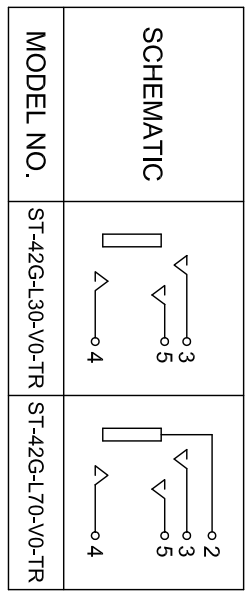
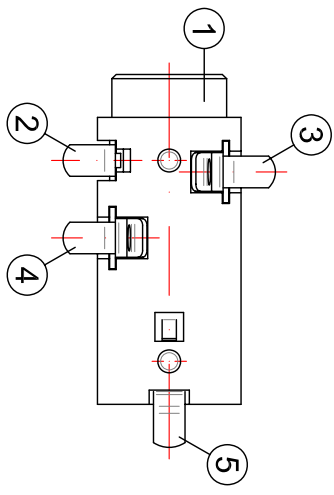
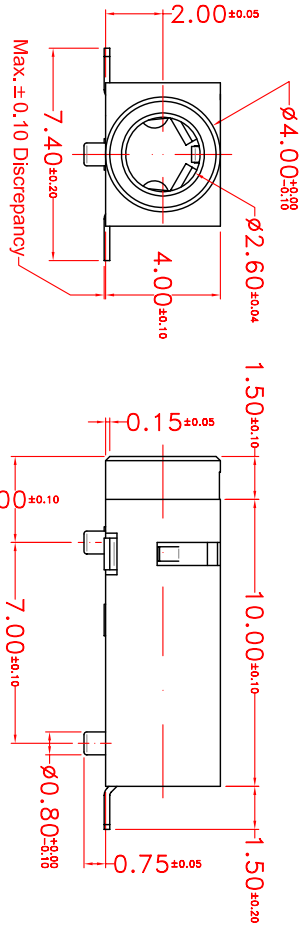


MATE PLUG

PIERCING PLAN



| | | | | |
|-----|-------------------|------|--------------|-------------------|
| 5 | TIP SPRING | 1 | SPRING ALLOY | AU PLATED (FLASH) |
| 4 | RING SPRING | 1 | SPRING ALLOY | AU PLATED (FLASH) |
| 3 | SLEEVE SPRING (2) | 1 | SPRING ALLOY | AU PLATED (FLASH) |
| 2 | SLEEVE SPRING (1) | 1 | SPRING ALLOY | AU PLATED (FLASH) |
| 1 | HOUSING | 1 | PA9T | BLACK COLOR |
| No. | PARTS | QTY. | MATERIAL | TREATMENT |



SCALE : 5.0:1.0
 UNIT : MILLIMETER (mm)
 TOLERANCE : ±0.20
 ANGLE TOL. : 2° 30'

DESIGN BY : So Chung Choi
 DRAWN BY : So Chung Choi
 CHECKED BY :
 APPROVED BY :

SUN RISE COMPONENT LIMITED

DESCRIPTION : H=2.00mm SMD 4 POLES PHONE JACK
 MODEL NO. : ST-42G-L (Refer to Schematic Table)
 CAD FILE NO. : C:\JACK DRAWING\ST42GL70V0-TR
 DRAWING FILE NO. :

A3

ALL DIMENSIONS TOLERANCE ARE IN ABOVE, UNLESS OTHERWISE SPECIFIED.

A B C D E F G H I J

8

1

2

3

4

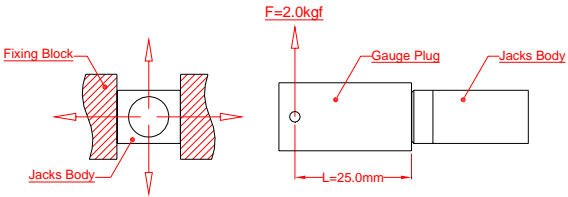
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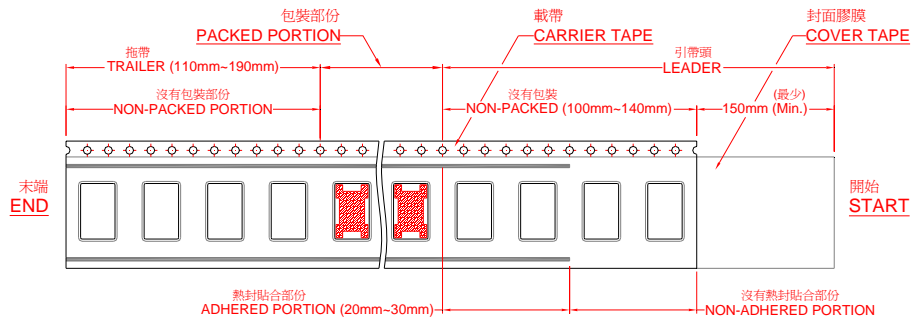
8

| 1. General (一般規格) | | | |
|----------------------|-------------------------------|--|--|
| 1-1 | Scope 範圍 | This specification covers Sun Rise standard small size 4 poles earphone jacks. 此規格書適用於日高標準小型四極耳機插座。 | |
| 1-2 | Type of Mounting 裝置類型 | H=2.00mm Horizontal SMD Mount. 插咀孔中心高=2.00 毫米水平 SMD 貼片裝置。 | |
| 1-3 | Plug Hole Diameter 插咀孔直徑 | Ø2.60mm 直徑 2.60 毫米 | |
| 1-4 | Gauge Plug 測試插頭 | The gauge plug should be as shown in Fig.1 or equivalent. 測試插頭必須如圖 1 或相等。 | |
| 1-5 | Measurement Condition 測試條件 | All measurement should be done at room ambient temperature and relative humidity 45%-85%. 所有測試皆在正常溫度及相對濕度 45-85%進行。 | |
| 1-6 | Packing 包裝 | (1,200pcs. / Reel) Please refer to the fifth column of the packing criterion details. (每卷 1,200 粒) 請參閱第五欄的包裝標準詳細。 | |
| 2. Mechanical (機械特性) | | | |
| No. | Item 項目 | Test conditions 測試條件 | Performance 結果 |
| 2-1 | Insertion Force 插入力 | Insertion and withdrawal force shall be measured after inserting and withdrawing 3 times by using the standard dimension gauge plug. 插入力或拔出力必須使用標準尺寸之測試插咀，並經 3 周次插拔後方可量度。 | 0.3kgf~2.5kgf |
| 2-2 | Withdrawal Force 拔出力 | | |
| 2-3 | Terminal Strength 端子強度 | A static load of 0.5kgf shall be applied to the tip of the terminals for 1 min in any direction. 0.5kgf 靜負荷，施加于端子頂端的任何方向持續 1 分鐘。 | Neither damage caused by crack nor omission of terminals shall be existent. However, warps and bends, which do not affect mechanical and electrical characteristics, will be considered acceptable. 端子沒有擊穿和損壞，只有不影響機械和電氣特性的變型和彎曲，則為可容許接受。 |
| 3. Electrical (電氣特性) | | | |
| 3-1 | Rating 額定值 | | DC12V@0.5A |
| 3-2 | Contact Resistance 接觸阻抗 | Measurement shall be made at 1kHz with micro current (100mA or less). Using a gold plated probe shall make measurement between the contact spring and the gold plated plug. 測試須於 1kHz 微電流及(100mA 或以下)電壓下進行，並使用鍍金探針於接觸彈片與鍍金插頭之間測量。 | 30m Ω or less (Initial) 30 毫歐或以下 (最初值) |
| 3-3 | Insulation Resistance 絕緣阻抗 | Measurement shall be applied voltage of DC 500V, and make measurement between terminals and insulated mate plug for 1 minute. (Mate Plug Fig.1) 測試須於接上 DC500V 電壓下進行，量度端子與絕緣插頭間，持續 1 分鐘測量。(絕緣插頭如圖 1) | 100M Ω or more (Initial) 100 兆歐或以上 (最初值) |
| 3-4 | Dielectric Strength 耐電壓 | Measurement shall be applied voltage of AC 500V (50~60Hz) and make measurement between terminals and insulated mate plug for 1 minute. (Mate Plug Fig.1) 測試須於接上 AC 500V (50~60Hz)電壓下進行，量度端子與絕緣插頭間，持續 1 分鐘測量。(絕緣插頭如圖 1) | There shall be no burn caused by short circuit and insulation destruction. 沒有因短路或絕緣損壞而引起燒。 |

| 4. Durability (耐久性) | | | |
|---------------------|-------------------------------|---|--|
| 4-1 | Solder-ability 可焊性 | The terminal shall be immersed in the solder bath at a temperature of $235^{\circ}\text{C} \pm 5^{\circ}\text{C}$ for $2 \pm 0.5\text{sec}$. Immersion depth: Up to 2mm from the terminal tip. 端子浸入 $235^{\circ}\text{C} \pm 5^{\circ}\text{C}$ 溶錫槽 2 ± 0.5 秒 浸入深度：離端子頂端 2 毫米。 | A new uniform coating of solder shall be cover a minimum of 85% of the surface being immerse 全新錫層覆蓋 85%以上於端子表面。 |
| 4-2 | Cold Test 耐寒性測試 | The jack shall be left at temperature of $-40^{\circ}\text{C} \pm 3^{\circ}\text{C}$ for 48 hours. And then it shall be kept under standard atmospheric condition for 1 hour after which measurement shall be made. 於 $-40^{\circ}\text{C} \pm 3^{\circ}\text{C}$ 的環境中放置 48 小時，然後取出放置於正常環境中 1 小時後進行測試。 | The following items shall be satisfied: 2-1, 3-3, 3-4. Withdrawal force: 0.15kgf~2.5kgf Contact resistance: 50m Ω or less |
| 4-3 | Heat Test 耐熱性測試 | The jack shall be left at a temperature of $85^{\circ}\text{C} \pm 2^{\circ}\text{C}$ for 48 hours. And then it shall be kept under standard atmospheric condition for 1 hour after which measurement shall be made. 於 $85^{\circ}\text{C} \pm 2^{\circ}\text{C}$ 的環境中放置 48 小時，然後取出放置於正常環境中放置 1 小時後進行測試。 | 符合下列項目: 2-1, 3-3, 3-4. 拔出力量: 0.15kgf~2.5kgf 接觸抵抗: 50 毫歐以下 |
| 4-4 | Humidity Test 耐濕性測試 | The jack shall be left at a temperature of $40^{\circ}\text{C} \pm 2^{\circ}\text{C}$ relative humidity of 90% to 95% for 48 hours. And then it shall be kept under standard atmospheric conditions for 1 hour after which measurement shall be made. 於 $40^{\circ}\text{C} \pm 2^{\circ}\text{C}$ 及相對濕度 90~95%的環境中放置 48 小時，然後取出放置於正常環境中 1 小時後進行測試。 | |
| 4-5 | Life Test Condition 壽命測試條件 | Life test shall be done at (15~18 cycles / minute) <u>Unloaded</u> . Before the test, apply contact grease to the sliding surface of the gauge plug in order to prevent the part from over-heating and wearing due to friction. 壽命測試於沒有負載下完成，每分鐘 15~18 周次。 為了防止過熱和磨損，在測試前需加上潤滑油在測試插頭表面。 | The following items shall be satisfied: 3-3, 3-4 Insertion force: 0.15kgf~2.5kgf Withdrawal force: 0.15kgf~2.5kgf |
| 4-6 | Life of Jacks 插座的壽命 | After 5,000 cycles of continuous insertion and withdrawal. 5,000 周次連續插入及拔出。 | Contact resistance: 50m Ω or less 符合下列項目: 3-3, 3-4. 插入力量: 0.15kgf~2.5kgf 拔出力量: 0.15kgf~2.5kgf 接觸抵抗: 50 毫歐以下 |
| 4-7 | Bending Strength 彎曲強度 | The housing of jack shall be fixed after which the standard dimension gauge shall be inserted. And then a load with torque of approx. 2.0kgf shall be applied to horizontal and vertical directions to the jack for 5 cycles in 5 sec. each. 固定插座後，插入標準尺寸插頭，施加約 2.0kgf 拉力負荷于插座的任何方向 5 次持續 5 秒。  | The following items shall be satisfied: 2-1, 3-3, 3-4. Withdrawal force: 0.15kgf~2.5kgf Contact resistance: 50m Ω or less 符合下列項目: 2-1, 3-3, 3-4. 拔出力量: 0.15kgf~2.5kgf 接觸抵抗: 50 毫歐以下 |

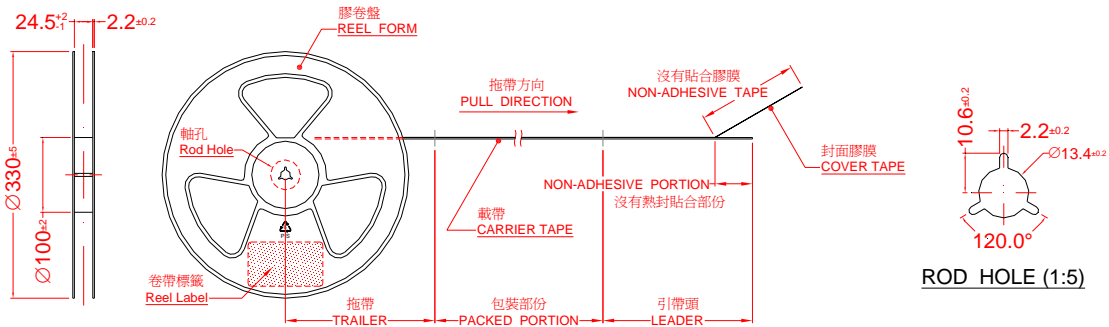
5. Tape & Reel Packing Criterion (卷帶包裝標準)

5-1 Trailer & Leader of Tape details 拖帶及引帶頭細



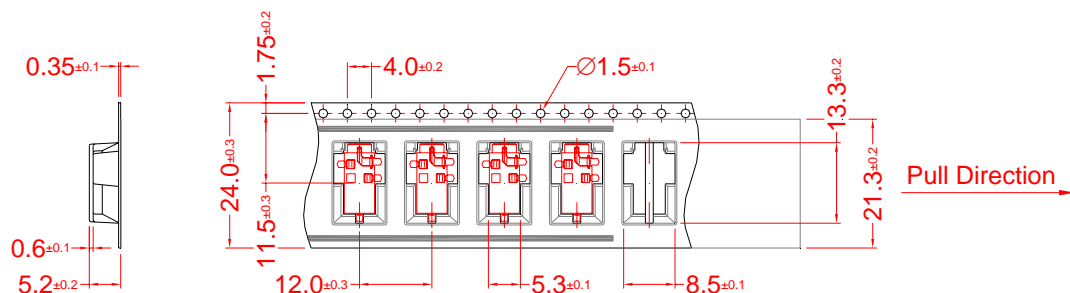
5-2 Reel form details 膠卷盤詳細

| Nos. | Parts (部件) | Material (材質) | Quantity (數量) | Treatment (處理) |
|------|-------------------|--------------------|---------------|------------------|
| 1 | Reel Form (膠卷盤) | Polystyrene (聚苯乙烯) | 1 | Blue Color (藍色) |
| 2 | Carrier Tape (載帶) | Polystyrene (聚苯乙烯) | 1,200 | Transparent (透明) |
| 3 | Cover Tape (封面膠膜) | Polyester (聚酯纖維) | 1 | Transparent (透明) |



5-3 Tape & Reel packing conditions 卷帶包裝條件

- The tape shall be rolled up in clock-wise direction.
卷帶應順時針方向捲動。
- The sprocket holes of carrier tape shall be on the right side of pull direction.
載帶的鏈輪拖帶孔應在拉動方向右側。
- The cover tape peel force applied in the reverse direction $150^\circ\sim 170^\circ$ the peel strength shall be 20~70gf.
封面膠膜剝離力適用於相反方向 $150^\circ\sim 170^\circ$ 拉扯其剝離強度為 20 ~70gf。
- Details of carrier tape dimensions shall be as follow.
載帶之詳細尺寸資料如下。



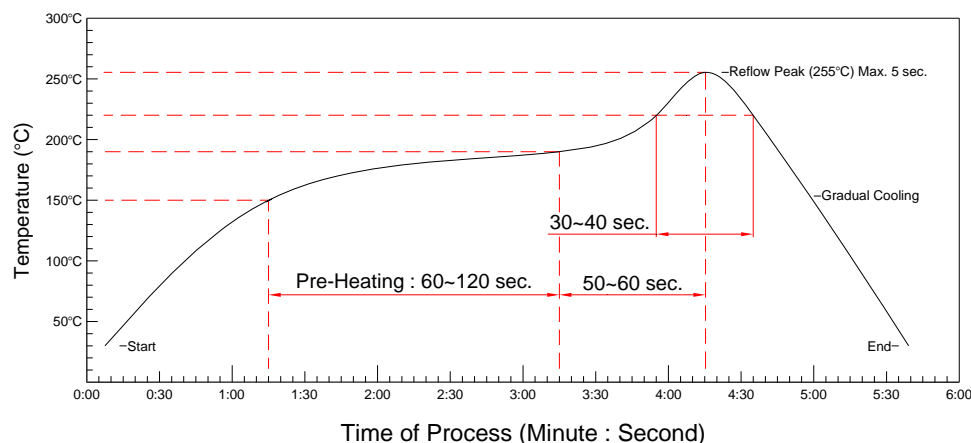
6. Test conditions (測試條件)

6-1 Applicable mate plug and gauge plug Fig.1
適用插頭及測試插頭

7. Precautions in Handling (處理過程中的預防)

7-1 Recommended **Reflow Soldering** conditions
建議貼片回流焊接條件

Lead-Free Reflow Soldering Temperature / Time Profile



Note :

Reflow soldering bath :
Infrared ray + hot air type.
Solder paste :
Senju Metal Industry
M705 (Sn-3.0Ag-0.5Cu)
Metal mask :
Thickness 0.2~0.25mm
Hole area = Land area X 100%
P.W.B. :
Thickness 0.7mm or more.

7-2 Operating temperature and humidity range (應用溫度和濕度範圍)

Temperature: -25°C~70°C / Humidity: 70% R.H. or less.
溫度-25°C~70°C / 相對濕度 70% R.H. 或以下

7-3 Storage (貯存方法)

This jack is flash gold-plated. Therefore, this jack should not be left with the package open, In case plating sulfurous soldering trouble or contact trouble will happen. The shelf life remains 6 months under the formal condition.
此插座為鍍金產品，因此這插座不能外露於包裝外，以防氧化問題或接觸不良發生。保質期於正常條件下可保持 6 個月。

7-4 Washing (清洗方法)

This jack shall not be washed. In case this jack is washed contact trouble will happen.
此插座不能作清洗處理。若清洗插座會發生接觸不良問題。

7-5 Other necessary item (其他項目)

Please consult with **Sun Rise** before using the unit or performing tests under conditions other than those listed in these specifications.
在使用此產品或執行以上說明內列舉的條件測試前，請與日高電子零件有限公司聯絡。

**** END ****