

深圳市台华达科技有限公司

DESCRIPTION :
產品描述

FPC Conn. P=0.5mm H=1.2mm
Right Angle / Double Contact Type
腳距 0.5mm 結合高度 1.2mm 直插式双面接触板端連結器

PART No. :
料號

THD1012-XXR-SN

DATE :
日期

2012/12/11

PRODUCT SPEC NO. :
產品規格書編號

THD001210

ECO NO. :
工程變更號碼

ECR1212001

REV. :
版本

A

| APPROVED 核准 | CHECKED 審核 | WRITTEN 製作 |
|-----------------------|---------------------------------|--|
| 2010/12/12 | 黃德進 2010/12/12 | HUANGDEJIN 2010/12/11 |

PRODUCT SPECIFICATION

FPC Conn. P=0.5mm H=1.2mm Right Angle/Double Contact Type

1. SCOPE 使用範圍

THIS PRODUCT SPECIFICATION COVERS THE REQUIREMENTS FOR PRODUCT PERFORMANCE OF FULLCONN'S. FPC Conn. P=1.0mm H=1.2mm Right Angle/Double Contact Type

此產品規格書涵蓋深圳市台華達科技有限公司，腳距 0.5mm 結合高度 1.2mm 直插式雙面接觸板端連結器之產品性能需求說明。

2. PRODUCT NAME AND PART NUMBER

| PRODUCT NAME 品名 | PART NUMBER 料號 |
|---|----------------|
| FPC Conn. P=1.0mm H=1.2mm Right Angle/Double Contact Type 腳距 1.0mm 結合高度 1.2mm 直插式雙面接觸板端連結器 | THD1012-XXR-SN |

3. PERFORMANCE CHARACTERISTICS

| ITEM 項目 | STANDARD 標準 |
|---------------------------------------|---------------------------|
| RATED VOLTAGE (max.) 額定電壓最大值 | 50V AC(rms)/DC |
| CURRENT CONTINUITY 額定電流 | 0.4A AC(rms)/DC |
| OPERATING TEMPERATURE RANGE 操作溫度範圍 | -55°C ~ +85°C |
| STORAGE TEMPERATURE RANGE 儲存溫度範圍 | -55°C ~ +85°C |
| CONTACT RESISTANCE(Low Level) 接觸電阻 | 30 mΩ max |
| WITHSTANDING VOLTAGE 耐電壓 | 250 V AC RMS FOR 1 MINUTE |
| INSULATION RESISTANCE 絕緣電阻 | 50 MΩ Min. |

4. MATERIALS 材質

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4-1 HOUSING : Heat Resistance Plastic, UL94-V0 ; Color : White

主体 : 耐高溫塑膠, UL94-V0, 顏色:白色

LEG : Brass

接地片:黃銅

TERMINAL : Brass

端子:黃銅

5.FINISH 表面處理

5-1.Please see the "ORDER INFORMATION" in customer drawings.

請參照客戶圖

6. REQUIREMENT, TESR METHODS & TEST RESULTS 測試方法及需求

6.1 Examination of product 產品外觀檢驗:

| TEST DESCRIPTION | | TEST PROCEDURE | REQUIREMENT |
|------------------|--|---|------------------------------------|
| 6.1.1 | Visual and Dimensional Inspections 外觀檢查 | Visual, dimensional and functional per applicable quality inspection plan. 使用目測及測量工具對物件作測量 | Meets product drawing 符合產品客戶圖規範 |

6.2 Mechanical performance 機械性質

| Item | Description | Procedure | Requirements |
|-------|--------------------------------|---|---|
| 6.2.1 | Contact retention force 保持力 | The end of terminal shall be pulled in a perpendicular to base housing at a maximum rate of 25±3 mm per minute. 實驗最終端子應始終置於塑膠內, 最大實驗速率為 25±3mm/min | 3.0 N(0.3kg) Min. 最小 3.0N |
| 6.2.2 | Durability 耐插拔 | Mating and unmating the connectors for 20 cycles. 結合及分離公母端 20 次 | Low level contact resistance:40mΩ Max. 最大接觸電阻為 40mΩ |
| 6.2.3 | Mating force 插入力 | Insertion is conducted between applicable connectors.(without locking lever) The end of terminal shall be pulled in a perpendicular to base housing at a maximum rate of 25 mm per minute. 實驗最終端子(無鎖住)始終保持於塑膠內 最大速率 25mm/min | Pos.× 0.08kgf MAX 单 PIN 最大力量 0.08kgf |

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|-------|--------------------------|---|--|
| 6.2.4 | Unmating force 拔出力 | Insertion is conducted between applicable connectors.(without locking lever) The end of terminal shall be pulled in a perpendicular to base housing at a maximum rate of 25 mm per minute. 實驗最終端子(無鎖住)始終保持於塑膠內 最大速率 25mm/min | Pos.× 0.03kgf MIN 单 PIN 最小力量 0.03kgf |
| 6.2.5 | Vibration 振動 | Subject mated connectors to : Frequency : 10-55-10 Hz Amplitude : 1.52mm Direction : three perpendicular axes Direction : X、Y、Z axes/2 hours (MIL-STD-202, Method 201) 將公母端配合置於下列測試環境 頻率:10~55-10 Hz 振幅:1.52mm 方向:三軸, X、Y、Z 軸/兩小時 (MIL-STD-202, Method 201) | There shall be no current discontinuity of more discontinuity of more then 1µsec. And there shall be no mechanical defect on the parts during and after test. 無斷電及中斷超過 1µ秒, 實驗中外表無損毀 |
| 6.2.6 | Mechanical Shock 機械衝擊 | Duration : 2 hours in each of X,Y,Z axes. 將样品与适合之 FPC 连接, 通过 DC 1 mA 测试条件连续测试 3 次。在 X、Y、Z 3 轴 6 个垂直方向施加重力加速度 .490m/s ² {50G} 冲击。 (MIL-STD-202, Method 213, Condition A) Mate applicable FPC and subject to the following shock conditions. 3 times of shocks shall be applied for each 6 directions along 3 mutually perpendicular axes, passing DC 1 mA current during the test. (MIL-STD-202, Method 213, Condition A) | There shall be no current discontinuity of more discontinuity of more then 1µsec. And there shall be no mechanical defect on the parts during and after test. 無斷電及中斷超過 1µ秒, 實驗中外表無損毀 |

6.3 Electrical performance 電汽特性

| Item | Parameter | Procedure | Requirements |
|-------|----------------------------------|---|-------------------------|
| 6.3.1 | Contact Resistance 低功率接觸阻抗 | Mate applicable FPC and measure by dry circuit,20mV Max, 10mA. 將样品与适合之 FPC 连接, 测试电压 20mV, 限电流10mA 下进行阻抗测试。 | 30 mΩ Max. 30 mΩ 以下. |

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|-------|--|---|--|
| 6.3.2 | Insulation Resistance 絕緣阻抗 | After 500 V DC for 1 minute ,measure the insulation resistance between the adjacent contacts of mated and unmated connector assemblies (MIL-STD-202, Method 302, Condition B) 將與連接器連接，於兩相鄰端子間給予電壓 500V DC 進行測試。 (MIL-STD-202, Method 302, Condition B) | 50 MΩ Min 最小電阻 50MΩ |
| 6.3.3 | Dielectric Withstanding Voltage 耐電壓 | Test between adjacent contacts of mated and unmated connector assemblies with a voltage of 250 V AC (r.m.s) for 1 minute (MIL-STD-202, Method 301) 施以250V AC.電壓在相鄰電路與端子間1分鐘 (MIL-STD-202, Method 301) | No current leakage and flashover or damage detected. 無漏電及損毀 |

6.4 Environmental performance

| Item | Parameter | Procedure | Requirements |
|-------|---|---|---|
| 6.4.1 | Humidity resistance 恆溫恆濕 | Subject unmated connectors to 96 hours at 25~65°C with 90% to 95% R.H. 使連接的公母端置於 25~65°C、90% 到 95% 溼度的設定狀況下 96 小時 | Contact resistance: 40mΩ Max. 接觸阻抗最大 40mΩ |
| 6.4.2 | Salt spray 鹽霧實驗 | Subject specimens to 5±1% salt concentration at 35±2°C for 48 hours, After test, rinse the sample with water and recondition the room temperature for 1 hour. 將公母配合置於 5±1% 濃度之鹽霧環境中，溫度 35±2°C 持續 48 小時，放在室溫下恢復 1 小時后再測試 | Contact resistance: 40mΩ Max. 接觸阻抗最大 40mΩ |
| 6.4.3 | Thermal Shock (Temperature Cycling) 冷熱衝擊 | Subject unmated connectors shall be tested in accordance with(JIS C0025) -55±3°C(30 minute) →+25±2°C(5 minute) → +85±2°C(30 minute) →+25±2°C(5 minute) consecutive 25 cycles. (MIL-STD-202, Method 107, Condition A-1) 將公母結合的連接器置入 -55°C(30 分鐘) →+25°C(5 分鐘) → +85°C(30 分鐘) →+25°C(5 分鐘) 連續進行 25 次 (MIL-STD-202, Method 107, Condition A-1) | Appearance is no damage. Contact resistance: 40mΩ Max. 外觀無損毀 接觸阻抗最大 40mΩ |

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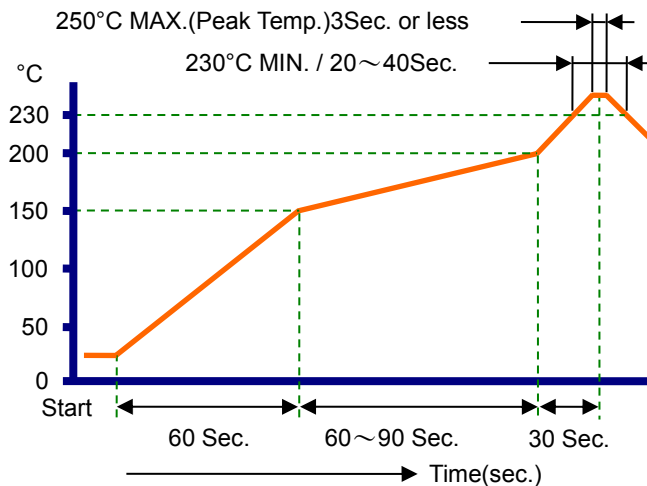
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| | | | |
|-------|-------------------------------------|--|---|
| 6.4.4 | Solderability 沾錫性 | <p>Solder time to be 3~5 seconds at 245±5°C, using unactivated flux. (MIL-STD-202F, Method 208) 熱焊溫度 245±5°C 時間 3~5 秒 使用無活性助焊劑 (MIL-STD-202F, Method 208)</p> | More than 95% of the immersion shall be covered with solder. 覆蓋率超過 95% |
| 6.4.5 | Soldering heat withstanding 耐焊錫性 | <p>使用烙铁手焊时须可符合下述焊锡条件 Hand soldering Solder Temperature: 380 ± 5°C, 3 ± 0.5sec. For Tin (Lead Free) using (When re-flowing) See paragraph 7. 使用红外线回焊时请参考第 7 点</p> | no physical damage 外觀無損毀 |

Note: 1. plating under the 5u" is not suited

7. RECOMMENDED INFRARED REFLOW CONDITION :



NOTE: Please check the re-flow soldering condition by your own devices beforehand .
Because the condition changes by the soldering devices, p.c. boards, and so on.

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8. PRODUCT QUALIFICATION AND REQUALIFICATION TEST SEQUENCE

產品驗證次序

| TEST GROUP 測試群組 | | Sample Groups 樣品群組 | | | | | | | | | | |
|--------------------------------|---|-----------------------|----|----|-----|-------|----|-----|----|----|-----|-----|
| 測試項目 | TEST OF DESCRIPTION 測試說明 | A | B | C | D | E | F | G | H | I | J | K |
| 1 | Examination of product 外觀尺寸比對 | 1,5 | 1 | 1 | 1,5 | 1,5,8 | 1 | 1,3 | 1 | 1 | 1,3 | 1,4 |
| 2 | Low Level Contact Resistance 低功率接觸阻抗 | | 2 | | 2,4 | 2,4,7 | | | | | | 3 |
| 3 | Contact retention force 端子保持力 | | | | | | | | 2 | | | |
| 4 | Durability 耐插拔 | 4 | | | | | | | | | | |
| 5 | Mating force 插入力 | 3 | | | | | | | | | | |
| 6 | Unmating force 拔出力 | 2 | | | | | | | | | | |
| 7 | Vibration 振動 | | | | | | | | | | 2 | |
| 8 | Dielectric withstanding voltage 耐電壓 | | | | | | | | | 2 | | |
| 9 | Insulation resistance 絕緣阻抗 | | | | | | | | | 3 | | |
| 10 | Humidity resistance 恆溫恆濕 | | | | 3 | | | | | | | |
| 11 | Thermal shock 冷熱衝擊 | | | | | | | | | | | 2 |
| 12 | Salt spray 鹽霧實驗 | | | 2 | | | | | | | | |
| 13 | Temperature life cold 耐寒試驗 | | | | | 3 | | | | | | |
| 14 | Temperature life high 高溫壽命 | | | | | 6 | | | | | | |
| 15 | Solder ability 沾錫性 | | | 3 | | | 2 | | | | | |
| 16 | Soldering heat with standing 耐焊錫性 | | | | | | | 2 | | | | |
| NUMBER OF TEST SAMPLE 測試樣品數 | | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |

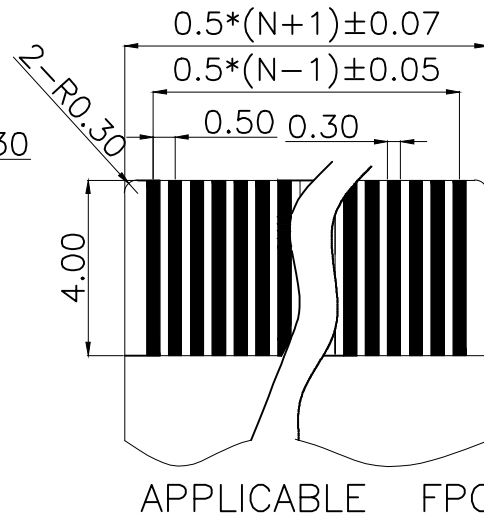
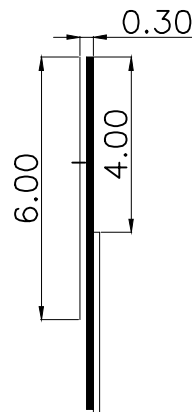
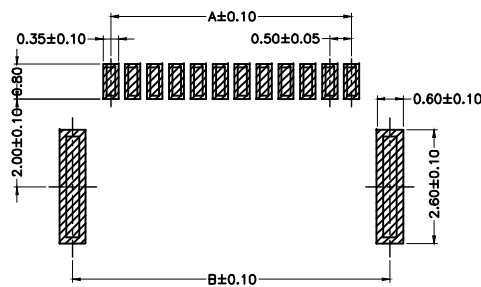
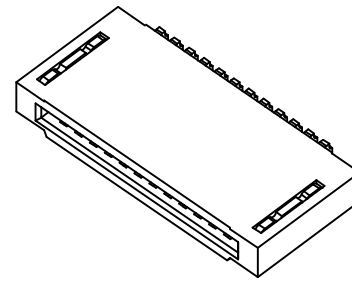
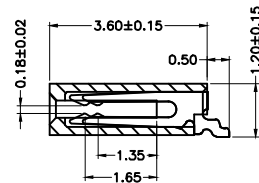
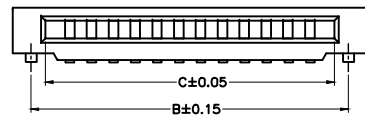
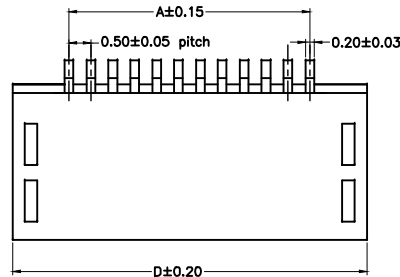
FPC Conn. P=0.5mm H=1.2mm Right Angle/Double
Contact Type

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PITCH 0.5mm NO ZIF FPC CONNECTOR SMT TYPE



1.MATERIAL

HOUSING:LCP UL 94V-0

CONTACTS:COPPER ALLOY

PEG:COPPER ALLOY

2.PLATING:

CONTACTS:TIN OVER NICKEL

PEG:TIN OVER NICKEL

3.PART NO:

OPERATING VOLTAGE:50V AC,DC

CURRENT RATING:0.3A AC,DC

OPERATING TEMPERATURE:-25C~+85C

4.PART NO:

THD1012-xxR-GF

GF:GOLD FLASH

SN:TIN OVER NICKEL

NO.OF CONTACTS:(04Pin~45Pin)

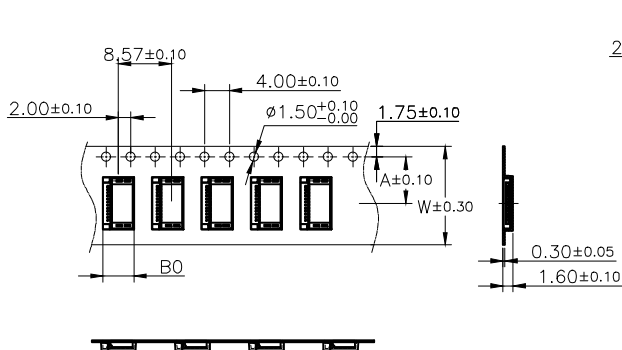
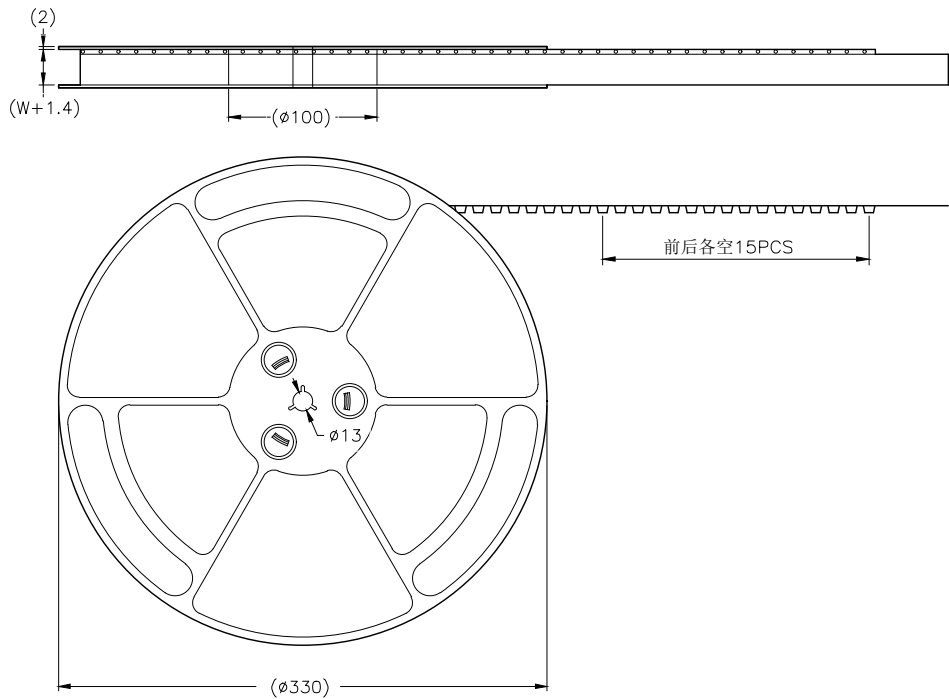
| Circuits | Dimensions (mm) | | | | Circuits | Dimensions (mm) | | | |
|----------|-----------------|-------|-------|-------|----------|-----------------|-------|-------|-------|
| | A | B | C | D | | A | B | C | D |
| 04 | 1.50 | 3.25 | 2.00 | 4.10 | 26 | 12.00 | 13.75 | 13.10 | 14.80 |
| 06 | 2.00 | 3.75 | 3.10 | 4.80 | 28 | 12.50 | 14.25 | 13.80 | 15.10 |
| 08 | 2.50 | 4.25 | 3.80 | 5.10 | 27 | 13.00 | 14.75 | 14.10 | 15.60 |
| 07 | 3.00 | 4.75 | 4.10 | 5.80 | 29 | 13.50 | 15.25 | 14.80 | 16.10 |
| 09 | 3.50 | 5.25 | 4.80 | 6.10 | 28 | 14.00 | 15.75 | 15.10 | 16.80 |
| 10 | 4.00 | 5.75 | 5.10 | 6.80 | 30 | 14.50 | 16.25 | 16.00 | 17.10 |
| 10 | 4.50 | 6.25 | 5.80 | 7.10 | 31 | 15.00 | 16.75 | 16.10 | 17.80 |
| 11 | 5.00 | 6.75 | 6.10 | 7.80 | 32 | 15.50 | 17.25 | 16.80 | 18.10 |
| 12 | 5.50 | 7.25 | 6.80 | 8.10 | 33 | 16.00 | 17.75 | 17.10 | 18.80 |
| 13 | 6.00 | 7.75 | 7.10 | 8.80 | 34 | 16.50 | 18.25 | 17.80 | 19.10 |
| 14 | 6.50 | 8.25 | 7.80 | 9.10 | 35 | 17.00 | 18.75 | 18.10 | 19.80 |
| 15 | 7.00 | 8.75 | 8.10 | 9.80 | 36 | 17.50 | 19.25 | 18.80 | 20.10 |
| 16 | 7.50 | 9.25 | 8.80 | 10.10 | 37 | 18.00 | 19.75 | 19.10 | 20.80 |
| 17 | 8.00 | 9.75 | 9.10 | 10.60 | 38 | 18.50 | 20.25 | 19.60 | 21.10 |
| 18 | 8.50 | 10.25 | 9.80 | 11.10 | 39 | 19.00 | 20.75 | 20.10 | 21.80 |
| 19 | 9.00 | 10.75 | 10.10 | 11.80 | 40 | 19.50 | 21.25 | 20.80 | 22.10 |
| 20 | 9.50 | 11.25 | 10.80 | 12.10 | 41 | 20.00 | 21.75 | 21.10 | 22.80 |
| 21 | 10.00 | 11.75 | 11.10 | 12.60 | 42 | 20.50 | 22.25 | 21.80 | 23.10 |
| 22 | 10.50 | 12.25 | 11.80 | 13.10 | 43 | 21.00 | 22.75 | 22.10 | 23.80 |
| 23 | 11.00 | 12.75 | 12.10 | 13.60 | 44 | 21.50 | 23.25 | 22.80 | 24.10 |
| 24 | 11.50 | 13.25 | 12.80 | 14.10 | 45 | 22.00 | 23.75 | 23.10 | 24.80 |



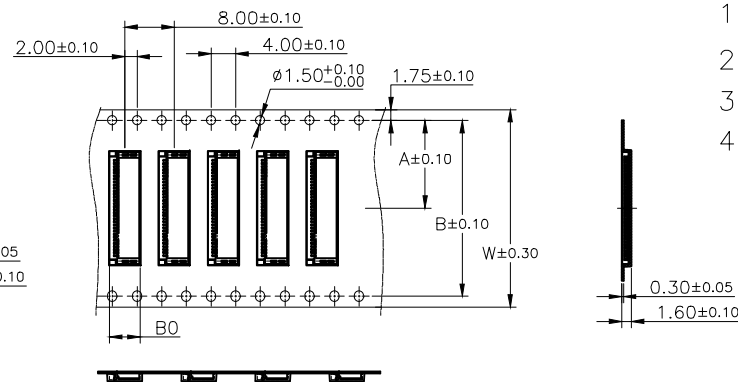
深圳市台华达科技有限公司
SHENZHENSHI THD ELECTRONICS CO., LTD.

| | | | | | | | |
|--|-----------|-----|------|-------------------------|--|--|--|
| GENERAL TOLERANCE UNLESS OTHERWISE SPECIFIED | | | | DRAWN Jim 2012.05.10 | | PART NO. THD1012-xxR-SN | |
| X.X ±0.25 | | | | CHECKED Jim 2012.05.10 | | TITLE: 0.5 PITCH 1.2H NO ZIF FPC CONN. | |
| X.XX ±0.20 | | | | APPROVED 黄德进 2012.05.10 | | SHEET 1/1 | |
| X.XXX ±0.10 | | | | ANG. ±3' | | UNIT MM SCALE 1:1 SIZE A4 REV X1 | |
| REV. | REVISIONS | CHK | DATE | | | | |

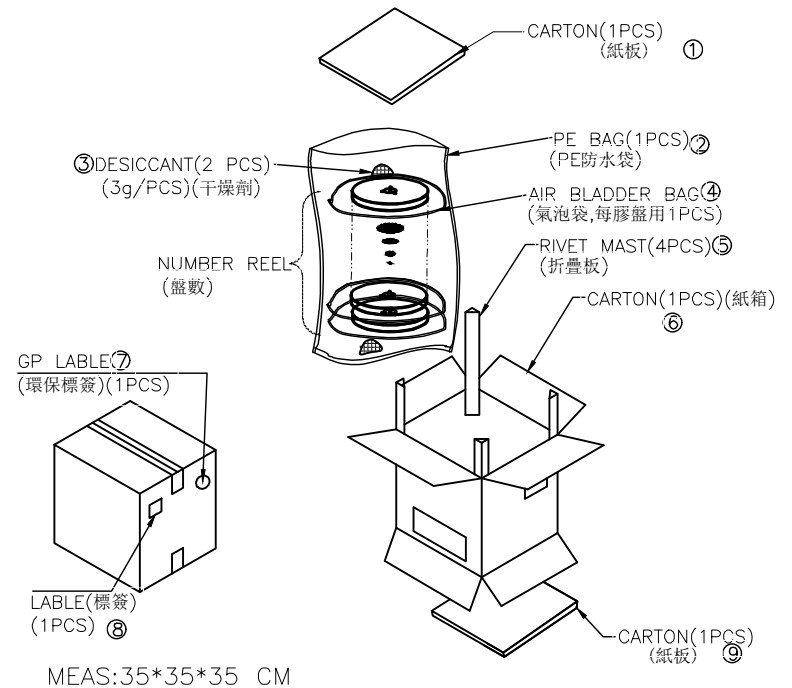
REEL Dim



Tape width 16 and 24 mm




Tape width 32 and 44 mm



Notes:

- 1.PER REEL : 4000pcs.
- 2.Material : White Conductive Polystyrene Alloy.
- 3.Thickness : 0.3 ±0.05mm.
- 4.All dimensions meet EIA-481-C requirements.

| PIN NO. | W | A | B | PCS /REEL | REEL/CARTON | SUM(PCS) |
|-------------|----|------|------|-----------|-------------|----------|
| 4PIN~12PIN | 16 | 7.5 | — | 4000 | 15 | 60000 |
| 13PIN~24PIN | 24 | 11.5 | — | 4000 | 10 | 40000 |
| 25PIN~36PIN | 32 | 14.2 | 28.4 | 4000 | 8 | 32000 |
| 37PIN~45PIN | 44 | 20.2 | 40.4 | 4000 | 6 | 24000 |


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 SHENZHENSHI THD ELECTRONICS CO., LTD.

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| GENERAL TOLERANCE UNLESS OTHERWISE SPECIFIED | | | | DRAWN Jim 2012.05.10 | | PART NO. THD1012-xxR-SN | |
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| X.XXX ±0.10 | | | | SHEET 1/1 | | | |
| ANG. ±5° | | | | UNIT MM | | SCALE 1:1 | |
| X Prototype JIM 2012/5/10 | | | | SIZE A4 | | REV X1 | |
| REV. | REVISIONS | CHK | DATE | | | | |