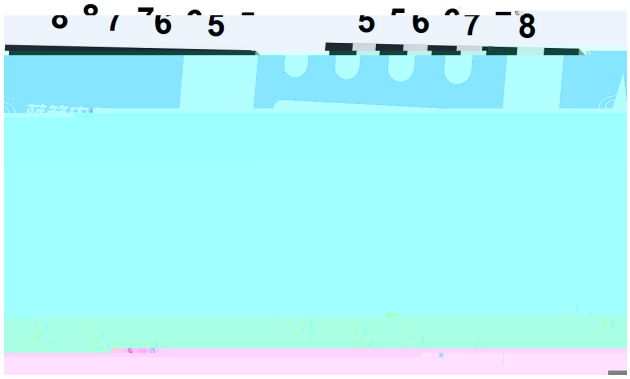
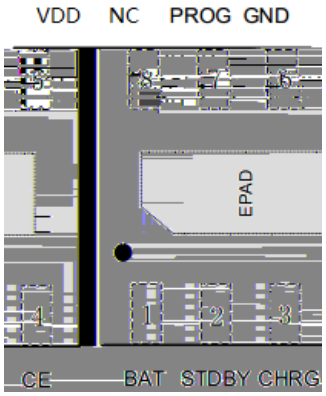
BRCL4058FZR ĩ ₲ DFN3×3-8L Ṃ Ŀ ⃞ ح ٰ ă ỷ ح ớ Y ⅝ ⃞ ɒ ` ˜ Ḍ ɔ – Ӿ ɔ ʜ BRCL4058FZRپ ɪ ở ḧ ɔ ╙/ở ḧ ɔ я ˧ ớ í ˙ ı ᴱ ـ ڍ Ṉ ⃞ ᵘ ɰ Ƒ ţ ̈Ǫ´ ı Æ ệ BRCL4058FZR ĩ ӝ ̈Ą Ã Ẕ ɪ ⃞ ת ỳ ǰ ̈Ο ψ ª ̀Η ı ̂Ѡ ı Ѡ ي ᵀ USB ɔ ◊ ⁼ ي ب ʜ ɔ ◊ Ṫ Ă BRCL4058FZR پ ɪ ˜ ɲ ɰ PMOSFET ̈ ‗ ı ɪ i گ ӥ Ӿ ɔ ث ı ̈Α Ѡ j ـ ʅ ᵘ ɰ ₅ ╜ ɔ ڳ ⁼ ڭ ˜ ‖ ˥ ♬ ɾ ـ ı Ḿ Ӿ ɔ ɔ ╙ ڤ Φ ₅ ʊ ذ ` ı Ѡ ӝ ɒ ᶻ ı ' ̈Ḥ Ă ã ح ע ᴸ □ ỷ ̌ ţ ï Ḿ ̌ Ɗ □ ỷ ɪ Ѡ ں ˙ Ӿ ◗ ɔ я ɖ ḧ ̂ ̂ 4.2V Ӿ ɔ ɔ ╙ ı ڼ ص PROG ǖ ᵘ ì Ѧ ɔ ڳ ɸ ˩ ı ω ح ı ̈ 1.2A Ẹ ̌ ʒ ɔ я ε ˩ ╙ ي ب ʜ ã USB

ã ﾒ / Pinning





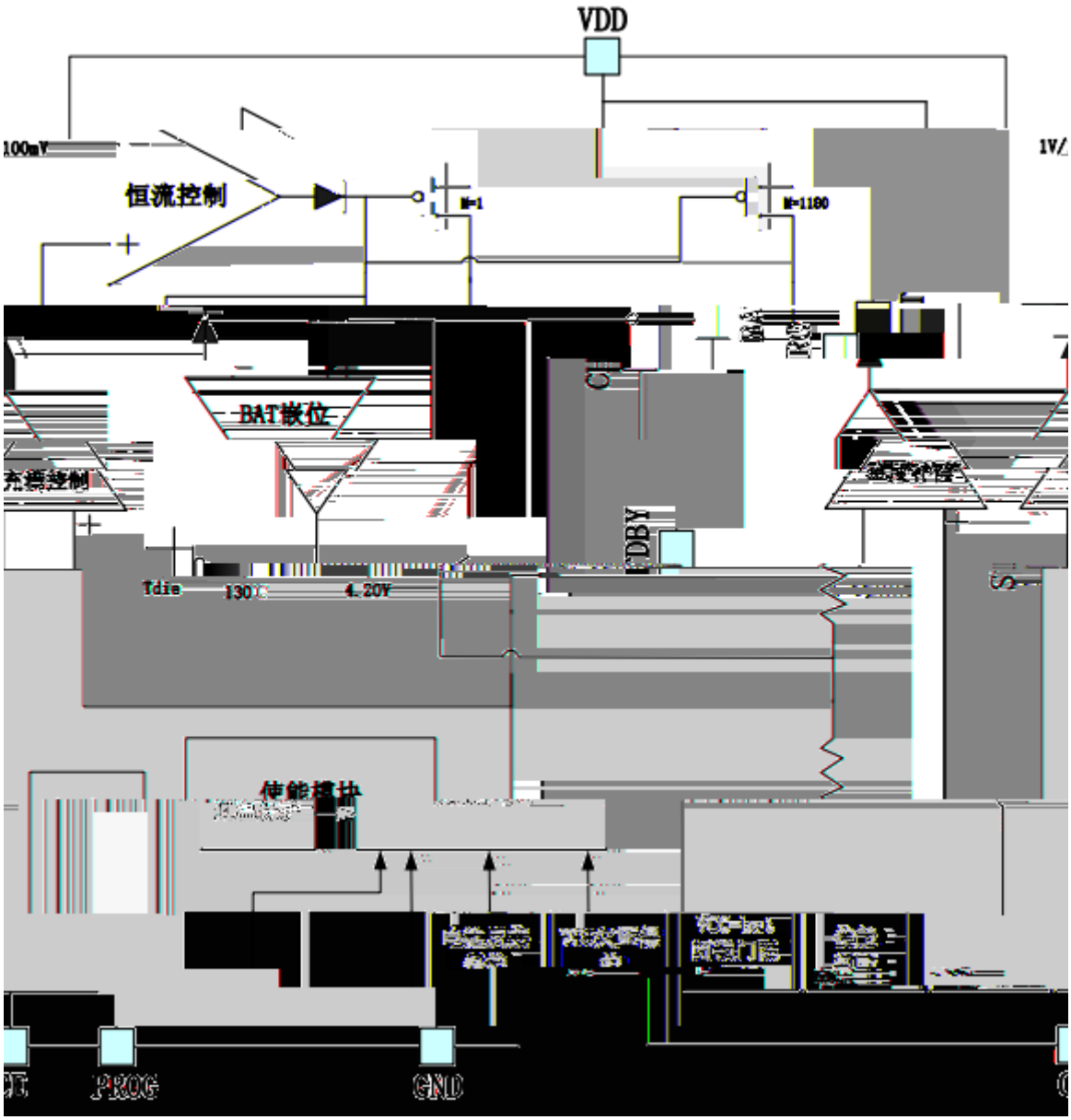
PIN Num.	Symbol	Function
1	BAT	ɔ – ڑ ٫ ٧
2	STDBY	◗ ɔ ″Y˜ ♂
3	CHRG	Χ ɔ ″Y˜ ♂
4	CE	Χ ɔ ı ǐ Æ ǐ ٧ ı j ŕ ٰH Ù ٰ ٧ ψ ڑ ɔ Ẉ ȳ
5	GND	ƀ ᑕ ş
6	SUR J	Χ ɔ ɔ ╙ ز ˜Ω ٧
7	NC	٦ ő Ù ٰ ٧
8	VDD	ɔ ◊ ڑ ϑ ٧
EPAD	GND	GND

ώ ﾅ ﾖ ˜Ą / Absolute Maximum Ratings(Ta=25)

PARAMETER	SYMBOL	RATINGS	UNITS
Input Supply Voltage	V_{DD}	-0.3~30	V
CHRG Pin Voltage	V_{CHRG}	-0.3~30	
STDBY Pin Voltage	V_{STDBY}	-0.3~30	
CE Pin Voltage	V_{CE}	-0.3~6	
PROG Pin Voltage	V_{PROG}	-0.3~6	
BAT Pin Voltage	V_{BAT}	-0.3~20	
Operating Ambient Temperature Range	T_A	-40~85	°C
Junction Temperature	T_J	150	°C
Storage Temperature	T_{stg}	-55~150	°C
Lead Temperature (Soldering, 10s)	T_{solder}	260	°C
ESD	HBM	2000	V

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Input Supply Voltage			4.5	5.0	6.0	V
Input Over-Voltage Protection Voltage	V_{ovp}	V_{DD} Rising	6.3	6.9	7.5	V
Input Over-Voltage Protection Voltage Hysteresis	ΔV_{OVP}	V_{DD} from High to Low		500		mV
V_{CC} Under voltage Lockout Threshold	V_{UVL}	V_{DD} from Low to High		3.5		V
V_{CC} Under voltage Lockout Hysteresis	ΔV_{UVL}	V_{DD} from High to Low		200		mV
Input Supply Current	I_{CC}	Charge Mode, R_{PROG}=1.62 K		90	180	uA
		Standby Mode (Charge Terminated)		60	120	
		Shutdown Mode: R_{PROG} Not Connected, $V_{DD}<V_{BAT}$, or $V_{DD}<V_{UVL}$: CE=GND,OVP		60	120	

u Þ ‘ ƒ / Principle block diagram



BRCL4058FZR ĩ ₵ټ ở ḧ ɔ ╚/ở ḧ ɔ я ∖ │ D ` ˜ Ḍ ɔ – Χ ɔ ʰ BRCL4058FZR ˡ ₡ Ə 、 ₳ USB ˥ Æ ð̃ AC گټ ʰ Ṫ Ă ı ѡ ᶻ ǐ ᶻ ώ ě 1.2 A Χ ɔ ɔ ╚ ʿḢ'Y ѡ ᴈ 30 V ڑ ϿЭ ɔ я ₡ ⁼ 6.9 V ص я З ĭ ı ǐ

◆ ₇ **ẁ ʄ ≠ ệ** ♩

Ẹ V_{DD} Ậ ő ɔ я ″₆ UVLO ڈ ں ɔ я ₡ i ħ ƍ PROG Ậ ő ﻟ ş ɵ ژ ف ì ˝ ₳ ˥ ẙ ₥ 1% ɔ ﮓ ı ł ᵅ ₳ ɔ – ﻟ Χ ɔ ʰ ژ ˛ ˥ ˀ ف ̀H ı ₳ Χ ɔ Ỉ ע Ầ Ḋ ḅ ' BAT Ậ ő ɔ я Ḥ Ṽ V_{TRKL} ı ˛ Χ ɔ ʰ ڤ Ͽ ╚ Χ ɔ ₩ Ã ƍ Ỉ ₩ Ã ₳ ı BRCL4058FZR ώ ě ˥ 1/10 Ф ḧ Χ ɔ ɔ ╚ ı ₡ ӂ Ṅ ɔ – ɔ я ώ ″₆ ₳ Ḡ Ͽ ɔ я ı ϰ ă ḫ א ◗ ɔ ╚ Χ ɔ Ẹ BAT Ậ ő ɔ я ″₆ V_{TRKL} ₡ i ̀H ı Χ ɔ ʰ ڤ Ͽ ở ḧ ɔ ╚ ₩ Ã ı %̀H ᵇ ɔ – ώ ě ở ḧ Χ ɔ ɔ ╚ Ẹ BAT Ậ ő ɔ я ڑ ˙ ѡ ˧ ╢ Χ ɔ я V_{FLOAT} ̀H ı 6.64 1 Tc( )T

◆

ח ⁄ ‟Yت / Function description

◆ ˜ ⁄ ╗ ŭ

þ ' ƀ ⊐ □ ỷ : ℊ ″₆ ⁄ 130 ł ⊠ ĺ ֆ Ö Ꝙ i ı BRCL4058FZR ɲ ሀ♬ ɾ ɪ ע ت Ṅ° ṇ ֆ ḧ ⊠ Ϫ ɔ ɔ ╚ Í ı ǐ ı گ Ƀ ƀ ⊐ ص♬ ı Ẋ ы ƿ ɪ Ä ώ ב ⁄ ḧ ɔ ت — ı ' ʃ ת ǐ ד ⊠ i ں ă̋ ≡ ω Ω q BRCL4058FZR ⊠ l ɔ ƿ Ȝ - Ϫ ɔ ʜ Ṅ ƿ ϣ q ừ ` ǂ ţ ï₅ ʊ° ṇ ɔ ╚ ⊠ ώ ï ı ı ⁞ Ω Ɛ ȝ ע ᒪ □ ỷ ſ ֆ ḧ Ϫ ɔ ɔ ╚

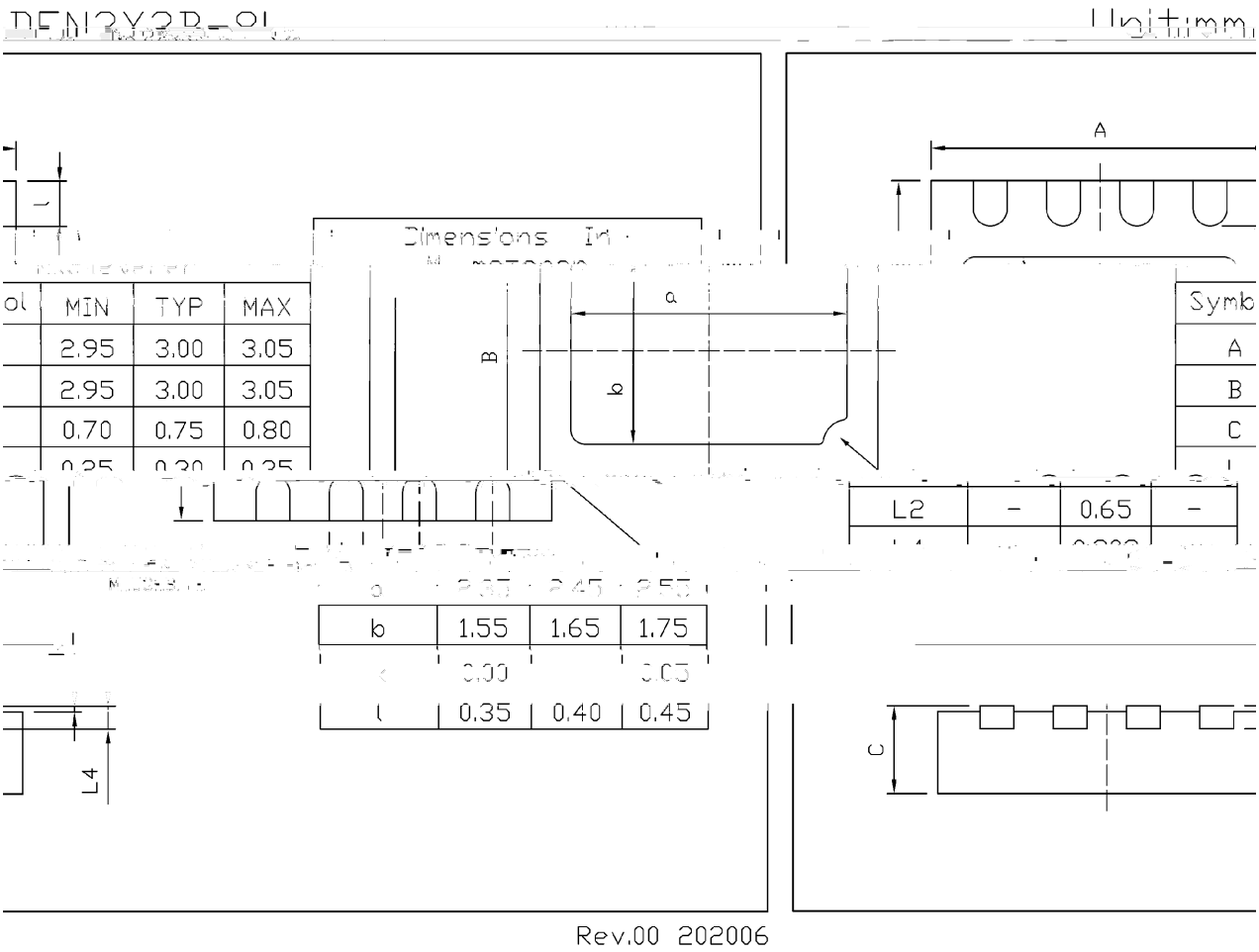
◆ ᴘ پ ۴

Ѧ ɲ ሀ я ŏ ج ɔ ت Ḿ ژ ʔ ɔ я ف Φ ˇ í ı Ẋ ƿ V_{DD} ″₆ я ŏ ج ڈ ں Ꝙ i ɵ ˙ Æ Ϫ ɔ ʜ Ȝ ˙Y ƿ ȳ ₩ Ã̃ þ ' UVLO ⅝ ڍ ʜ ∧ ı پ Ψ ı ¸ ƿ V_{DD} ″₆ ⅝ ɔ – ɔ я ב 200 mV ɵ ˙ Ϫ ɔ ʜ Ṅ j h گ ¸ ȳ ₩ Ã̃

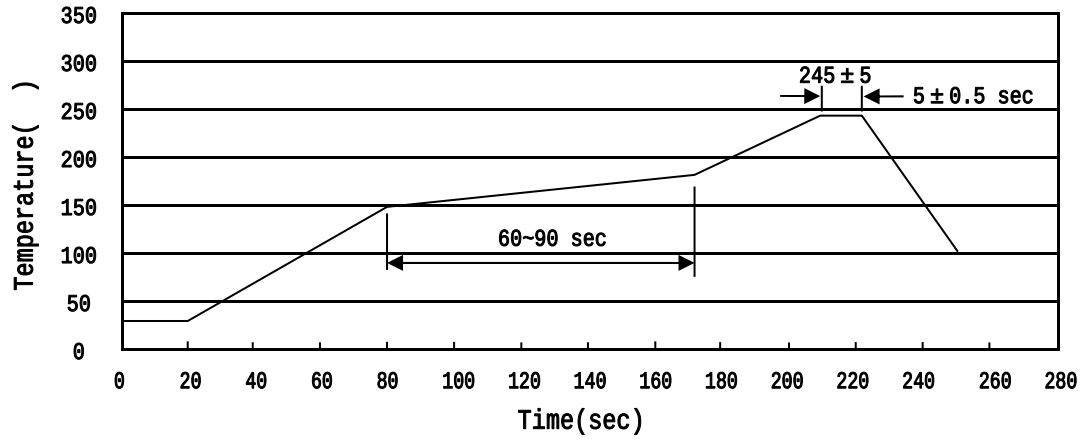
◆ ˆ n q ⁞ n

ñ Ϫ ɔ Ỉ ע ɑ ⁄ Ƀ ı BRCL4058FZR ٦ o پ ɾ Ѧ ʊ ũ 1.8 ms ▾ ᒪ ʻH ژ ε TECHARGE ζ ⊠ ⅝ ڍ ʜ ſ Ḿ BAT Ậ ő i ⊠ ɔ я ف Φ ف ⁄ ˇ í Ẹ ɔ – ɔ я ں ₆ 4.05 V ε ₇ Ḿ Ẑ ɔ – ķ ¸ ⊠ 80 β ₆ 90 β ζ Ꝙ ï ʻH ı Ϫ ɔ Ỉ ע پ Ä Ầ Ḋ ف ȝ ˝ ɔ – ɑ ⁄ ʻY ƿ ε ẵ ì ġ ζ Ѧ ◗ Ϫ ɔ ↑ ỗ ı Ẋ d ڻ ف Φ ᵕ Ω ớ Ϫ ɔ Ỉ ע ᵏ ʊ ⊠ ₔ ɭ

ᵘ Ė Ồ Ļ ƒ / Package Dimensions



ŧħ ʃ ╗ ẘ ´E ⅵ ƒ (ᾢ ʒ) / Wh p shudwxuh Su r ilɔh i ru LU Uhio r z V rɔghulq j +Se0 luhh,



ب ˝ χ

1 ĺ ♬ □ ỷ 150 Ḱ 180 ɫ ı `H ʒ 60 Ḱ 90sec;

2 Š Ö □ ỷ 245 ° 5 ɫ ı `H ʒ ˋY ⅵ ⅿ 5 ° 0.5sec;

3 ì ˙ ⅵ ˛ ɔ ⅹ ỷ ⅿ 2 Ḱ 10 ɫ /sec.

Note:

1.Preheating:150~180 ɫ , Time:60~90sec.

2.Peak Temp.:245 ° 5 ɫ , Duration:5 ° 0.5sec.

3. Cooling Speed: 2~10 ɫ /sec.

⅃ ü ɑ ˝ `Y Ţ / Resistance to Soldering Heat Test Conditions

□ ỷ χ 260 ° 5 ɫ `H ʒ χ 10 ° 1 sec. Temp.:260 ° 5 ɫ Time:10 ° 1 sec

ɒ ⊢ ⊂ — / Packaging SPEC.

ɔ ` γ ⊢ / REEL

Package Type	Units					Dimension (unit mm³)		
	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

ä ɤ ⌊ ̋Ω / Notices