BRCL4079ME-4.2 ĩ Ф ɒ ` ˜ Ḍ ɔ –Ḣ Ṯ Ọ ở ╚/ở я ɻ ớ Χ ɔ ʜ Ꞇ ɹ ˚ ò Ị = ᵾ Ṉ ᵘ մ h Ƒ ţ Ṯ Ọ ᵾ Æ Ꞇ ˚ Ẃ گ ᵀ ж Ą Ã Ẓ ɤ % ᵘ ı BRCL4079ME-4.2 ћ ɔ Ф щ ɒ̂ к 5V گ ب ʜ = USB ヶ Æ ɔ ◊ ʁ ɔ – Χ ɔ

ɒ̂ ɲ մ h MOSFET " ‗ ı ṇ ᵢ ᵘ մ h ₅ ╝ ɔ ڳ = ڈ ˜ ‾ ‖ ㄱ ♬ ɾ ţ ɔ ` Χ ɔ ɔ ╚ ı Ɋ ɒ ɤ ı ' ¨ Ḥ Ă ă ɤ ע ᴸ □ ỷ Ọ ژ ں ゙ Ƀ Ɑ □ ỷ Χ ɔ ɔ я ɖ ḧ ʁ 4.2V ı Χ ɔ ɔ ╚ ı Ɋ ِ ص ɒ Ⱥ ɔ ڳ ᵘ մ ヶ ヽ Ẹ Χ ɔ ɔ ╚ ɒ ز ˙ ѡ ヶ ╣ Χ ɔ я ª ں ₆ ヶ ヽ Ö 1/10`H ı BRCL4079ME-4.2 ₅ ʊ ヶ Ƀ Χ ɔ ᵕ Ọ

Ꞇ Ꮒ ı ǐ ɣ ὺ Χ ɔ ɔ ╚ ˇ í я ჯ ḧ ₅ ʊ W Χ ɔ = ↑ ő Ậ ű ı ɒ̂ ˝ Y ˜ Χ ɔ ヶ Ƀ = ژ ʔ ɔ я è ɒ

BRCL4079ME-4.2 ڀ ɤ SOT23-5 Ṃ Ƚ ı ị ɤ ѡ ɳ ɔ ت — ヵ ژ = ѡ ɳ Ƒ ţ Ꞇ ɨ ḧ Ṫ Ă □ ỷ ᵚ ɒ ʁ -40¯C ₆ +85¯C

◆ ѡ ᵪ 36V ژ ʔ ɔ я ɜ 6.1V ص я З ǐ

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BRCL4079ME-4.2

Rev.A Dec.-2025

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Input Voltage Range	V_{CC}		4.5	5	36	V
Quiescent Supply Current	I_Q	Charge Mode R_{PROG}=2.0k		240	360	εA
		Standby Mode (Charge Terminated)		220	300	εA
		Shutdown Mode (R_{PROG} Not Connected, V_{CC} < V_{BAT}, or V_{CC} < V_{UV})		220	300	εA
		OVP state		120	250	εA
Regulated Output (Float)Voltage	V_{FLOAT}	0 ł ÒT$_A$Ô85 ł , R_{PROG} = 2.0k	4.158	4.200	4.242	V
BAT Pin Current	I_{BAT}	R_{PROG} =2.0k, Current Mode	427.5	475	522.5	mA
		Standby Mode, V_{BAT} = 4.2V	0	-2.5	-6	εA
		Shutdown Mode (R_{PROG} Not Connected)		±1	±2	εA
		Sleep Mode, V_{CC} = 0V		-1	-2	εA
Trickle Charge Current	I_{TRIKL}	V_{BAT} < V_{TRIKL}, R_{PROG} = 2.0K	35	47.5	60	mA
Trickle Charge Threshold Voltage	V_{TRIKL}	R_{PROG} = 2.0k, VBAT Rising	2.3	2.5	2.7	V
Trickle Charge Hysteresis Voltage	V_{TRHYS}	R_{PROG} =2.0k	120	160	200	mV
VCC Undervoltage Lockout Threshold	V_{UV}	From V_{CC} Low to High	3.5	3.7	3.9	V
VCC Undervoltage Lockout Hysteresis	V_{UVHYS}	From V_{CC} High to Low	100	200	300	mV
VCC-VBAT Lockout Threshold Voltage	V_{ASD}	V_{CC} from Low to High	100	125	150	mV
		V_{CC} from High to Low	30	65	100	mV
C/10 Termination Current Threshold	I_{TERM}	R_{PROG} = 2.0k	35	47.5	60	mA
PROG Pin Voltage	V_{PROG}	R_{PROG} = 2.0k, Current Mode	0.9	1.0	1.1	V
CHRG Pin Output Low Voltage	V_{CHRG}	I_{CHRG} = 5mA		0.3	0.6	V

Recharge Battery Threshol4 Tc.....467 T-.0019 Tc0.2125 Tc0 Tw[Vo)5<00ade

BRCL4079ME-4.2

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DATA SHEET

/ Function description

◆

BRCL4079ME-4.2 ĩ Ȼ ٭ ȯ ╚/ȯ я ∨ │ D ` ¯ Ḍ ɔ − Χ ɔ ʜ Ḝ ı Ȣ ƍ˜ Ḅ PCB ų ṕ ï ώ ĕ ↁ ڑ 600mA Χ ɔ ɔ ╚ ı ѡ ㄐ ╣ Χ ɔ я ㄣ ẙ ㎚ ° 1% BRCL4079ME-4.2 ϒ ὐ Ѧ ㄇ ȟ P ѕ ı ' MOSFET ⊐ ♬ ɔ ` ɔ ت ṇ ᵢ ڳ ⁽‾ ‖ ㄱ ă ᵘ ȟ ɔ ╚ ₅ ╝ ɔ ڳ ψ ᵻ % ı ᵍ Χ ɔ ɔ ت ĸ ᵢ ɻ ƀ Ѧ ᵘ ȟ Ƒ ţ % ᵘ ı BRCL4079ME-4.2 ĩ ᶻ ĸ USB ɔ ◊ ¨Ḥ Ă

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Ẹ VCC Ậ ő i ɔ я i ″ ˙ UVLO Ө Ȣ i Ẋ ħ 1% ㄴ ㄱ ɔ ڳ ĸ PROG Ậ ő ف ì ˙ ş ă Ẹ ɔ − ف ì ˙ Χ ɔ ʜ ڑ ¸ ` H ı Χ ɔ ᵕ Ω Ầ Ḋ ḅ ' BAT Ậ ő ɔ я ɱ 2.5V ı Χ ɔ ʜ ف ↻ ╚ Χ ɔ ₩ Ã ḅ % ₩ Ã ï ı BRCL4079ME-4.2 ώ ĕ ᶻ ㄔ 1/10 ㄴ ㄱ Χ ɔ ɔ ╚ ı Ȣ Æ ɔ − ɔ я i ″ ˙ Ḡ ↻ ↕ Ẉ Ȣ ف Φ ↻ ɔ ╚ Χ ɔ Ẹ BAT Ậ ő ɔ я i ″ ˙ 2.5V Ȣ i ` H ı Χ ɔ ʜ ف ↻ ở ╚ ₩ Ã ı Ꞇ ʌ ㄴ ㄱ Χ ɔ ɔ ╚ ą ώ ĕ ㄏ ɔ − Ẹ BAT Ậ ő ì ệ ѡ ㄐ ╣ Χ ɔ я ε 4.2V ζ ` H ı BRCL4079ME-4.2 ف ↻ ở я ₩ Ã ı Χ ɔ ɔ ╚ Ầ Ḋ ï ᴗ Ẹ Χ ɔ ɔ ╚ ï ᴗ ˙ ㄴ ㄱ Ө 1/10 ` H ı Χ ɔ ᵕ Ω ㄴ

◆

Χ ɔ ɔ ╚ ף ص ĸ PROG Ậ ő ˙ ş D Ѧ ɔ ڳ ف Φ ㄐ ㄱ ɔ − Χ ɔ ɔ ╚ ĩ PROG Ậ ő ɔ ╚ 950 Й ㄐ ㄱ ɔ ڳ ⊐ Χ ɔ ɔ ╚ Æ ŧ Ȣ ï ę Ã ч ∨ χ

$$R_{PROG}=950/I_{CHG} \quad \tilde{a} \quad I_{CHG}=950/R_{PROG}$$

ı Ȣ ף ص ˘ í PROG Ậ ő ɔ я ₿ ` Ḥ ħ BAT Ậ ő Χ ɔ ɔ ╚ ı Æ ŧ Ȣ ï ę Ã χ

$$I_{BAT}= (V_{PROG}\times 950)/R_{PROG}$$

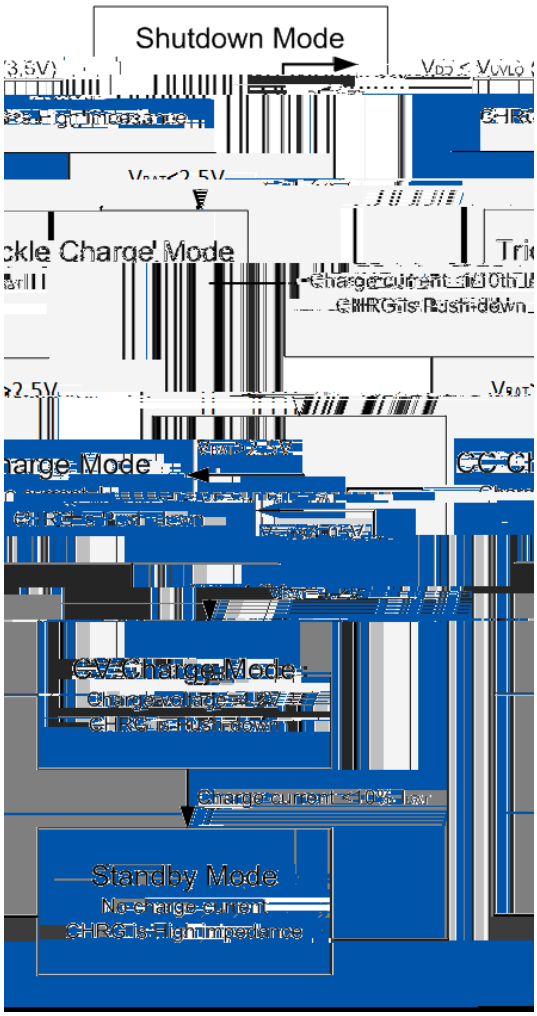
/ Function description

◆

Ę Χ ɔ ɔ ╚ ƥ ʐ ˙ ѡ ʌ ╣ Χ ɔ я ª ï ر ˙ ʌ ヽ Ө 1/10`H ı Χ ɔ ᵕ Ω ʌ Ƀ %ǐ ţ ٹ ص Æ ŧ ɲ ሀ ▾ └ ⅝ ڍ ʜ ˇ í PROG Ậ ő ⁋ ₅ ╝ Ę PROG Ậ ő ɔ я Ⱨ 100mV ʌ ص tTERM`H ı Χ ɔ ʌ Ƀ Χ ɔ ɔ ╚ ƣ ج ӈ ԋ ڂ ı BRCL4079ME-4.2 ف ؈ ể ₩ Ã ı Ծ ʌ ژ ؈ ɔ ◊ ɔ ╚ ر ₆ 55 ℙA ε ├ Ẏ χ ƥ ╚ Χ ɔ ⫤ ♬ ر ˙ ₩ Ã ï ı C/10 ʌ Ƀ ƣ ˝ ŧ ζ

ƥ Χ ɔ `H ı EDW Ậ ő i 🅞 õ ق ذ ا ǐ ɦ Ṁ SURJ Ậ ő ƥ ´ ╚ Χ ɔ ɔ ╚ ï ر ˙ ʌ ヽ Ө 4243 ɵ ˙ ˜ ṗ Ⱨ 433 p Y ʌ Ƀ ⅝ ڍ ʜ i 41 ; p v ▾ └ `H ژ ε WHUP ζ. ʒ ف ヽ ό و 🅞 õ ق ذ j ɦ Ṁ Χ ɔ ᵕ Ω ص Ɛ ʌ Ƀ ñ Ẉ ʐ Χ ɔ ɔ ╚ ï ر ˙ ʌ ヽ Ө 4243 Ꝋ ï ı EUF073 : < P H0715 ʌ Ƀ Χ ɔ ᵕ Ω Ẋ ȳ Ƀ ص EDW Ậ ő ώ ě γ Ɱ ɔ ╚ ƥ % ↑ õ ï ı EDW Ậ ő i 🅞 Ã õ ق ذ ọ ɛ ˈ ɔ – ώ ě

EUF073 : < P H0715 ƥ ể ₩ Ã ï ʻY ʌ ˇ í EDW Ậ ő ɔ я ḅ ˈ % ɔ я ï ر ˙ 7138YW Χ ɔ Ë ε Y UHFKUJ ζ Ꝋ ï ı ᴰ Ⱥ Χ ɔ ᵕ Ω Ầ Ḋ ı ɔ ╚ W Ⱪ ώ ě ʌ ɔ – ɻ ƥ ể ₩ Ã ï ἐ ʊ ᵕ Ȁ ᵏ ʊ Χ ɔ ᵕ Ω ı ọ ɛ ヽ ڎ Ẋ ᵕ Ȁ Ạ ŧ ژ ؈ ɔ я ı ă ă ọ ɛ Æ ŧ SURJ Ậ ő ӈ ڂ Ẋ ᵕ Ȁ ᵏ ʊ Χ ɔ ʜ ï g, Ǐ ˜ ˝ Ɛ ʒ Χ ɔ ᵕ Ω 🅞 ↑ õ g,



◆

EUF073:<PH0715 ω Ⱥ Ⱥ ◖ ↑ õ ″Y˜ ڑ ˛ FKUJ Ę EUF073:<PH0715 ﵀ Χ ɔ ᵕ Ω ̀H ı FKUJ q ̃I Ḥ ƥ Ʊ Ꮒ ↑ õ ï ı FKUJ ﵀ ↗ i ↑ õ Ę ɔ − ʌ ˛ * Ẃ □ ỷ ̀H ı FKUJ ﵀ ↗ i ↑ õ

þ ˈ EDW Ậ ő ف ì 43Ƥ I ɔ ķ ħ ɔ − ˈ ف ì ı ʌ˝ OHG Ʒ ∀ ı ∧˝ OHG Ꝍ 407 ヽ ᵕ Ω ڈ ♣

Χ ɔ ʜ ↑ õ	LED ↑ õ
Χ ɔ ⱥ	Ʒ
Χ ɔ ʌ Ƀ	ŏ
UVLO ã ɔ − ˈ ف ì	ŏ
BAT Ậ ő ف ì 10Ƥ F ɔ ķ ħ ɔ − ˈ ف ì	LED Ʒ ∀ ı T=1-4s

◆

ɲ ɯ ♬ ɾ ɪ ɬ ت ƥ ƀ Ɑ □ ỷ ⁝ ɡ ı ″ ˙ Ĺ Ф Ө ε ʌ 145 ¯C ζ Ꝍ i ̀Ḧ ̊ Ṉ ʌ ヽ ﵀ Χ ɔ ɔ ╚ % ı ǐ Ȝ ï BRCL4079ME-4.2 d ᴘ ص ♬ ﵀ ẽ ᵠ ı Ẋ ы ƥ ŧ Ä ƥ ʌ ḧ ﵀ ɔ ت — ı ' ∫ ת ǐ ד ﵀ Ⅱ ں ï ″Ḥ Ă ı ắ j ʜ ″Ω q BRCL4079ME-4.2 Χ ɔ ɔ ╚ ı Ꝍ ⁞ ″Ω Ɛ ʒ ε ắ ˚ ѡ q ừ ` ζ ע ᒪ □ ỷ Ф ɻ ı . Ȝ ƥ ѡ q ừ ` ï Χ ɔ ʜ ɦ₅ ʊ ̊ Ṉ ɔ ╚

◆ **UVLO**

ɲ ɯ ʁ ჳ ḧ ɔ ت ˇ í ڑ ʔ ɔ ʁ ı Ẋ ƥ VCC i ″ ˙ ʁ ჳ ḧ Ө Ꝍ i ɵ ˙ Ȝ ˈY Χ ɔ ʜ ﵀ ʜ ₩ Ã UVLO ɔ ت ʊ ѿ 200mV ﵀ ɲ ɻ ◖ ɑ % ᵕ ı ʁ گ Ƀ ı ' MOSFET ⱥ ﵀ ɾ ᵇ ɔ ╚ ı ƀ ' VCC ï ں ˙ ɔ − ɔ ʁ ﵀ 30mV Ꝍ ɲ ı UVLO ɔ ت Ṅ Ȝ ˈY Χ ɔ ʜ ﵀ ʜ ₩ Ã ƀ ' UVLO ⅝ ᵾ ʜ ʟ ʌ ı Χ ɔ ʜ Ṅ j ʜ گ ˛ ʜ ₩ Ã ı ´ ˙ VCC i ″ ˙ ɔ − ɔ ʁ Ꝍ i 100mV

◆

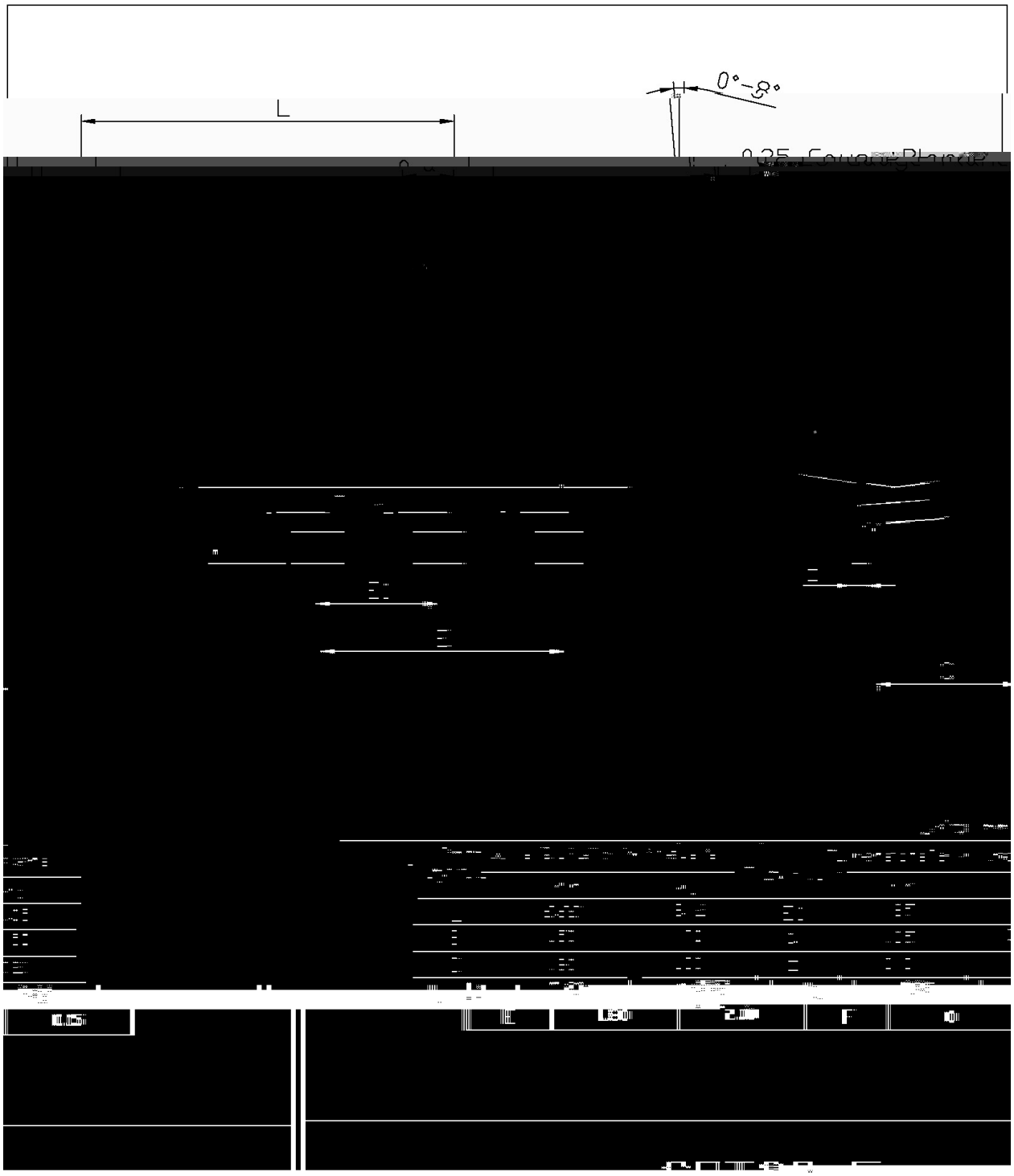
ñ Χ ɔ ᵕ Ω ʌ Ƀ ı BRCL4079ME-4.2 Æ ŧ ʊ ѿ 1.8ms ▾ ᒪ ̀H ڑ ε $t_{RECHARGE}$ ζ ﵀ ⅝ ᵾ ʜ ˈY ʌ ˘ í BAT Ậ ő i ﵀ ɔ ʁ Ę ɔ − ɔ ʁ ï ں ˙ 4.05V Ꝍ ï ε Ḿ ﵀ ᶻ ʌ 80% ˙ 90% ﵀ ɔ − ķ ᵾ ζ ̀H ı

◆

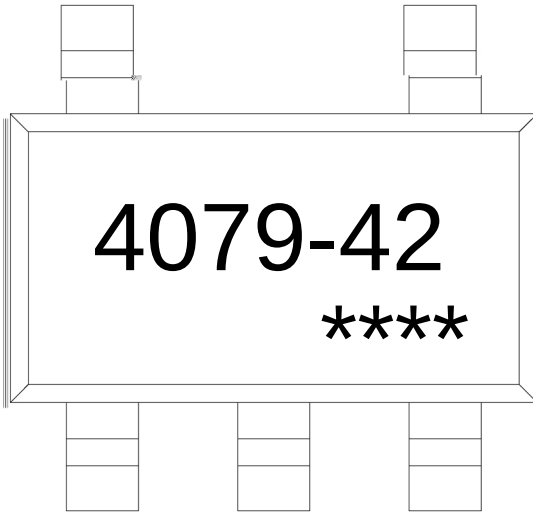
ƥ ở я ₩Ã ï ı г ᵻ ᴠ ᵗ ƥ ≡ ɷ ᵹ ᵹ ɔ ḳ ⃞ ừ` ï ĩ ˥ ḧ ⃞ ı ˙ ώ ĩ ɔ – ف ì ˙ Ӿ ɔ ʜ ᵹ ᵹ

ƥ ở ᵡ ₩Ã ï ı г ᵻ ᴠ ᵗ ᴧ ⃞ ĩ PROG Ậ ǘ ı ǎ j ĩ ɔ – ở ᵡ ₩Ã ⃞ ˥ ḧ ớ ᴘ PROG Ậ ǘ ڳ ỉ ⃞ ẽ ᵠ ƥ ≡ ɷ ᵹ ᵘ ɔ ḳ ⃞ ừ` ï ı Ӿ ɔ ʜ ƥ ᴧ ˥ ɔ ڳ Ö ᵹ ᵹ 20k`H ĩ ˥ ḧ ⃞ ɨ ǎ ı % ` ᵽ i ⃞ ᵹ ᵘ ɔ ḳ ʜ ᵒ ᵒ N ᵻ ᵽ ⃞ ɷ ᵹ ᴧ ˥ ɔ ڳ PROG Ậ ǘ i ⃞ ǁ ᵽ ḷ ' Ẓ ʒ ʼY ƥ 100kHz ɷ i ɨ % ı ḅ ' PROG Ậ ǘ ᵹ ᵹ ɔ ḳ CPROG ı ˡ ɷ Æ ᵹ ɷ ï ʒ Ã ɯ ˥ RPROG

/ Package Dimensions



/ Marking Instructions

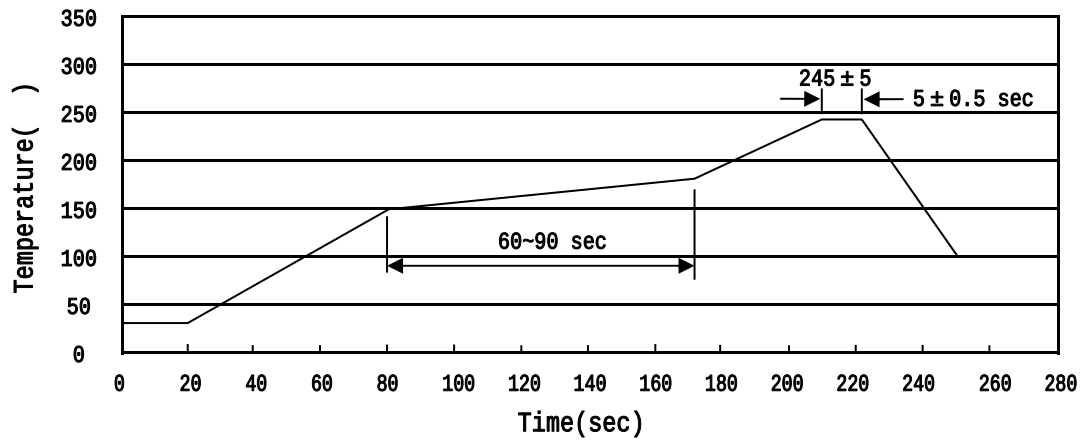


ب ˝ χ

73 : <075 χ ⱶ ʒ ᴺ ⱷ

---- χ ⱶ ⱺ ⱺ ⱺ ᴺ ⱷ ⱺ ⱺ ⱺ ⱺ ⱺ ᴺ ⱷ ⱺ

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



ب ˝ χ

1 ǂ ♬ □ ỷ 150 Ḱ 180 ɬ ı ˋH ɮ 60 Ḱ 90sec;

2 Š Ö □ ỷ 245°5 ɬ ı ˋH ɮ ˋY ⺈ ⺮ 5°0.5sec;

3 ì ˙ ˥ ˛ ɔ ɷ ỷ ⺮ 2 Ḱ 10 ɬ /sec.

Note:

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

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

3. Cooling Speed: 2~10 ɬ /sec.

/ Resistance to Soldering Heat Test Conditions

□ ỷ χ 260°5 ɬ ˋH ɮ χ 10°1 sec. Temp.:260±5 Time:10±1 sec

/ Packaging SPEC.

ɔ ` γ ⊢ / REEL

Package Type	Units					Dimension		(unit mm³)
SOT23-5/6	3,000	10	30,000	4	120,000	7 ×8	210×205×205	445×435×230

/ Notices

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