



昌 勃 股 份 有 限 公 司
Dr . POWER CORPORATION

零 件 規 格 書/承 認 書
SPECIFICATION FOR APPROVAL

CUSTOMER : _____

DESCRIPTION : Battery Pack

MODEL : DR-2024-GA

CUSTOMER PART NO : _____

APPROVED SIGNATURES

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Rev	Date	Description	Designed	Checked	Approved
A	2022/6/9	Release		Po Chen	

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OUR MODEL	DR-2024-GA	Date	2022/4/12
OUR P/N	-	Rev.	1.0

1. Scope

This specification shall be applied to the lithium battery to be supplied by Japone. The battery pack is use for Tablet Products

2. Name and Model

Customer Model Name :

Model Name :

DR-2024-GA

Cell Type :

NCR 18650GA

Cell Configuration :

4S3P

3. Product Specification

No	Item	Rate performance	Remark
1	Typical capacity	10350 mAh	Discharge at 3.35A until cell voltage under 2.5V
2	Normal voltage	14.4 V	
3	Charge voltage	16.8 V	
4	End of voltage	12V	Suggest system cutoff voltage
5	Continuous charge current	5 A	
6	Continuous discharge current	10 A	
7	Max discharge current	< 16A	
8	Operation temperature	Charge 0~45 °C	
		Discharge -20~60 °C	
9	Cycle life	500 cycle > 7245mAh	
10	Storage temperature	0~40 °C	Storage less than 3 months
11	Power consumption		If the battery need to storage in the long term, please charge the battery once time between half year, that can above the battery over discharge by itself, it will keep the battery more healthy.
	normal mode	Average $\leq 800 \mu A$	
	sleep mode	$\leq 300 \mu A$	
	shutdown mode	$\leq 1 \mu A$	

4. Protection Function of Protect IC(Ta = 25 °C)

Function item	Control function and operation	Remark
Over charge detection voltage	4.25 ± 0.01 V	
Over charge delay time	1~3 Sec	
Over charge release voltage	4.1 ± 0.1 V	
Over discharge detection voltage	2.5 ± 0.1 V	
Over discharge delay time	2~4 Sec	
Over discharge release voltage	3 ± 0.1 V	
Over charge prohibition current	6 ± 1 A	
Over charge prohibition delay time	2~4 Sec	
Over discharge prohibition current 1 st	16 ± 1 A	
Over discharge prohibition 1 st delay time	4~7 Sec	
Over discharge prohibition current 2 nd	30 ± 1 A	
Over discharge prohibition 2 nd delay time	1~3 Sec	
Short protection delay time	915 ± 400 uSec	
Over temperature of charge	45 ± 3 °C	
Delay of charge over temperature	2~4 Sec	
Release temperature of charge	40 ± 3 °C	
Over temperature of discharge	60 ± 3 °C	
Delay of discharge over temperature	2~4 Sec	
Release temperature of discharge	55 ± 3 °C	

Under temperature of charge	$0 \pm 3^{\circ}\text{C}$	
Delay of charge under temperature	2~4 Sec	
Release temperature of charge	$5 \pm 3^{\circ}\text{C}$	
Under temperature of discharge	$-20 \pm 3^{\circ}\text{C}$	
Delay of discharge under temperature	2~4 Sec	
Release temperature of discharge	$-15 \pm 3^{\circ}\text{C}$	

5. Protection Function of Permanent Fail(Non-recoverable)

Function Item	Control Function and Operation	Remark
Over charge detection voltage	Anyone cell $\geq 4.4\text{ V}$	5 Sec
Over Temperature Protect	Mosfet Temp $\geq 95^{\circ}\text{C}$	5 Sec
	Cell Temp $\geq 75^{\circ}\text{C}$	5 Sec
FET Failure	C-FET cut off & current $> 100\text{ mA}$	5 Sec
	D-FET cut off & current $> -100\text{ mA}$	

6. Connect Pin Define

Name	Function	Remark
1	P+	
2	SMBus Clock	
3	SMBus Data	
4	ID	510Ω connect to P-
5	P-	

7. Handling Warning

The battery used in this device may present a risk of fire or chemical burn if misteated. Do not disassemble heat above 60°C , Crush or puncture short circuit external contacts, or dispose in fire or water.

電池組在以下情況使用可能造成起火或是爆炸情況產生，禁止操作環境超過60度、輾壓、刺穿電池組、外部短路、丟入水中及火源。

8. Storage Condition

In case of long storage less than 1 month, store the battry at temperature range $-20 \sim +50$, low humidity(less than 70%RH).
儲存時間低於一個月，建議儲存溫度 $-20 \sim 50$ 度，濕度 $< 70\%$ 。

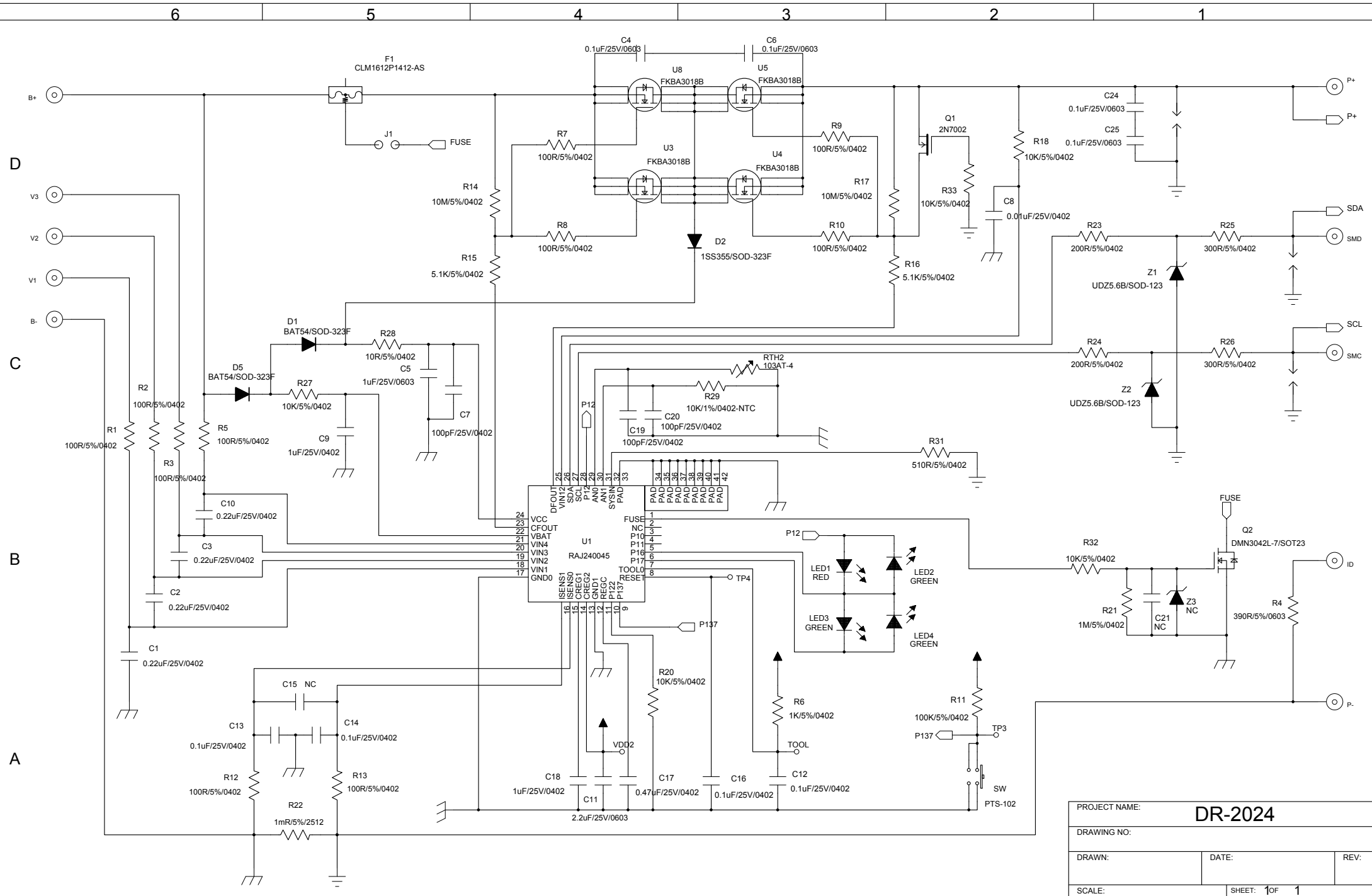
In case of long storage less than 3 months, store the battry at temperature range $0 \sim +40$, low humidity(less than 70%RH).
儲存時間低於三個月，建議儲存溫度 $0 \sim 40$ 度，濕度 $< 70\%$ 。

In case of long storage more than 3 months, store the battry at temperature range $0 \sim +20$, low humidity(less than 70%RH).
儲存時間高於三個月，建議儲存溫度 $0 \sim 20$ 度，濕度 $< 70\%$ 。

9. Disposal Consideration

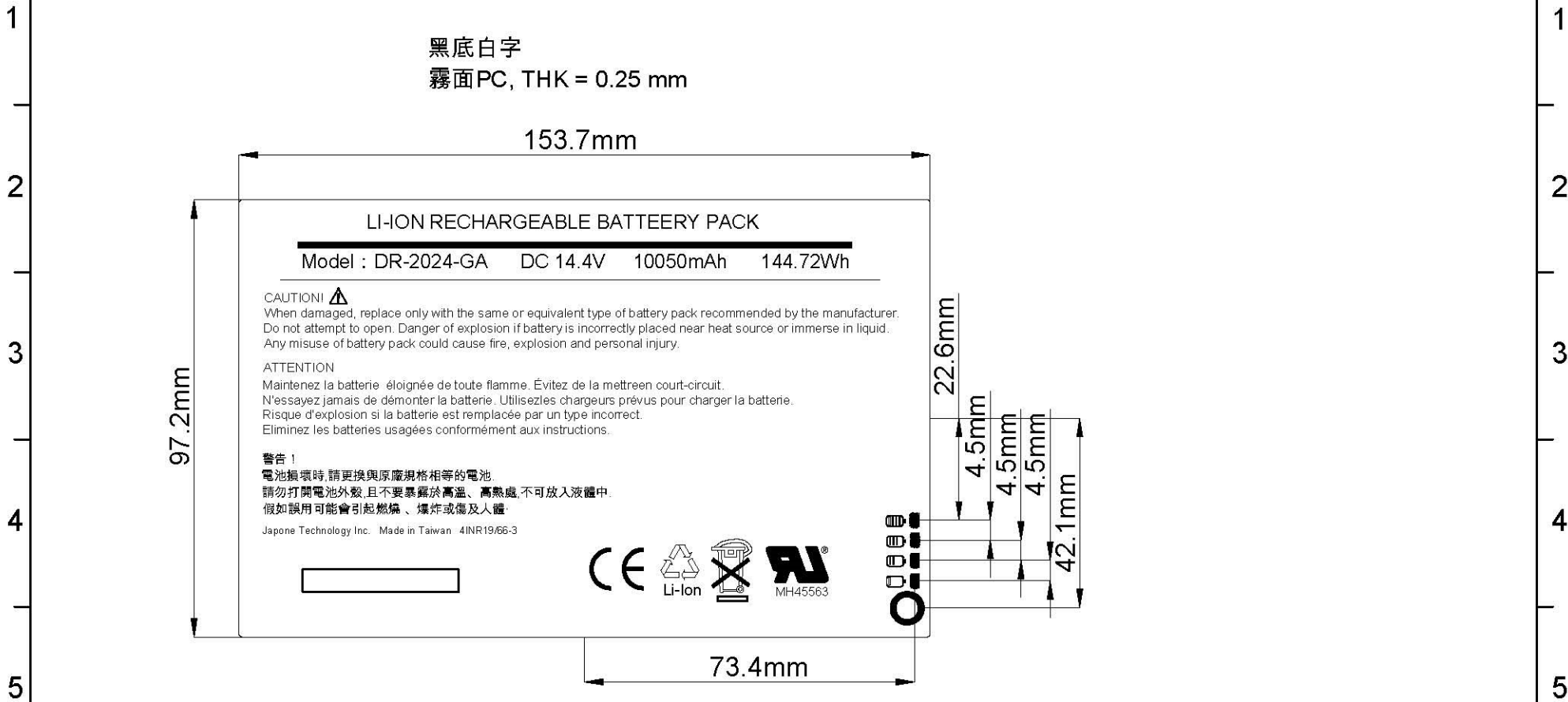
Recommended methods for safe and environmentally preferred disposal : Product (waste from residues) Do not throw out a used battery cell. Recycle it through the recycling company. Contaminated packaging Neither a container nor packing is contaminated during normal use. When internal materials leaked from a battery cell contaminates, dispose as industrial wastes subject to special control.

廢棄物建議的處理方式：不要隨意丟棄使用過的鋰電池，應交由專業的回收公司處理。電池在正常使用情況下，電池並非是污染品，但是當電池有漏液、破損現象，請根據工業污染品規定報廢處理



PROJECT NAME:		DR-2024	
DRAWING NO:			
DRAWN:		DATE:	REV:
SCALE:		SHEET: 1 OF 1	

A B C D E F G H I



				APPROVED	CHECKED	DESIGNED	RANGE	TOLERANCE	MODEL NO.:
							201 ABOVE	±0.30mm	DR-2024-GA
							101-200	±0.25mm	PART NAME:
							51-100	±0.20mm	Label Drawing
							31-50	±0.15mm	PART NO.:
							30 BELOW	±0.10mm	
20220602	1.0	New Design	Winyi	THIRD ANGLE PROJECTION	A4 SIZE	SCALE 1 : 1	UNIT:MM	DRAWING NO.	REV: 0.1
Date	Rev.	Description	Approval						

A B C D E F G H I

REV.	DESCRIPTION	ECN NO.	DATE	DRAWER
A	New Release		12/22/2008	Hyde
B	Add Plating Option $\triangle_B \times 1$	EC0908043	08/18/2009	Hyde

Notes:

- Material :
Housing : Thermoplastic UL 94V-0, Black
Terminal : Copper Alloy
- Finish :
Terminal : Selected Gold on Contact Area, Gold Flash on Solder Tails, Both over 50u" Min. Ni
- Order Information :

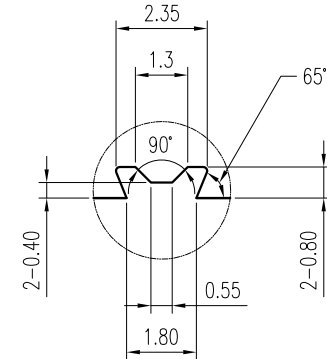
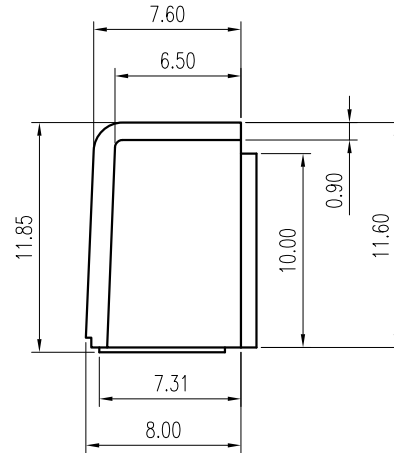
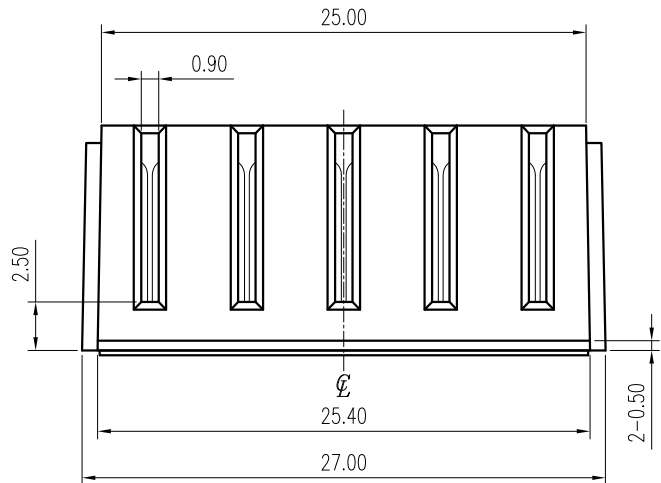
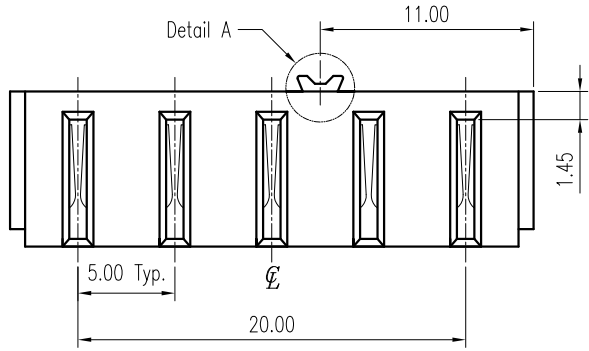
T SDO-021 05 -10T X A

T: RoHS (for High Temperature)

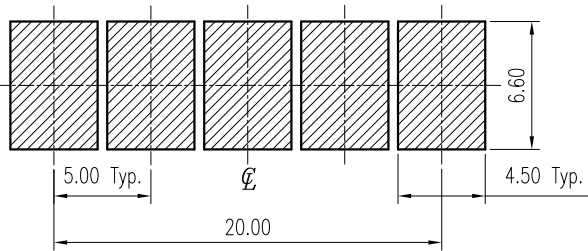
Amount of Pins
05 : 5 Pins

Plating

- 0 : 15u" Min. Ni Overall
- 3 : 5u" Min. Gold on Contact Area.
- \triangle_B Y : 80u" Min. Tin Overall



Detail "A"
Scale 5:1



Recommended P.C.B. Layout
Layout Tolerance = ± 0.05 mm

DIMENSION IN mm [inch]	
Tolerance unless otherwise specified	
X.	X.* $\pm 10'$
X.X ± 0.38	X.X* $\pm 5'$
X.XX ± 0.25	X.XX* $\pm 2'$
X.XXX ± 0.13	X.XXX* \pm

CEN 欣訊科技股份有限公司
CEN LINK CO., LTD.
CUSTOMER DRAWING

Title 5.0mm Pitch Battery Conn.
Female Type

Dwg No. TSD0-02105-10TXA

File No.

Approver:

Checker:

Drawer: Hyde

08/18/2009

	Scale: 2.5 : 1
	Size: A 4
	Rev : B
	Sheet: 1 / 1