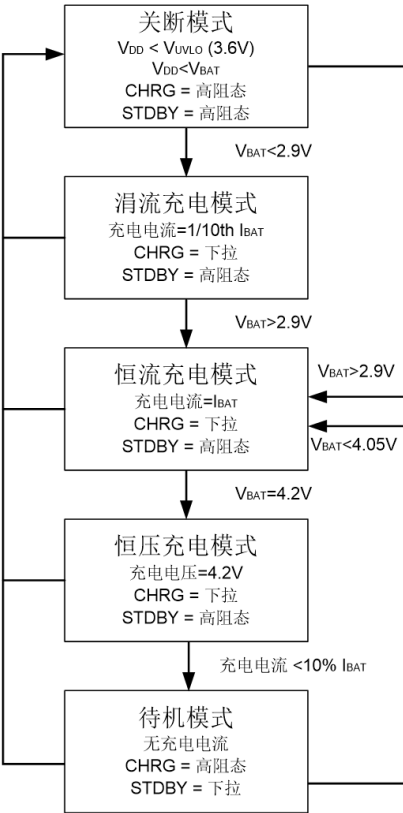
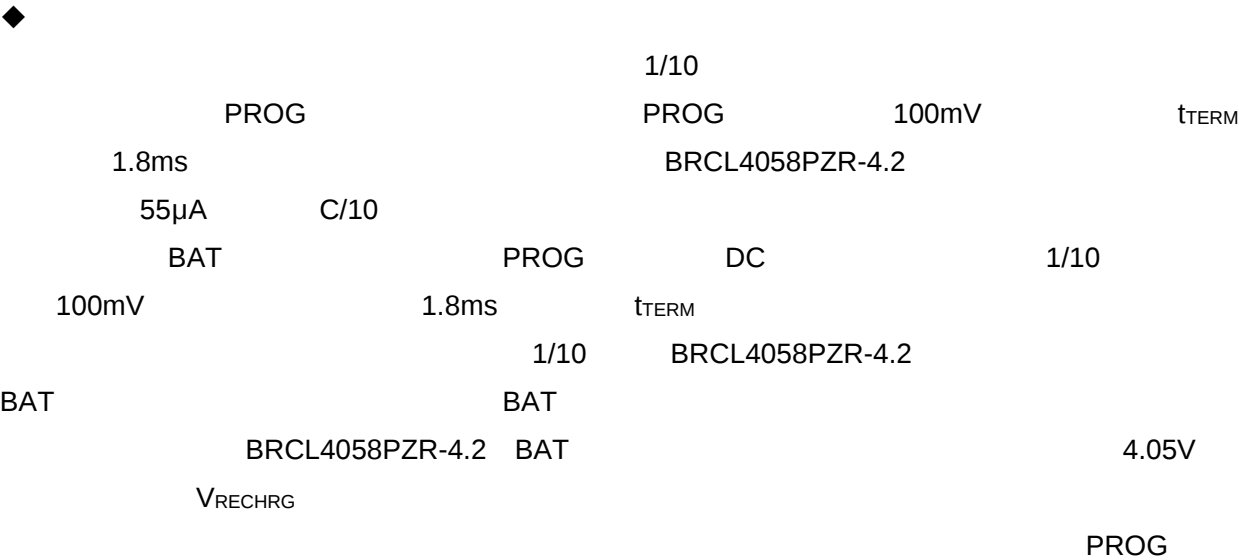


/ Function description



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

/ Function description



/ Function description



BRCL4058PZR-4.2
CHRG STDBY BRCL4058PZR-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	



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BRCL4058PZR-4.2
BRCL4058PZR-4.2



BRCL4058PZR-4.2
TEMP TEMP NTC
BRCL4058PZR-4.2 TEMP VLOW VHIG
BRCL4058PZR-4.2 VLOW 45%×Vcc VHIG
80%×Vcc
TEMP VTEMP<VLOW VTEMP>VHIGH
TEMP VTEMP VLOW VHIG TEMP

/ Function description

◆ R1 R2

R1 R2

NTC RTL TL RTH TH RTL RTH

TL TEMP

$$V_{TEMP1} = \frac{R2 || R_{TL}}{R1 + R2 || R_{TL}} V_{IN}$$

TH	TEMP
----	------

$$V_{TEMP1} = \frac{R2 || R_{TH}}{R1 + R2 || R_{TH}} V_{IN}$$

```
VTEMP1 = WHICH = k2 * Vcc(k2 = 0.8)
AV: : k1 * Vcc(k1: : 0.45) VTEMP0: : VLO
```

$$R_1 = \frac{RTL \times RTH(k_2 - k_1)}{(RTL - RTH)k_2 \times k_1}$$

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

PTC

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

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

 V_{CC}

R1 R2 RTH RTL

RTH RTL

R2

R1

R1

◆ UVLO

VCC

UVLO

UVLO

VCC

100mV

BAT

80% 90%

◆

 1Ω

PROG

20kΩ

PROG

100kHz

RPROG

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

PROG

PROG

PD

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

/ Function description



IC

PD

$V_{IN}-V_{BAT}$

I_{CHG}

:

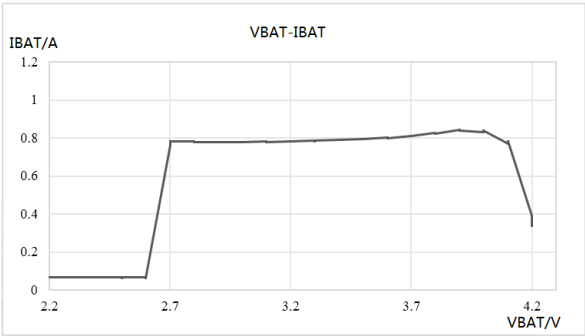
$P_D= V_{IN}-V_{BAT} * I_{CHG}$

3.6V

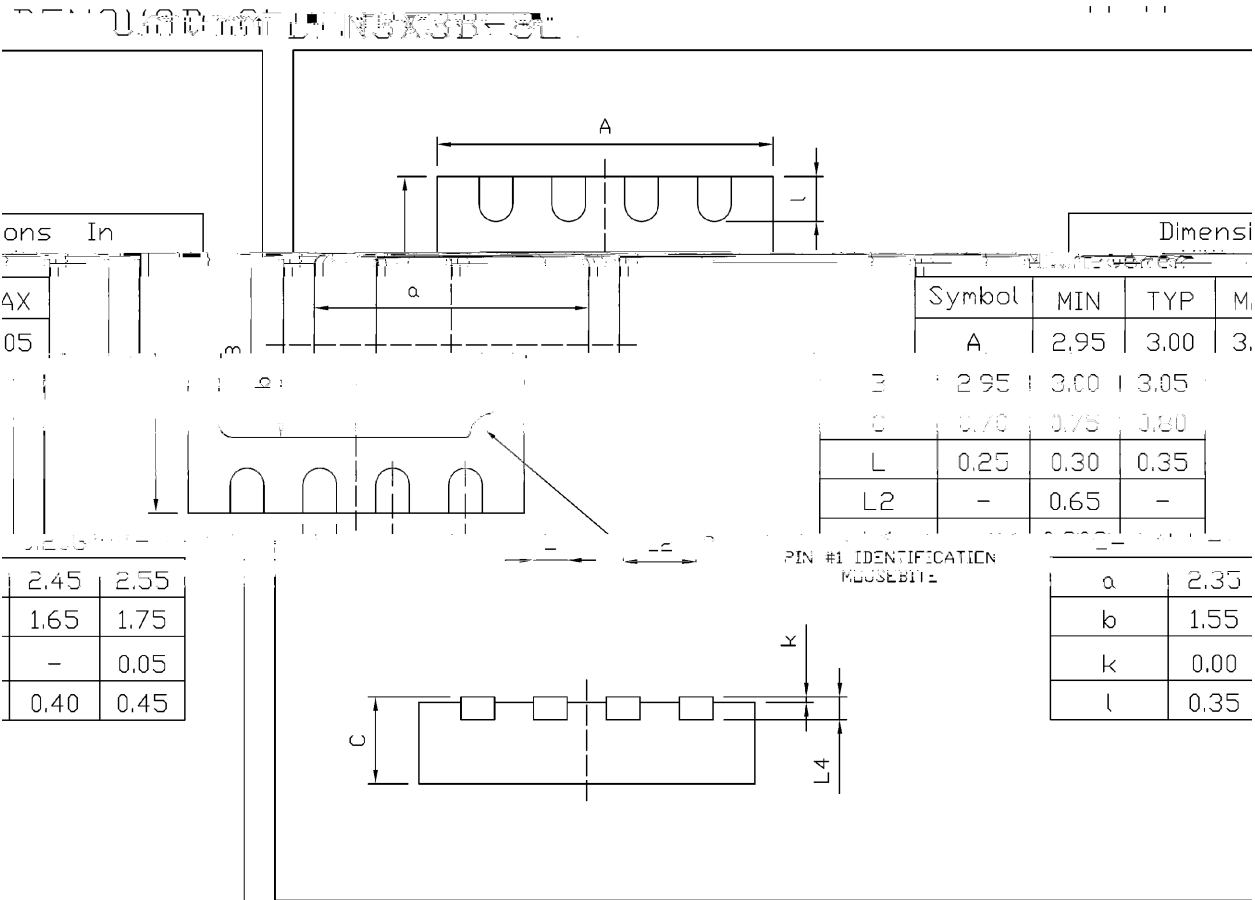
4.0V

5%~10%

PD

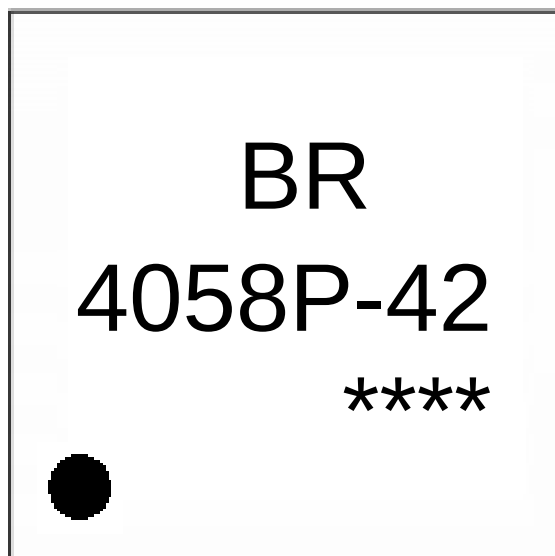


/ Package Dimensions



Rev.00 202006

/ Marking Instructions



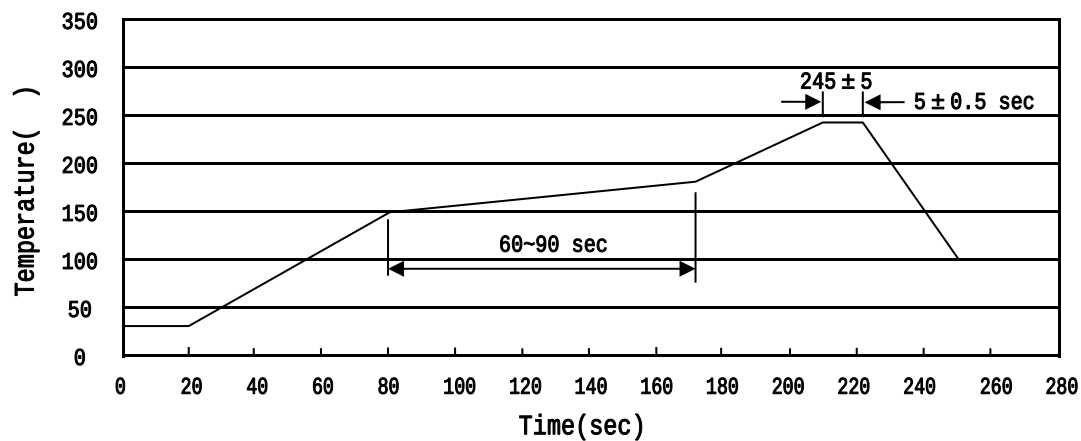
BR

4058P

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4.2V

() / Temperature Profile for IR Reflow Soldering(Pb-Free)



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

/ Notices

All information provided in this document is subject to legal disclaimers.