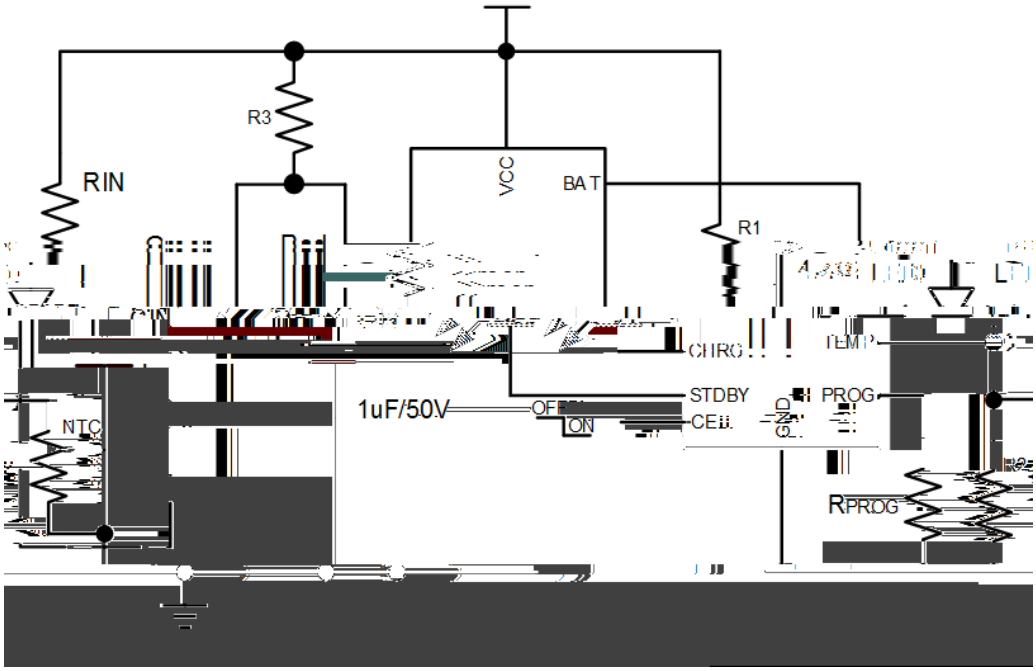
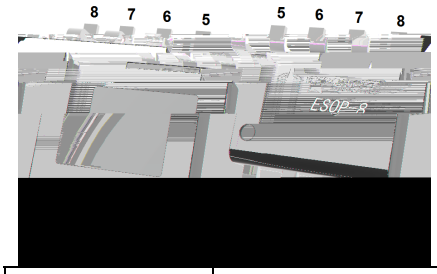
**BRCL4058PSE-4.2**




├4χ Ę ₓ ł ƍYFF ヤ ŕ ⊐ ɔ ķ ヤ ñYFF ɔ я `H ı ₓ ł ƍ ⊐ ɔ ķ FLQ i ₥ ǐ Ѧ71:Ғ ŀ ᴸ ɔ ی ı ₢ ی ₿ ♬ ά ö `HYFF ヤ ғ ı ┤ ╨ ɔ я ψ

├5χ ĘFHĄ ő j ŕ Ў P FX í ˙ `H ı ب Ń FHĄ ő Ừ ヤ ă ì JQG ı EUF0738 ; SVH0715 ⁎ ẂŤ Ă ˆ õ ı j ˡ Ń FHĄ ő ´ ì ì YFF




| PIN Num. | Symbol | |
|---|---|---|
| 1 | TEMP | Χ ɔ ɔ – □ ẙ ₅ ╨ ヤ |
| 2 | 6 8 5 - | - v ² … € k Ù å Š ñ - 4 * k ² - - v Ý 4 |
| 3 | GND | Ъ ᗡ ş |
| 4 | VCC | ɔ ◊ ᵱ ☋ ヤ |
| 5 | BAT | ɔ – ᵱ ☋ ヤ |
| 6 | STDBY | Ầ ◖ ᵱ ˛ ᴼᴮᴶ Χ ɔ Ḣ ă ″ Y ˜ ヤ |
| 7 | CHRG | Ầ ◖ ᵱ ˛ ᴼᴮᴶ Χ ɔ ˆ õ ″ Y ˜ ヤ |
| 8 | CE | Æ ť ᵱ ☋ ヤ ı Ḥ ɔ Ẉ Æ ť |

**PARAMETER**

**BRCL4058PSE-4.2**

◆

BRCL4058PSE-4.2 [illegible] 1.0A [illegible] PCB [illegible] 1% [illegible] BRCL4058PSE-4.2 [illegible] MOSFET [illegible] USB [illegible]

◆ [illegible]

[illegible] VCC [illegible] UVLO [illegible] PROG [illegible] BAT [illegible] $V_{TRIKL}$ [illegible] BRCL4058PSE-4.2 [illegible] 1/10 [illegible] $V_{TRIKL}$ [illegible] $V_{FLOAT}$ [illegible] BRCL4058PSE-4.2 [illegible] 1/10 [illegible]

[illegible] PROG [illegible] PROG [illegible]

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

[illegible] PROG [illegible]

$$I_{BAT}=(V_{PROG}Ö900)/R_{PROG}$$

[illegible] $R_{PROG}$

| $R_{PROG}$(K ) | $I_{CHG}$(mA) |
|---|---|
| 6133 | 638 |
| 5165 | 733 |
| 5138 | 783 |
| 41<4 | 7;8 |
| 41;3 | 853 |
| 418; | 8<3 |
| 417: | 973 |
| 416: | 9<3 |
| 415: | :88 |
| 4154 | ;33 |
| 4143 | <43 |

◆ ɓ

Ẹ Ϫ ɔ ɔ ╚ ƍ ƶ ˙ ѡ ㇒ ╢ Ϫ ɔ я ª ᴗɓ ⱷ ħ Ө1/10

◆

BRCL4058PSE-4.2 ف ă ь Ѧ Ầ ◖ ژ ¸ [OBJ] ↑ õ ″Y˜ Ậ ő CHRG ⫐ STDBY Ệ BRCL4058PSE-4.2 ſ [illegible] Ϫ ɔ ↑ õ ̀H ı CHRG ژ ¸ ï ˥I ı Ʊ Ệ ↑ õ CHRG ژ ¸ ح ڳ õ Ϫ ɔ Ḣ ă ̀H ı STDBY ژ ¸ ï ˥I Ệ ɔ – ɾ ì ắ ɔ – □ ỷ ầ Ẃ ̀H ı CHRG ⫐ STDBY ⫷u ژ ¸ ح ڳ õ

Ṅ TEMP Ậ ő ì ş ˈ Ꝙ ԋ ъ ɔ – □ ỷ ˇ ⫫ ı ť ь ˈ BAT Ậ ő ì Ѧ 10 ₱F ɔ ķ Ẋ ħ ɔ – j ف ì ı ʎ ˇ LED љ ʎ ˇ LED Ṅ Ꝙ 1-4s [OBJ] ᵕ Ϙ ڎ ♣

| Ϫ ɔ ʜ ↑ õ | ʎ ˇ OHG<br>FKUJ | ʎ ˇ OHG<br>VWGE\ |
|---|---|---|
| Ϫ ɔ | Ʒ | ŏ |
| Ϫ ɔ ʎ Ƀ | ŏ | Ʒ |
| я ъ ڍ ı ɔ – ɾ ì ı ɔ – ˈ ف ì ắ ɔ – □ ỷ ầ Ẃ | ŏ | ŏ |
| EDW Ậ ő ì 43x I ɔ ķ ħ ɔ – ˈ ف ì +WH P S@ J QG, | ʎ ˇ OHG љ ʎ ˇ OHG Ṅ Ꝙ 407v [OBJ] ᵕ Ϙ ڎ ♣ | |

◆

ь ˈ ъ Ɑ □ ỷ ″ ح ˙ ĺ ֆ Ө 145 ł ı ɲ ԡ ♬ ɾ ɪ ע ث Ṅ ̊ ṇ Ϫ ɔ ɔ ╙ Ĵ ı ť ˈ گ Ƀ BRCL4058PSE-4.2 ص ♬ ı Ẋ ы ҕ ŧ Ä ώ ح ʎ ħ ɔ ث — ı ' ſ ת ť ד [OBJ] i ں ắ ≡ ω ̈ Ω ą BRCL4058PSE-4.2

## / Function description

### ◆ R1 R2

ㅱR1 ᄀ R2ᄋᄋᄒ ㅣ ᄀᄋᄃ − ᄋᄋ□ ᄋᄒ ᄀ ᄑᄑ ᄇ ᄀ ᄉᄉ ᄌᄋᄃ ᄌᄒᄒᄋ . ᄒᄒ ㅣ ㅅ ᄀᄇ æᄇ ᄀ ᄇ ᄋ ᄎ

ᄋᄒᄒ ᄒᄋᄃ − □ ᄒᄑ ᄇ ㅱTL~TH ㅣ ᄃ ᄐ ㅿ TLωTH)ψ ᄃ − ㅿÆ ᄐᄋᄃ ᄋ ᄀ □ ᄒ ㅢᄀᄋᄉ ᄌ ᄃ ᄀ ᄃ NTC ᄀ ㅣRTLㅱ ᄐ ᄇ □ ᄒ TL`Hᄋᄀᄒ ㅣRTH ㅱ ᄐ ᄇ □ ᄒ TH`Hᄋᄀᄒ ㅣ RTL ü RTH ㅣ ᄋ ψ ㅣ ᄇ □ ᄒ TL`H ㅣ ㅢ ㄱ ᄆ TEMP ㅢᄋᄃ ᄋ ㅱ χ

$$VTEMPL = \frac{R2||RTL}{\quad\quad} VIN$$

ᄇ □ ᄒ TH`H ㅣ ㅢ ㄱ ᄆ TEMP ㅢᄋᄃ ᄋ ㅱ χ

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

ᄒ ᄀ ㅣ ᄒ

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

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

ᄆ ᄂ ᄀ ᄉ χ

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

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

ᄀ ㅅ ㅣ ᄇ ' ᄃ − ㄱ ᄒ ᄀ* □ ᄒ ㅢᄋ ε PTC ζᄋᄋ ᄌ ᄃ ᄀ ㅣᄆ ㅣ ᄀ Ç ㅣ ᄋ ᄊ ㅢ ᄉ ᄀ χ

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

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

ㅏ i ᄆᄋ ò Ṁ ㅿ ㅣ ᄋ˜ ᄀ ㅣ ᄉ ᄒ ᄒᄋ□ ᄒᄑ ᄇ ㄴ ᄃ ◊ ᄃ ㅕVcc ᄀ ᄂ ㅁᄋㅣ ㅏ ㄴ R1 R2 RTH RTL õ ㅁ ψ ᄐ ㅿ ㅣRTH RTL ㅣ ᄂ ᄆ ᄀ ᄉ ㅁᄋᄃ − ᄉ q ᄀ ᄂ ᄆ ᄇ ᄌ ᄈ : ᄉ

ᄇ ᄇ ᄏ Ẓ ᄐ ㅿ ㅣ ᄀ E ㅁ ├ • ㅢᄋ□ ᄒ ᄏ ㅇ ㅣ ⅝ ᄇ ᄆ ᄐ ᄀ ㅣᄆ R2 ㅣ ᄋ j ᄐ ㅣ ᄀ E ᄐ R1 o ㅣ R1 ᄋò Ṁ Ω ψ ᄉ ᄀ ㅣ ᄀ % j W ᄀ

### ◆ αUVLOβ

ㅿ ㄱ ㄱ ㅕ ᄀ ᄌ ᄃ ᄎ Ḿ ᄌ ᄒ ᄃ ㅕ ㅿ Φ ˇ í ㅣ Ẋ ᄀ VCC ″ ₆ ㅕ ᄀ ᄌ ᄉ ᄉ Ω i ᄒ ᄀ Æ Χ ᄃ ᄇ ᄐ ᄀ ᄀ ᄒ ȳ ₩ Ã UVLO ᄃ ᄎ Ṅ Æ Χ ᄃ ᄇ ᄐ ᄀ ᄒ ȳ ₩ Ã ᄇ ' UVLO ⅝ ᄉ ᄇ ㅅ ㅣ ᄎ Ψ ㅣ ᄀ ᄀ VCC ″ ₆ ⅝ ᄃ − ᄃ ㅕ ㅈ 100mV ᄒ ᄀ Χ ᄃ ᄇ Ṅ j ㅏ G ᄀ ȳ ₩ Ã

## / Function description

◆

ñ Χ ɔ Ỉ ע q ﻉ Ƀ ı BRCL4058PSE-4.2 ٧ o ﭘ ɾ Ⱥ ʊ ω̃ 1.8ms ▾ ᒐ Ḥ ڑ 5⁄8 ڍ ʜ ᵽ Ḿ BAT Â Ů i ɔ я ڤ Φ ف ﻉ ˇ í Ę ɔ – ɔ я ص 4.05V ε ᶎ ₇ Ḿ Ƶ ɔ – ķ ᵩ 80% 90% ζ Ꝍ ï ᾽ H ı Χ ɔ Ỉ ע ﭘ Ȧ Â Ḋ ف 3˝ ɔ – q ﻉ ᾽ Y ƿ ε ă ì ẹ ζ Ⱥ ◗ Χ ɔ ↑ ő ı Ẋ d ˜ ڤ Φ ᵕ Ω ό Χ ɔ Ỉ ע ᵏ ʊ ı ɻ ƿ W Χ ɔ Ỉ ע ص ٧ Ⱥ ı CHRG Â Ů ڑ ڤ ↻ Ⱥ ï ˜ I ↑ ő

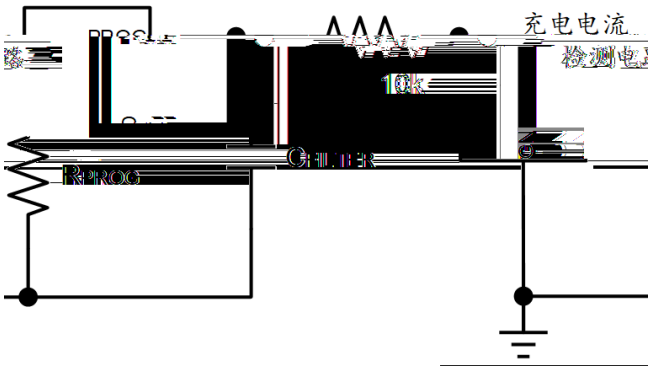
◆

ᴱ ɻ ɔ – ль Χ ɔ ʜ ڑ ٧ ف ı ở ħ ɔ я ₩ Ã r ɪ ע ت ő ſ ᶎ ƿ ' ﭘ ɾ Ⱥ ᵘ ф ɔ ķ ù ï Ȝ ᾽ Y ٧ ħ ƿ ≡ ω ì ɔ – ᾽ H ı ₭ ᵒ ᵒ ɳ ﻉ ᒐ ɔ я ı á ɲ ﭘ ɾ Ⱥ ڑ ɔ ķ Ę ﭘ ɾ ᶎ Ꝋ Ө Ḥ ESR ﻩ ɔ ķ ᾽ H ı á ɲ ɯ ɾ Ⱥ ль ɔ ķ ₭ ỉ 1 Ƒ ɔ ﮓ ƀ ' Æ ɾ ɔ ķ ı „ j ɻ ɻ ₭ ỉ ɔ ﮓ

ƿ ở ħ ɔ ₩ Ã ʌ ı ᵸ r ɪ ע ت ʌ ỉ PROG Ậ Ů ı ă j ĩ ɔ – ở ħ ɔ ₩ Ã ٧ ħ ớ ᴘ PROG Ậ Ů ﮓ i ẽ φ Ę PROG Ậ Ů i ≡ ω ﮓ ɾ ɔ ķ ı RPROG J̌ Ꝋ ح ڑ 20k Ƒ ᾽ H Χ ɔ ʜ ı Ꝍ ٧ ħ ɬ ă PROG ` ᴇ i ᵘ ɔ ķ ʰ ᵒ ɳ Ф ħ ɔ ﮓ ω ᶎ ķ ƿ ﮓ Ө PROG Ậ Ů i ‖ ᴇ ļ ' Ƶ Ȝ ᾽ Y ƿ 100kHz Ꝍ i ɬ % ı ƀ ' PROG Ậ Ů è ƿ Ⱥ ķ ớ ق ɔ ı CPROG ı „ ı ﭘ ɾ ï Ã ᵽ ч ٧ RPROG ω ᶎ ɔ ﮓ Ө χ

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

ɾ Ä ˜ y G ﻉ ĩ Χ ɔ ɔ ╚ ă j ĩ ˀ õ ɔ ╚ æ ƀ ı ƀ ' Ⱥ ȸ Φ ƿ Ḥ ɔ ╚ ₩ Ã Â ʜ ɔ ◊ ль ɔ – Ẋ ỉ ı „ ʞ BAT Ậ Ů ╚ ¸ Ẉ ƶ ɔ ╚ ọ Ẃ 5⁄8 õ ɔ ╚ ỉ ˙ ˜ ɾ ﭘ ɻ ƿ ف ٧ ß ᵀ ı ˡ ƿ PROG Ậ Ů i ﭘ ɾ Ⱥ ٧ ᴅ RC ▾ ᒐ ʜ ᵽ ‗ ų Ẉ ƶ ɔ – ɔ ╚ ε ƀ ï g Ä ˜ ζ ƿ PROG Ậ Ů ᴞ ▾ ᒐ ɔ ķ ɵ ڑ ɯ Ф ˝ Ⱥ 10k ɔ ﮓ Ꝋ Ȝ ٧ ħ ớ




◆

ƀ Ɑ ɹ □ Ə ɳ ע ᒐ □ ỷ PCB ų ṕ ق ɔ ᴞ Ṃ Ƚ ɻ ʒ ٧ ʌ ٧ ᵻ ﻉ ⁞ ˜ Ω PD ɹ □ ˡ ᵻ Ꝋ ï ʒ Ã ∂ ê χ

$$T_J = P_D Ö Ơ_{JA} + T_A$$

◆

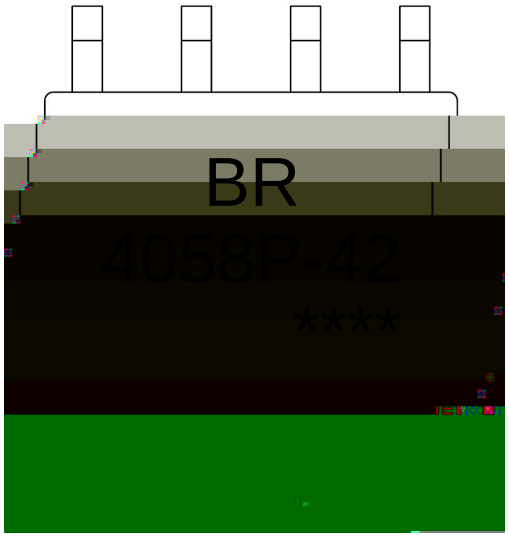
ɻ ό Ϫ ɔ IC ı ' Ὼ ǎ PD ǯ ɭ ˖ я Ţ ε $V_{IN}$-$V_{BAT}$ ζ ⁼ Ϫ ɔ ɔ ╚ ε $I_{CHG}$ ζ ˜ ḧ :

$$P_D = \varepsilon V_{IN}\text{-}V_{BAT}\ \zeta\ {}^{*}I_{CHG}$$

Ḛ ɔ − ɔ я ̬ Ӈ ε ḅ 3.6V ζ ̀H ı я Ţ ̬ ᶻ ı Ỉ ֆ ɔ ╚ Ϫ ɔ ı ᵻ d ʌ ♬ Ⱦ ̈

Ḛ ɔ − ɔ я ″ ᾀ ε ḅ 4.0V ζ ̀H ı я Ţ ̊ ṇ ı % ̀H ṇ Ẅ ɥ ᶻ ɔ ╚ ε 5%~10% ζ Ƙ ˈ Ȝ ˈ Y PD ƍ ᵀ ת ƍ ı ώ ᾀ Ὼ ɥ ὼ ' ı Ч ᵽ Ϫ ɔ ѧ ẙ

## / Marking Instructions




ب ˝ χ

EU χ ѭ ϛ и Ґ

738 ; S χ ѭ ʒ N Ґ

75 χ Ґ ´ ڑ ˛ ɔ я 7!5y

---- χ ѭ ı ғ ӈ N Ґ ı ₴ ı ғ ӈ N Ψ ק

( ) / Wh p shrdwxrh Prr iioh i r r IU Uhiorw Vroghriq j+Pe-Frhh,