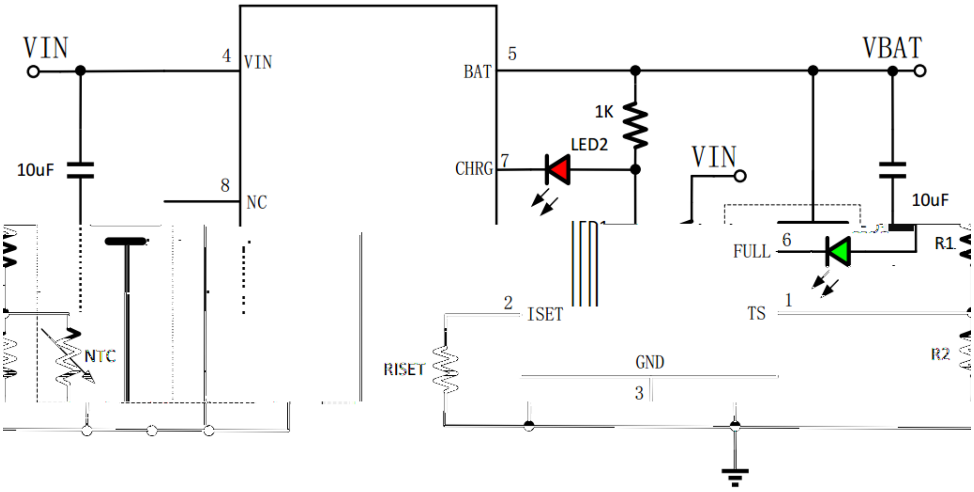
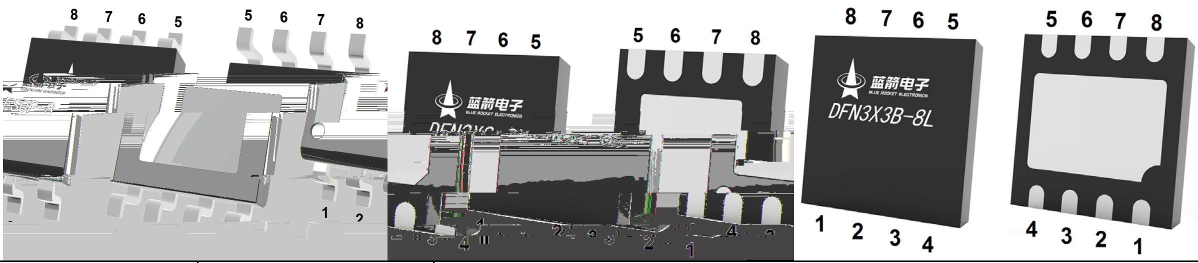
BRCL4058H SREIES [illegible] BRCL4058H SREIES [illegible] MOSFET [illegible]

Rev.C Nov.-2024





1	TS	□ ỷ ₅ ╜ ڑ ર ٩ ι j Æ ĩ `H ⸤ ì ȿ
2	LVHW	Ҳ ɔ ɔ ╙ ۸ ١ ڽص Ṅ 4 (￼ ɔ گ ᴴ ε ULVHW ζ ڧ ì ˙ ȿ ٢ ۸ ١ Ҳ ɔ ɔ ╙ LEDW@4 : 33-YLVHW2ULVHW
3	GND	ꞁ ɑ ȿ
4	VIN	ɔ ◊ ڑ ર Ậ ΰ ι ڧ ì ˙ بگ ᴴ
5	BAT	Ҳ ɔ ɔ ╙ ڑ, Ậ ΰ
6	FULL	Ȁ ◖ ڑ, ￼ Ҳ ɔ Ḣ ᾰ ˝Y˜ ٩
7	CHRG	Ȁ ◖ ڑ, ￼ Ҳ ɔ ꜛ õ ˝Y˜ ٩
8	NC	Ừ Ⅵ

BRCL4058H : ˙	
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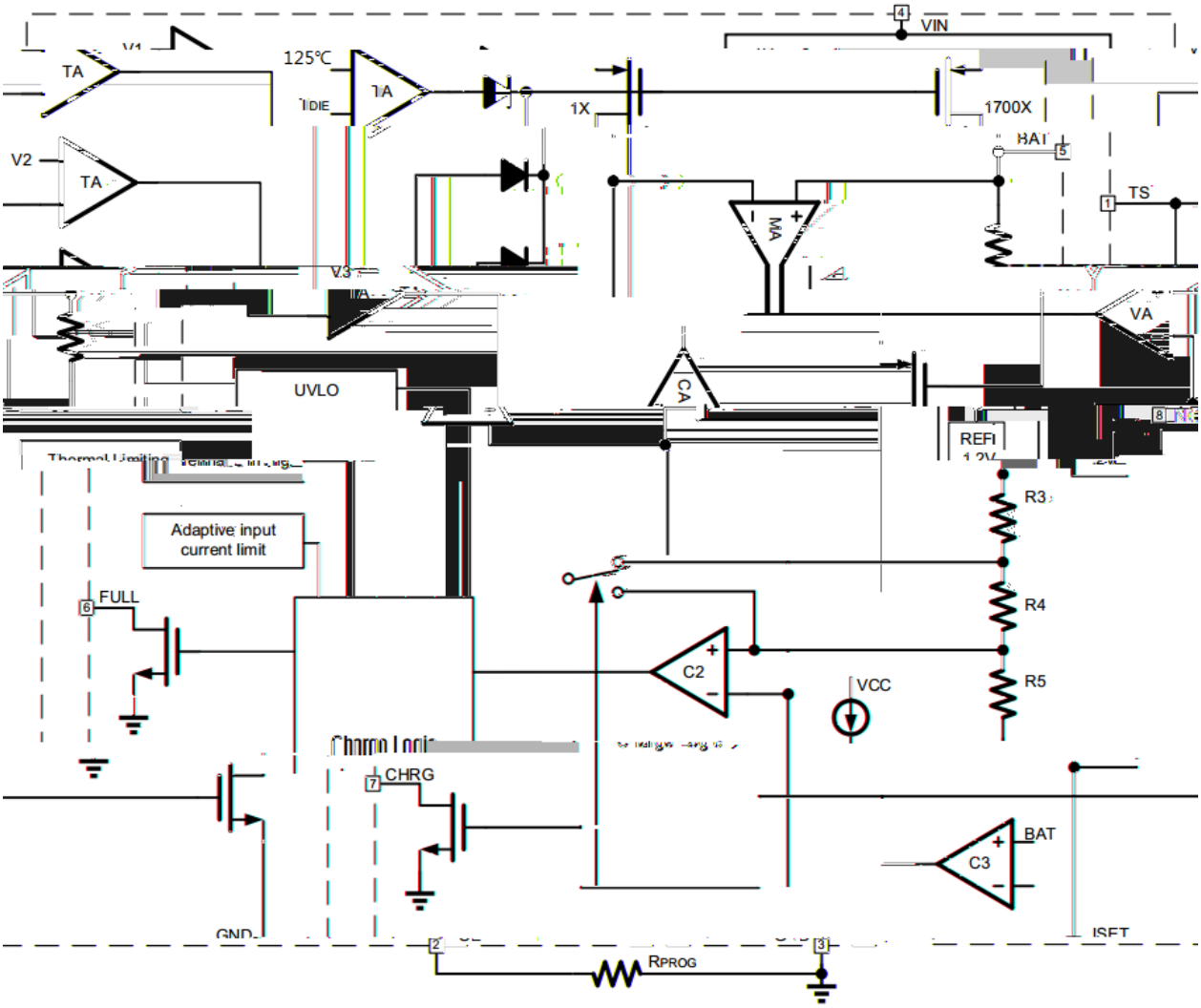
℃ μ μ

BAT Pin Current	I_{BAT}	R_{ISET}=17k, Constant Current Mode		100		mA
		R_{ISET}=3.4k, Constant Current Mode		500		mA
		R_{ISET}=1.7k, Constant Current Mode (ESOP-8 & DFN3×3B-8L)		1000		mA
		R_{ISET}=2.1k, Constant Current Mode (DFN2×2-8L)		800		mA
		V_{BAT}=V_{FLOAT}, Standby Mode		2.5		μA
		Shutdown Mode (V_{BAT}= V_{FLOAT},RPROG not Connected / V_{IN}-0)		0.1		μA
		Battery Reverse Connection (V_{BAT}=-V_{FLOAT}, V_{IN}-0)		2		mA
Trickle Charge Threshold	V_{TRIKL}	V_{BAT} from Low to High		2.6		V
Trickle Charge Hysteresis	ΔV_{TRIKL}			200		mV
Trickle Charge Current	I_{TRIKL}			10		%I_{BAT}
Termination Current Threshold	I_{EOC}			10		%I_{BAT}
CHRG/FULL Pin Pull-Down Current	I_{CHRG}	V_{CHRG}=5V			5	μA
CHRG/FULL Pin Output Low Voltage	V_{CHRG}	I_{CHRG}=5mA			0.1	V
ISET Pin Voltage	V_{ISET}	R_{ISET}=10k, Constant Current Mode		1		V
TS Pin Voltage Threshold	V_{TS_L}			30		%VIN
	V_{TS_H}			60		%VIN
VIN-VBAT Locking Threshold Voltage	V_{ASD}	V_{BAT}=3.6V V_{IN}:3.5V→4V		110		mV
		V_{BAT}=3.6V V_{IN}:4V→3.5V		60		mV
Junction Temperature in Limited Temperature Mode	T_{LIM}			125		℃


VIN
TA
125°C
TDIE
1A
1X
1700X
BAT
TS
V2
TA
MA
V3
VA
UVLO
CA
REFI
Adaptive input current limit
R3
FULL
R4
C2
R5
VCC
CHRG
BAT
C3
GND
ISET
RPROG

◆

Ẹ ژ ᔐ ɔ я Ḩ 3.3V ᾰ ꭗ 6.5V`H ι Ⴟ ɔ ᴴ ICṄ5 ʊ ꞁ ḅ ' BATȂ ű ɔ я Ḩ 2.6V ι Ⴟ ɔ `H ኃ ɑ ╙ Ⴟ ɔ ₩Ã ꝑ ڧ ˥ ₩Ã ï ι BRCL4058H SREIES ώ ĕ ㅓ 1/10ISET ㅕ ㅣ Ⴟ ɔ ɔ ╙ ι Æ ɔ – ɔ я ژ ᔐ ɔ ╙ Ⴟ ɔ Ḡ ᔐ ↨ W Ẹ BAT Ȃ ű ɔ я ì ″ 2.6V Ꞷ ì `H ι Ⴟ ɔ ᴴ ڧ ᔐ ở ╙ ₩Ã ε CC ζ ι ISET ㅕ ㅣ Ⴟ ɔ ɔ ╙ ɋ ώ ĕ ㅕ ɔ – Ẹ BAT Ȃ ű ɔ я ì ǵ ω ㅓ ╢ ʊ ɔ я `H ι BRCL4058H SREIES ڧ ᔐ ở я ₩Ã ε CV ζ ι Ⴟ ɔ ɔ ╙ ڸ ░ ں Ḩ ι Ẹ CV ₩Ã ï Ⴟ ɔ ɔ ╙ ں Ḩ ㅕ ㅣ ɔ ╙ 1/10`H ι ɔ – Ⴟ ◗ ꜛ õ ″Ÿ

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Ẹ Ⴟ ɔ ɔ ╙ ꝑ ژ ω ㅓ ╢ Ⴟ ɔ я ᵅ ں6 ф ḧ Ɵ 1/10`H ι Ⴟ ɔ Ȉ y ɋ ㅓ ฿ Ỉ ᛇ ꞁ ĩ پ ص ۊ ꞁ ₳ ɲ Ⴥ ɦ ⌄ ┕ ⅝ ږ ᴴ ḾISET Ȃ ű ڧ Φ ˘ ί ⁵ ╜ Ẹ ISET Ȃ ű ɔ я ں6 100mV Ꞷ ï `H ژ ʌ ص ىtTERM ε ꭗ 1ms ζ `H ι Ⴟ ɔ ɋ ㅓ ฿

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Ⴟ ɔ ɔ ╙ ĩ پ ꞁ ₳ ڧ ì ꝑ ISET Ȃ ű љ ʂ ɵ ژ ɔ ڳ ф ḧ ф ḧ ɔ ڳ ⁼ Ⴟ ɔ ɔ ╙ پ ꞁ ï ˚ ʒ Ãꜛ ɰ ǀ (VISET=1V)

$$IBAT = \frac{1700\ \mathrm{xVISET}}{\mathrm{RISET}}$$

◆

ῆ Ⴟ ɔ Ȉ y ɋ ㅓ ฿ ι BRCL4058H SREIES ḾBAT Ȃ ű ì ɔ я ڧ Φ ڧ ㅕ ˘ ί Ẹ ɔ – ɔ я ں6 4.05V ε ᶻ7 Ḿ Ẕ ɔ – ķ ږ 80%6 90% ζ Ꞷ ï `H ι Ⴟ ɔ Ȉ y پ Ȁ Ȁ Ḋ ڧ Ȝ ɔ – ɋ ㅕ `Y ꝑ ε ᾰ ì ǵ ζ ₳ ◗ Ⴟ ɔ ꜛ õ ι Ẋ d ڽ ڧ Φ ᵕ Ω ớ Ⴟ ɔ Ȉ y ᵏ ʊ ɹ ι

◆

ɲ ɹ я ڎ ڿ ɔ ٺ Ḿ ژ ᔐ ɔ я ڧ Φ ˘ ί ι Ẋ ꝑ VIN ″6 я ڎ ڿ ڙ ں Ꞷ ì ɵ Æ Ⴟ ɔ ᴴ Ȝ `Y ꝑ ȳ ₩Ã UVLO ɔ ٺ Ṅ Æ Ⴟ ɔ ᴴ Ȝ `Y ꝑ ȳ ₩Ã ḅ ' UVLO ⅝ ږ ᴴ ʌ ɨ ٻ Ψ ι ꝑ VIN ″6 ⅝ ɔ – ɔ я ꭗ 110mV ɵ Ⴟ ɔ ᴴ Ṅ j h ڳ ȳ ₩Ã

◆

BRCL4058H SREIES ɲ Ⴥ ɦ ڸ ᾰ ɔ – r ì Ȝ ï ɔ ٺ ι ˡ ῶ ῼ ڴ ฿ ꝑ Ł ٻ ᾰ Ẕ ꞁ ᴀ ɔ – r ì Ṁ7 ኃ ɑ ″Ω ɋ Ẹ BAT Ȃ ű ɔ я Ḩ GND ɔ я 300mV ι ҥ ڎ ɲ Ⴥ ɦ Ⴟ ɔ ɨ ٺ ψ Ẹ BAT Ȃ ű ɔ я ɨ ″6 Ḩ GND ɔ я 80mV ι Ă ꭗ ɔ –* Ẃ ì ᔐ ι % `H Ⴟ ɔ Ȉ y پ Ȁ ᵏ ʊ

◆ [illegible]

[illegible] CHRG [illegible] FULL [illegible]

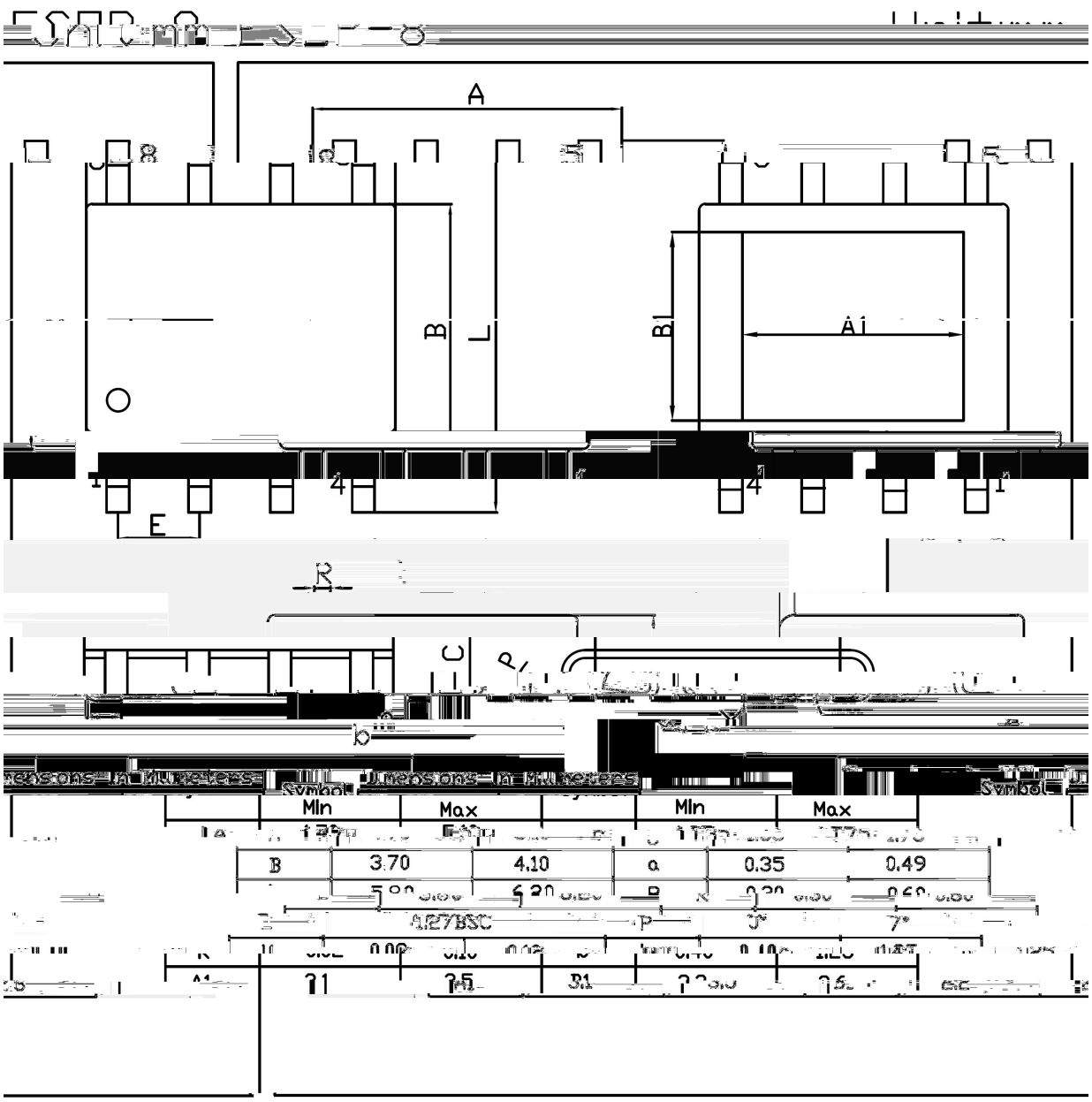
[illegible]	[illegible] LED/CHRG	[illegible] LED/FULL
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

◆ [illegible]

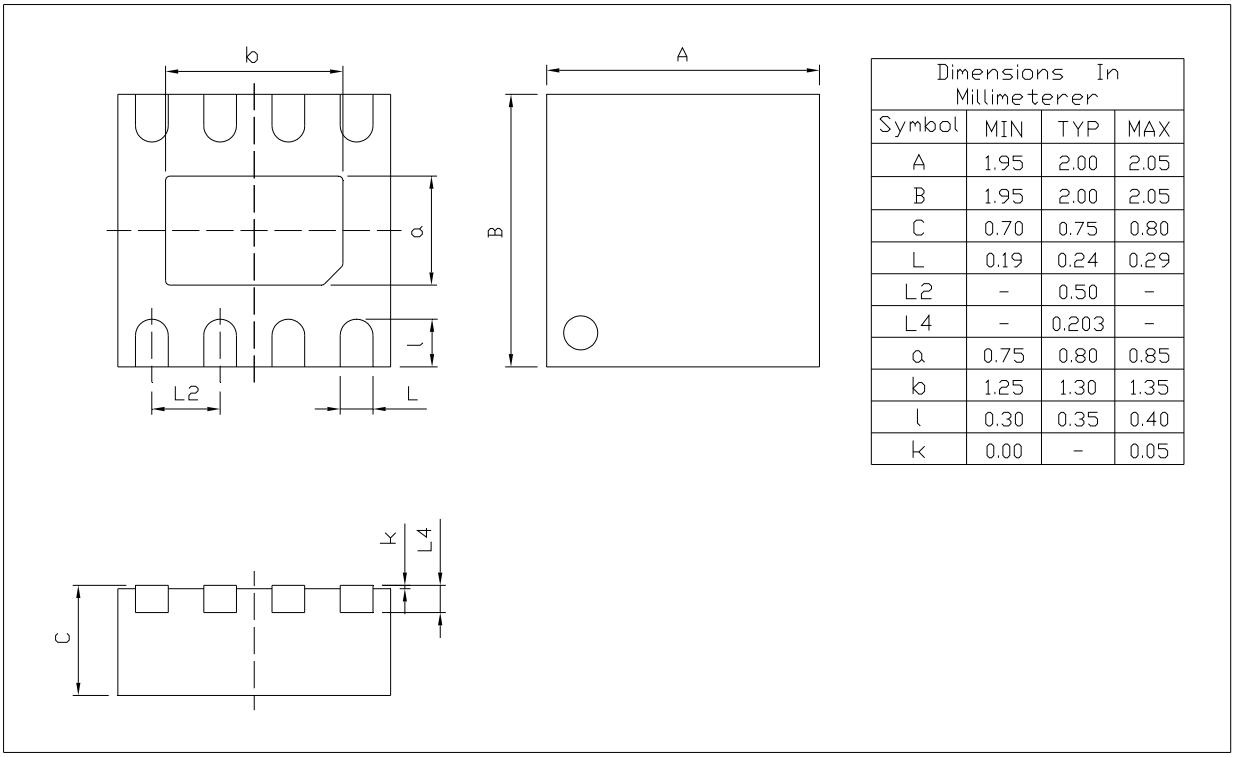
BRCL4058H SREIES [illegible] TS [illegible] NTC [illegible] PTC [illegible] BRCL4058H SREIES [illegible] VTS-L [illegible] VTS-H [illegible] VTS-L [illegible] VTS-H [illegible] VIN [illegible] VIN [illegible] TS [illegible]

◆ [illegible]

[illegible] 125 [illegible] BRCL4058H SREIES [illegible] BRCL4058H SREIES [illegible]


A
B
L
B1
A1
E
R
C
R1
b
Min
Max
Min
Max
B
3.70
4.10
a
0.35
0.49
1.27BSC

DFN2×2-8L-0.75 Unit:mm



Dimensions In Millimeterer			
Symbol	MIN	TYP	MAX
A	1.95	2.00	2.05
B	1.95	2.00	2.05
C	0.70	0.75	0.80
L	0.19	0.24	0.29
L2	-	0.50	-
L4	-	0.203	-
a	0.75	0.80	0.85
b	1.25	1.30	1.35
l	0.30	0.35	0.40
k	0.00	-	0.05

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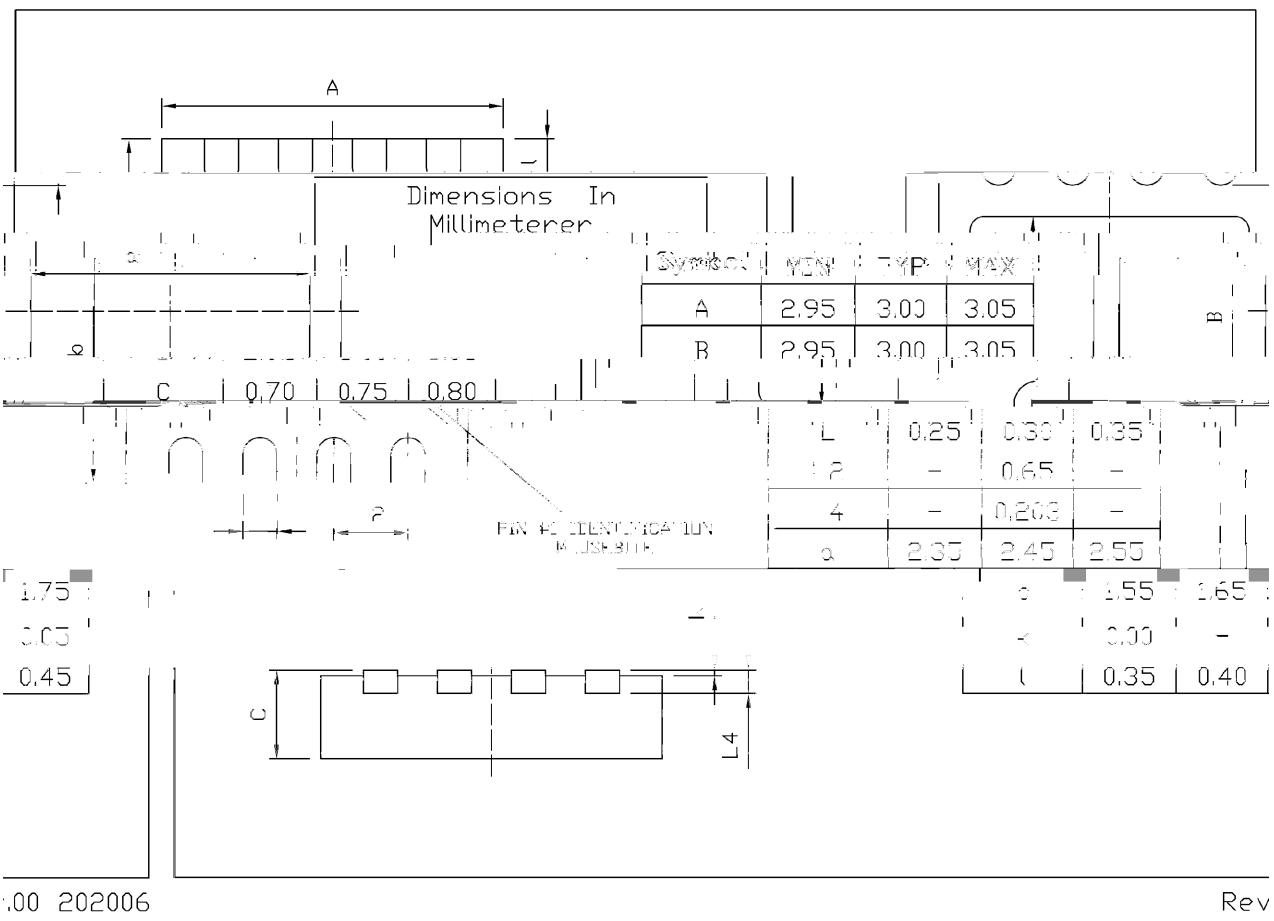
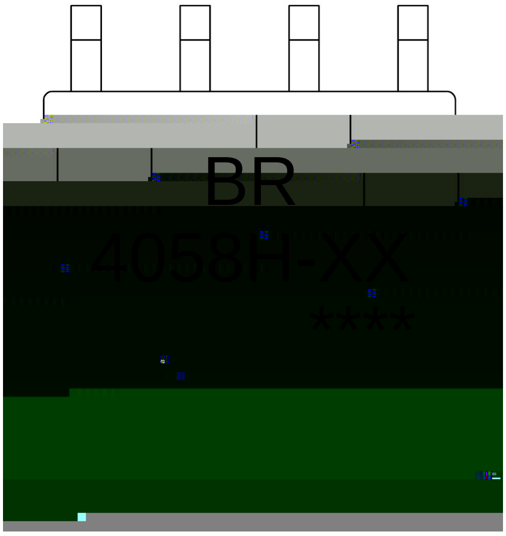
DFN3X3B-8L Unit:mm



Symbol	MIN	TYP	MAX
A	2.95	3.00	3.05
B	2.95	3.00	3.05
L	0.25	0.30	0.35
P	–	0.65	–
4	–	0.203	–
a	2.35	2.45	2.55
c	1.55	1.65	
K	0.00	–	
L	0.35	0.40	



[illegible] χ

EU χ [illegible]

738;K χ [illegible]

[[χ [illegible]

---- χ [illegible]

[illegible]	[illegible]
BRCL4058HSE-4.0	BR/4058H-40/****
BRCL4058HSE-4.2	BR/4058H-42/****
BRCL4058HSE-4.35	BR/4058H-435/****

ب ˝ χ

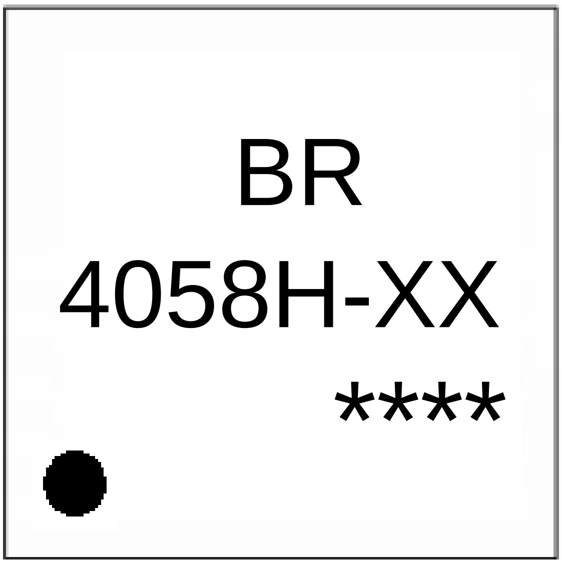
738 ; K χ ѭ ʒ ᴺ Ꮒ

[[χ Ꮒ ´ ڑ ˛ ɔ я ı ḅ ï ´ ¨Ã˜

---- χ ѭ ı ғ ӈ ᴺ Ꮒ ı ɕ ı ғ ӈ ᴺ Ψ ק

ʒ ᴺ	ᴍ ᵑ
BRCL4058HZZ-4.0	BR/4058H-40/****
BRCL4058HZZ-4.2	BR/4058H-42/****
BRCL4058HZZ-4.35	BR/4058H-435/****

× ×



ب ˝ χ

EU χ ㅉ ʅ ᴻ ҧ

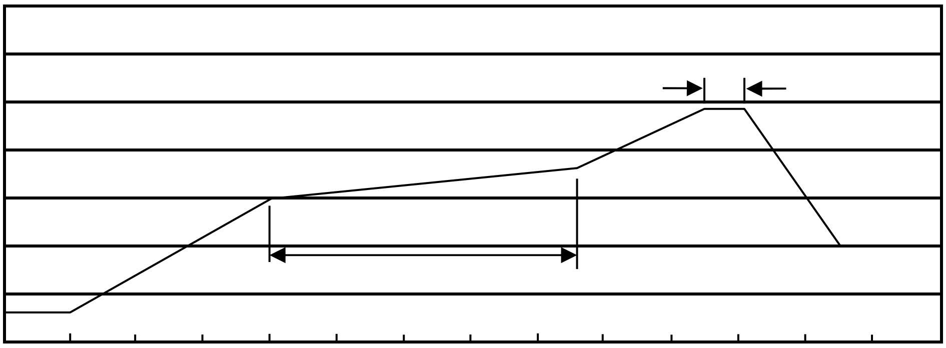
738 ; K χ ㅉ ʒ ᴺ ҧ

[[χ ҧ ˝ ڑ ɔ я ı ḅ ï ˝ Ά˜

- - - - χ ㅉ ɨ ғ ŋ̋ ᴺ ҧ ı ҿ ɨ ғ ŋ̋ ᴺ ψ ק

ʒ ᴺ	ᴍ ꙉ
BRCL4058HZR-4.0	BR/4058H-40/****
BRCL4058HZR-4.2	BR/4058H-42/****
BRCL4058HZR-4.35	BR/4058H-435/****

Temperature Profile for IR Reflow Soldering(Pb-Free)



ب ˝ χ
1 ʅ ♬ □ ŷ 150 Ḱ 180 ɫ ı `H ڗ 60 Ḱ 90sec;
2 Ś Ɵ □ ŷ 245 ° 5 ɫ ı `H ڗ 'Y ﾊ ㅉ 5 ° 0.5sec;
3 ì ˙ ˥ ˛ ɔ ቆ ŷ ㅉ 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.

□ ŷ χ 260 ° 5 ɫ `H ڗ χ 10 ° 1 sec.

Temp.:260±5℃ Time:10±1 sec

ȡ ` ɣ ȶ / REEL

Package Type	Units					Dimension		(unit mm^3)
SOP/ESOP-8	4,000	2	8,000	6	48,000	13″ ×12	360×360×50	380×335×366

Package Type	Units					Dimension		(unit mm^3)
DFN2×2-8L	4,000	10	40,000	4	160,000	7 ×8	210×205×205	445×435×230

Package Type	Units					Dimension		(unit mm^3)
DFN3×3B-8L	5,000	2	10,000	6	60,000	13″ ×12	360×360×50	380×335×366