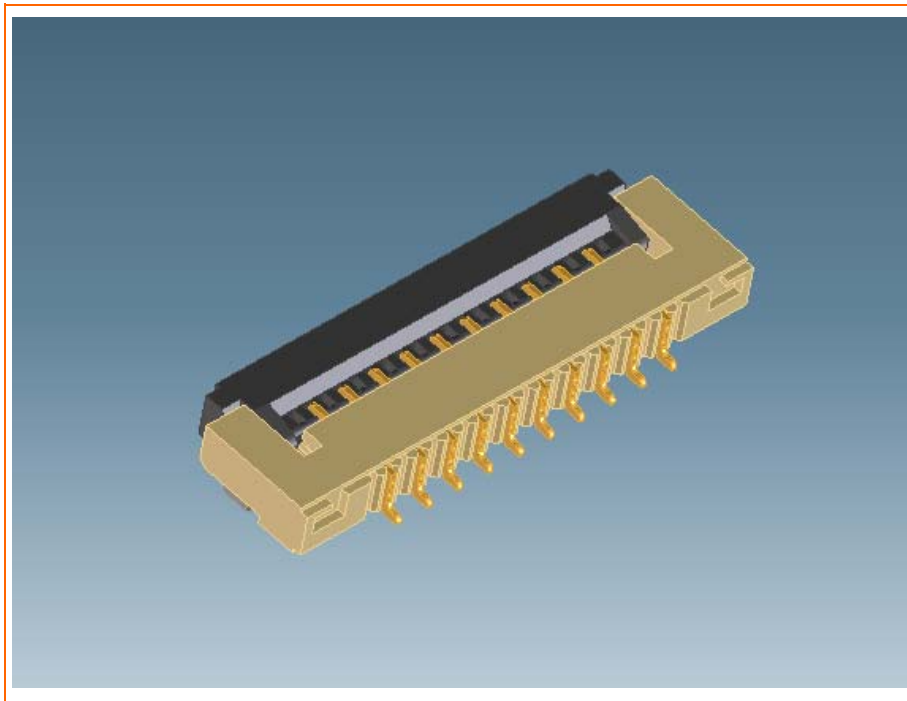


Product Specification



深圳臺華達科技有限公司

SHENZHEN THD Electronics Co., Ltd.



Product.No

THD1015-xxCL-XX

Pitch=1.0mm,H=1.5 mm FPC Connector (Front-Flip Lower Contact)

| | |
|----------------------------|-------------------|
| A | Release |
| Rev. | Description |
| Approved Signatures | |
| ■Prepared By : JIM | ■Date: 2012.05.24 |
| ■Checked By : JIM | ■Date: 2012.05.24 |
| ■Approved By : 黄德进 | ■Date: 2012.05.24 |

■ Scope

This specification covers the 0.5 mm Pitch FPC Connector THD1015 series.

■ Ordering information

THD1015 - xx CL - XX

① ② ③ ④

| | | | |
|---|---------------------------------|---|---|
| ① | Series name : THD1015 | ④ | Plating : GF= 1μ"~3μ" Gold Flash G3= 3μ" Gold over Nickel G5= 5μ" Gold over Nickel SN= Tin(Lead Free) over Nickel |
| ② | Number of contacts : 4 TO 60 | | |
| ③ | Contact type : CL:Lower contact | | |

■ Rating

| Item | Standard |
|-----------------------------|---|
| Voltage Rating(Max.) | 50V AC |
| Current Rating(Max.) | 0.5A DC |
| Operating Temperature Range | -55°C ~ +85°C (Including terminal temperature rise) |

■ Material

| Housing | Actuator | Terminal | Solder pin | Plating |
|-----------------|-----------------|--------------|--------------|--------------------|
| L.C.P (UL94V-0) | L.C.P (UL94V-0) | Copper alloy | Copper alloy | 1μ"~3μ" Gold Flash |
| Color : White | Color : Black | | | |

■ Performance

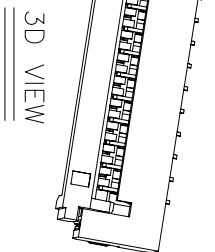
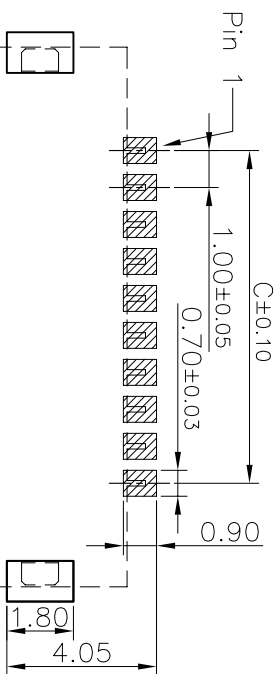
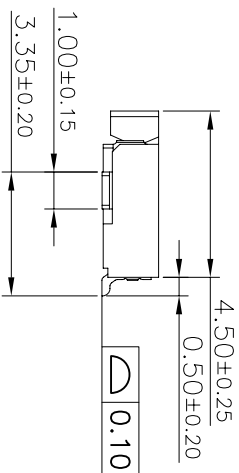
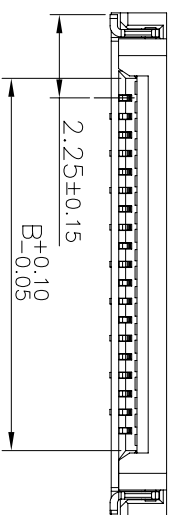
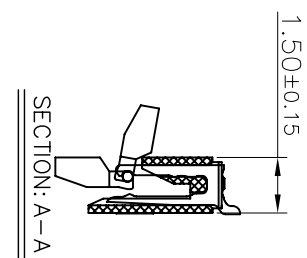
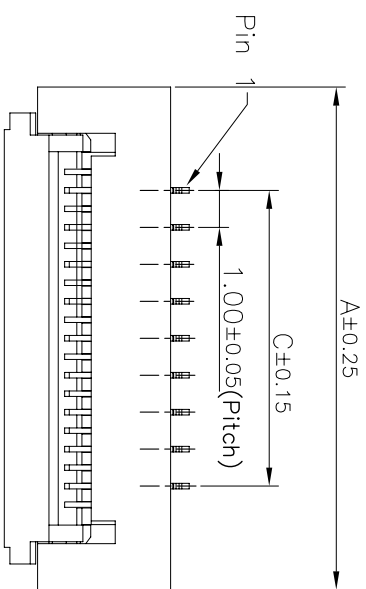
| Item | Test Condition | Specification | |
|--------------------------|---|-------------------------------|-------------|
| Contact Resistance | Mate applicable FPC and measure by dry circuit, 20mV Max, 1mA. | 100 mΩ Max. | |
| Insulation Resistance | Mate applicable FPC and apply 500V DC between adjacent terminal or ground. | 50 MΩ Min. | |
| Dielectric Strength | Mate applicable FPC, apply 250V AC(rms) for 1 minute between adjacent terminal or ground. | No Breakdown | |
| FPC Retention Force | Insert the actuator, pull the FPC at a rate of 25±3mm per minute. | Per pin x 0.15N Min. | |
| Terminal Retention Force | Apply axial pull out force at the rate of 25±3 mm/minute on the terminal assembled in the housing. | Per pin x 0.06Kgf {0.6N} Min. | |
| Vibration | Mate connectors and subject to the following vibration conditions, for period of 2 hours in each of 3 mutually perpendicular axes, passing DC 1mA during the test. Amplitude : 1.5mm P-P Frequency : 10~55~10 Hz in 1 minute. Duration : 2 hours in each of X,Y,Z axes. | Appearance | No Damage |
| | | Contact Resistance | 100 mΩ Max. |
| | | Discontinuity | 1 μsec Max. |
| Shock | 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. Peak value : 490m/s ² {50G} | Appearance | No Damage |
| | | Contact Resistance | 100 mΩ Max. |
| | | Discontinuity | 1 μsec Max. |
| Salt Spray | Mate applicable FPC and expose to the following salt mist conditions. Upon completion of the exposure period, salt deposits shall be removed by a gentle wash or dip in running water, after which the specified measurements shall be performed. NaCl solution Concentration : 5 ± 1% Spray time : 48 ± 4 hours Ambient temperature : 35 ± 2°C | Appearance | No Damage |
| | | Contact Resistance | 100 mΩ Max. |

| Item | Test Condition | Specification | |
|-------------------------|---|-----------------------|---|
| Heat Resistance | Mate applicable FPC and expose to 85±2°C for 96 hours. Upon completion of the exposure period, the test specimens shall be conditioned at ambient room conditions for 1 to 2 hours, after which the specified measurements shall be performed. | Appearance | No Damage |
| | | Contact Resistance | 100 mΩ Max. |
| Cold Resistance | Mate applicable FPC and expose to -40±2°C for 96 hours. Upon completion of the exposure period, the test specimens shall be conditioned at ambient room conditions for 1 to 2 hours, after which the specified measurements shall be performed. | Appearance | No Damage |
| | | Contact Resistance | 100 mΩ Max. |
| Humidity | Mate applicable FPC and expose to 60 ± 2°C, relative humidity 90 to 95% for 96 hours. Upon completion of the exposure period, the test specimens shall be conditioned at ambient room conditions for 1 to 2 hours, after which the specified measurements shall be performed. | Appearance | No Damage |
| | | Contact Resistance | 100 mΩ Max. |
| | | Dielectric Strength | No Breakdown |
| | | Insulation Resistance | 50 MΩ Min. |
| Temperature Rise | Mate applicable FPC and measure the temperature rise of contact when the maximum AC rated current is passed. | Temperature rise | 30°C Max. |
| Temperature Cycling | Mate applicable FPC and subject to the following conditions for 5 cycles. Upon completion of the exposure period, the test specimens shall be conditioned at ambient room conditions for 1 to 2 hours, after which the specified measurements shall be performed. 1 cycle a) -55±3°C 30minutes b) +85±3°C 30minutes (Transit time shall be with in 3 minutes) | Appearance | No Damage |
| | | Contact Resistance | 100 mΩ Max. |
| Solderability | Tip of solder tails and fitting nails into the molten solder (held at 245±5°C) up to 0.1mm from the bottom of the housing for 3±0.5 seconds. | Solder Wetting | 95% of immersed area must show no voids, pin holes. |
| Resistance to Soldering | When reflowing refer to Infrared reflow condition <u>Soldering iron method</u> 0.2mm from terminal tip and fitting nail tip. Soldering time : 5 seconds Max. Solder temperature : 370~400°C | Appearance | No Damage |

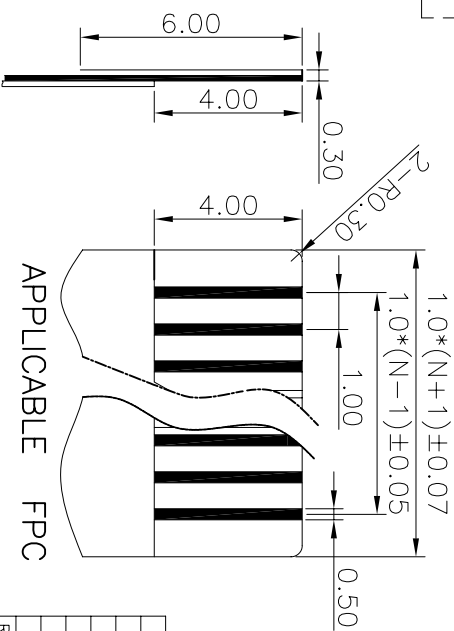
■ Recommended Temperature Profile



PITCH 1.0mm FPC CONNECTOR SMT TYPE



PCB LAYOUT



APPLICABLE FPC

1. MATERIAL

HOUSING:LCP UL 94V-0
 ACTUATOR:LCP UL 94V-0
 CONTACTS:COPPER ALLOY
 PEG:COPPER ALLOY

2. PLATING:

CONTACTS:TIN OVER NICKEL
 PEG:TIN OVER NICKEL

3. PART NO:

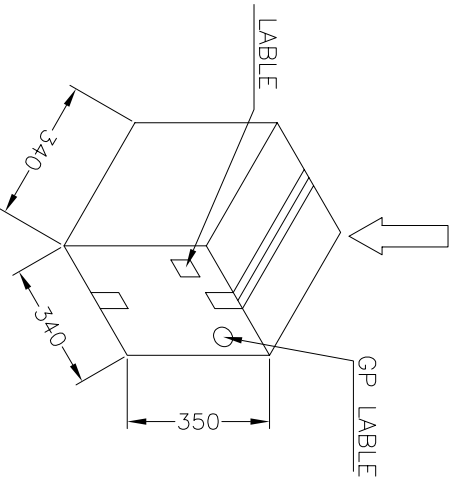
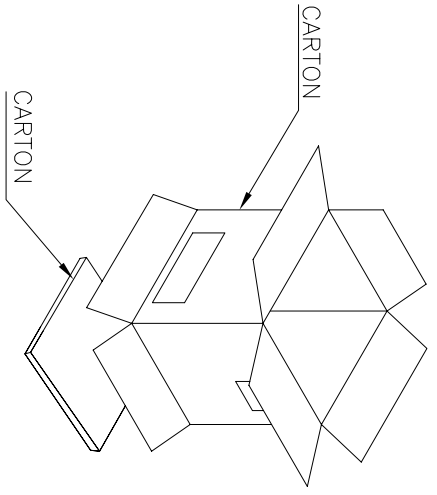
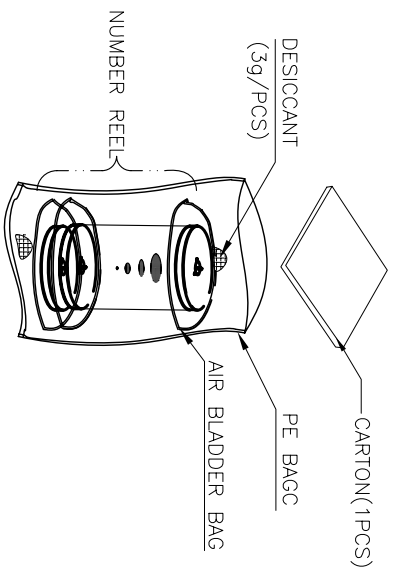
OPERATING VOLTAGE:50V AC,DC
 CURRENT RATING:0.3A AC,DC
 OPERATING TEMPERATURE:-25°C~+85°C

THD1015-xxCL-xx
 GF:GOLD FLASH
 SN:TIN OVER NICKEL
 NO. OF CONTACTS:(04Pin~32Pin)

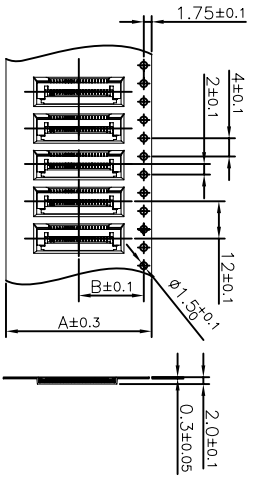
| PIN | DIM A | DIM B | DIM C | PIN | DIM A | DIM B | DIM C |
|-----|-------|-------|-------|-----|-------|-------|-------|
| 4 | 8.60 | 4.07 | 3.00 | 19 | 23.60 | 19.07 | 18.00 |
| 5 | 9.60 | 5.07 | 4.00 | 20 | 24.60 | 20.07 | 19.00 |
| 6 | 10.60 | 6.07 | 5.00 | 21 | 25.60 | 21.07 | 20.00 |
| 7 | 11.60 | 7.07 | 6.00 | 22 | 26.60 | 22.07 | 21.00 |
| 8 | 12.60 | 8.07 | 7.00 | 23 | 27.60 | 23.07 | 22.00 |
| 9 | 13.60 | 9.07 | 8.00 | 24 | 28.60 | 24.07 | 23.00 |
| 10 | 14.60 | 10.07 | 9.00 | 25 | 29.60 | 25.07 | 24.00 |
| 11 | 15.60 | 11.07 | 10.00 | 26 | 30.60 | 26.07 | 25.00 |
| 12 | 16.60 | 12.07 | 11.00 | 27 | 31.60 | 27.07 | 26.00 |
| 13 | 17.60 | 13.07 | 12.00 | 28 | 32.60 | 28.07 | 27.00 |
| 14 | 18.60 | 14.07 | 13.00 | 29 | 33.60 | 29.07 | 28.00 |
| 15 | 19.60 | 15.07 | 14.00 | 30 | 34.60 | 30.07 | 29.00 |
| 16 | 20.60 | 16.07 | 15.00 | 31 | 35.60 | 31.07 | 30.00 |
| 17 | 21.60 | 17.07 | 16.00 | 32 | 36.60 | 32.07 | 31.00 |
| 18 | 22.60 | 18.07 | 17.00 | | | | |

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

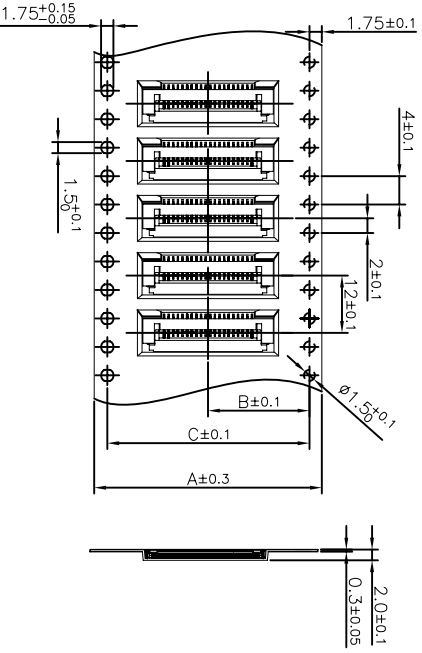
| | | | |
|--|-----------|-----------------------------------|------------|
| XI | Prototype | Jacky | 2012/05/10 |
| REV. | REVISIONS | CHK | DATE |
| GENERAL TOLERANCE UNLESS OTHERWISE SPECIFIED XX ±0.25 XXX ±0.20 XXXX ±0.10 ANG. ±3° | | | |
| DRAWN: Jim 2012.05.10 CHECKED: Jim 2012.05.10 APPROVED: hhd 2012.05.10 | | | |
| PART NO: THD1015-xxCL-xx | | TITLE: 1.0MM PITCH 1.5H FPC CONN. | |
| SHEET | 1/1 | UNIT | MM |
| SCALE | 1:1 | SIZE | A4 |
| REV | X1 | CONN. | X1 |



Tape width 16 and 24 mm

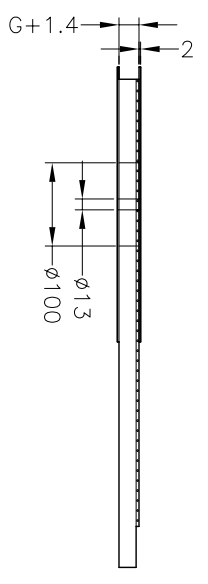


Tape width 32 and 56 mm

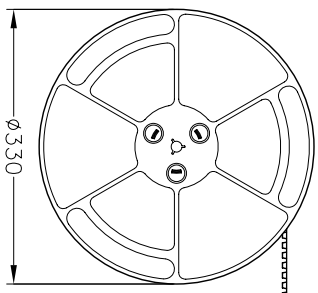


NOTES:

1. Component load per 13" reel: 4000 pcs
2. Material: black conductive polystyrene alloy.
3. Thickness: 0.3±0.05mm
4. All dimensions meet EIA-481-C requirements




REEL DIM



| No. of | DIM | | | REEL | SUM(PCS) |
|---------------------|-----|-------|------|----------|----------|
| Contacts | A | B | C | (CARTON) | |
| THD1015 4pin~12pin | 24 | 11.5 | — | 10 | 40000 |
| THD1015 14pin~17pin | 32 | 14.2 | 28.4 | 8 | 32000 |
| THD1015 18pin~26pin | 44 | 20.2 | 40.4 | 6 | 24000 |
| THD1015 28pin~31pin | 56 | 26.25 | 52.5 | 5 | 20000 |

| REV. | REVISIONS | CHK | DATE |
|------|-----------|-------|------------|
| A | Release | Jacky | 2012/05/24 |


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

| | | | |
|--|----------|-------|------------|
| GENERAL TOLERANCE UNLESS OTHERWISE SPECIFIED | DRAWN | Prank | 2017/07/10 |
| CHECKED | Checked | Prank | 2017/07/10 |
| APPROVED | Approved | Jim | 2017/07/10 |

PART NO. THD1015-xxCL-xx
 TITLE: 1.0 PITCH 1.5H FPC CONN.

| | | | | | | | | | |
|-------|-----|------|----|-------|-----|------|----|-----|---|
| SHEET | 2/2 | UNIT | MM | SCALE | 1:1 | SIZE | A4 | REV | A |
|-------|-----|------|----|-------|-----|------|----|-----|---|