

# PRODUCT SPECIFICATION

## (產品規格書)

### Ordering information

2114- 1X 40 G 00 D A-L2-L3 B

Series 1: Single No. of G: Gold Plated 00:Gold Flash D: SMD Type A: A Type B: Bulk  
 Row Pin Count T: Tin Plated B: B Type Package

2114- 2\* 40 G 00 D-L2-L3 B

Series 2: Double Row No. of G: Gold Plated 00:Gold Flash D: SMD Type B: Bulk Package  
 Pin Count T: Tin Plated

L2: Mating Length

L3: Overall Length

A2:DEC.08/2010

A3:JAN.06/2016 (絕緣)

| PRODUCT NAME<br>(產品名稱)                                      | DOCUMENT No.:<br>(文件編號) | Rev.<br>(版本)           | OUPIIN                  |
|---|-------------------------|------------------------|-------------------------|
| PIN HEADER<br><br>2.0 mm<br><br>2.0 mm*2.0 mm<br><br>(RoHS) | 2114spec-D              | A3(I535)               | (歐品)                    |
|   | <b>Approved</b><br>(核準) | <b>Checked</b><br>(審核) | <b>Prepared</b><br>(製作) |
|   | Q.A. Section Chief      | Sunny Tsai             | JAN.06/2016             |

|  |             |
|--|-------------|
| <b>1. SCOPE (範圍)</b>   | <b>3</b>    |
| <b>2. REFERENCE DOCUMENTS (參考文件)</b>                             | <b>3</b>    |
| <b>3. FEATURE &amp; DIMENSIONS (特徵及尺寸)</b>                       | <b>3</b>    |
| 3.1. <i>PRODUCT DIMENSION (產品尺寸)</i>                             | 3           |
| 3.2. <i>PCB/PANEL LAYOUT (印刷電路板佈局)</i>                           | 3           |
| 3.3. <i>BILL OF MATERIAL (材料清單)</i>                              | 3           |
| 3.4. <i>MECHANICAL &amp; ELECTRICAL CHARACTERISTIC (機械及電器特性)</i> | 3           |
| 3.5. <i>PACKAGING (包裝)</i>                                       | 3           |
| 3.6. <i>RATING CURRENT AND RATING VOLTAGE (額定電流與額定電壓)</i>        | 4           |
| 3.7. <i>STORAGE AND OPERATING TEMPERATURE (儲存使用溫度)</i>           | 4           |
| <b>4. Environmental (環境要求)</b>                                   | <b>4</b>    |
| 4.1. <i>SOLDERABILITY (可焊性)</i>                                  | 4           |
| 4.2. <i>RESISTANCE TO SOLDER HEAT (耐焊接熱)</i>                     | 4           |
| WAVE SOLDERING (波峰焊)   | 4           |
| 1.Preheat (預熱)   | 4           |
| 2.Soldering (焊接)   | 4           |
| 3.Cool Down (冷卻)   | 4           |
| <b>5. PERFORMANCE AND TEST DESCRIPTION (性能及測試)</b>               | <b>5</b>    |
| 5.1. <i>REQUIREMENT (要求)</i>                                     | 5           |
| 5.2. <i>TEST CONDITION (測試條件)</i>                                | 5           |
| 5.3. <i>SAMPLE SELECTION (樣品選擇)</i>                              | 5           |
| <b>Table I: Test Requirements and Procedure</b>                  | <b>6-7</b>  |
| (附錄一: 測試要求)  |             |
| <b>Table II: Reflow soldering profile</b>                        | <b>8</b>    |
| (附錄二: 回流焊接曲線圖)   |             |
| <b>Table III: Material</b>                                       | <b>9-12</b> |

**(附錄三： 材料證明)****1. SCOPE (範圍)**

This product specification defines the product performance and the test methods to ascertain the performance of the PIN HEADER 2.0mm\*2.0mm connector, which is designed and manufactured by Oupiin Electronic Co.,Ltd.

(本產品規格書規定了由歐品電子有限公司生產的 PIN HEADER 2.0mm\*2.0mm connector 型連接器,產品的特性及測試方法.)

**2. REFERENCE DOCUMENTS (參考文件)**

|               |   |
|---------------|---|
| MIL-STD-1344A | Test method for electrical connector<br>(電子連接器測試方法) |
| MIL-STD-202   | Test method for electrical components<br>(電子零件測試方法) |
| EIA 364       | Test method for electrical components<br>(電子零件測試方法) |

**3. FEATURE & DIMENSIONS (特徵及尺寸)****3.1. PRODUCT DIMENSION (產品尺寸)**

These connectors shall have the dimensions as shown in drawing.  
(本產品的相關尺寸參考圖面.)

**3.2. PCB/PANEL LAYOUT (印刷電路板佈局)**

The recommended PCB layout is shown in drawing.  
(本產品適用的 PCB layout 參考圖面.)

**3.3. BILL OF MATERIAL (材料清單)**

Harmful material control follow the requirement of RoHS. The bill of material and product number is described in drawing.  
(有害物質控制符合RoHS指令要求.本產品使用的材料參考附件.)

**3.4. MECHANICAL & ELECTRICAL CHARACTERISTIC (機械及電氣特性)**

The connector shall have the mechanical and electrical performance as described in drawing.  
(本產品的機械及電氣特性見圖面：)

### 3.5. PACKAGING (包裝)

Products shall be packaged according to requirements specified in purchase order for safe delivery, connector container and the packaging method are shown in package specification.

(產品可依客戶指定要求包裝，包裝材料與包裝方式參見產品包裝規範。)

### 3.6 RATING CURRENT AND RATING VOLTAGE 額定電流與額定電壓

Rating current is 1.0A, rating voltage is 150V DC/AC RMS.

額定電流 1.0A，額定電壓 150V DC/AC RMS。

### 3.7 STORAGE AND OPERATING TEMPERATURE 儲存與使用溫度

Temperature range: -40°C~+105°C, including terminal temperature rise for rating current.

溫度範圍：-40°C~+105°C，包含接觸端子的額定電流溫升。

## 4. ENVIRONMENTAL (環境要求)

### 4.1. SOLDERABILITY (可焊性)

Connectors meet solder ability to MIL-STD-202. Finish shall be free of contaminants.

(產品可焊性符合 MIL-STD-202 標準規定的相關要求，表面不得有污染物。)

### 4.2. RESISTANCE TO SOLDER HEAT (耐焊接熱)

#### INFRARED REFLOW (紅外線回流焊接)

Three cycles. Each cycle consisting of three consecutive phased.

(三個週期，每個週期包括三個連續的階段完成；)

#### 1. Preheat (預熱)

Increase in temperature not to exceed 4°C per second.

(溫度增加不超過 4°C /秒。)

#### 2. Soldering (焊接)

Maximum allowable time above reflow temperature of 150~200°C is 90~120 seconds. Maximum temperature in this interval is 260°C, not to exceed 5 seconds.

(回流焊溫度150~200°C時最長不超過90~120秒。最高溫度260°C時間不超過5秒。)

#### 3. Cool Down (冷卻)

Cool down shall not exceed 6°C per second.

(冷卻速度不超過6°C/秒。)

#### Note: (說明)

Device temperature measurements are referenced from the top-center of the package outer surface.

(設備溫度量測時以從頂部中間位置測量為準。)

## 5. PERFORMANCE AND TEST DESCRIPTION

### (性能及測試)

#### 5.1. REQUIREMENT (要求)

Product is designed to meet electrical, mechanical, and environmental performance requirements specified in **Table I**.

(本產品設計符合附表一所述的機械，電氣及環境要求。)

#### 5.2. TEST CONDITION (測試條件)

Unless otherwise specified, all tests shall be performed at ambient environmental conditions.

(除非特別注明，所有測試在室溫條件下完成；)

#### 5.3. SAMPLE SELECTION (樣品選擇)

Test samples shall be selected at random from current production. No test samples shall be reused. Samples are pre-conditioned with 10cycles of durability. Each group shall be containing 5 test samples.

(測試樣品從現生產的產品中隨機抽取，所有測試過的樣品不得重複使用。樣品已預先插拔10次，每組測試有5個樣品；)

**Table I: Test Requirements and Procedures**
**(附錄一:測試要求)**

| Items<br>(項目)                        | Requirements<br>(要求)  | Test Methods<br>(檢測方法)   |
|--------------------------------------|---|--|
| 1. Confirmation of Product<br>(產品確認) | Product shall be conforming to the requirements of applicable product drawing.<br>(產品必須滿足相關檔的規定)  | Check the dimensions and functions per applicable product drawing in your eyes.<br>(目視，尺寸及功能依產品圖面檢查)   |
| 2. Contact Resistance<br>(接觸阻抗)      | 20 m $\Omega$ Max. initial<br>(最大.初態)   | Subject mated contacts assembled in housing to closed circuit of 100 mA max. at open circuit voltage of 20 mV max.<br>(所述固定在外殼裏的端子連結到一個封閉回路中測試：電流 100 mA，電壓 20 mV max.)  |
| 3. Insulation Resistance<br>(絕緣阻抗)   | 5000 M $\Omega$ Min.<br>(最小)  | Measure by applying test potential between the adjacent contacts, and between the contacts and ground in the mated connector.<br>MIL-STD-202, Method 302, Condition B (500 V DC $\pm$ 10%).<br>(測試產品端子間以及端子與接地間的電阻，適用：MIL-STD-202,方法 302，條件 B )(500V DC $\pm$ 10%)                             |
| 4. Dielectric Strength<br>(耐電壓)      | Connector must withstand test potential of 500 V AC for 1 minute.<br>Current leakage must be 0.5 mA max.<br>(樣品必須承受測試電壓 500V AC，時間一分鐘，漏電流不大於 0.5 mA.)   | Measure by applying test potential between the adjacent contacts, and between the contacts and ground in the mated connector. MIL-STD-202, Method 301.<br>(測試產品端子間以及端子與接地間的電壓，適用：MIL-STD-202，方法 301。)  |
| 5. Thermal shock<br>(熱衝擊)            | After testing, no damage, Contact Resistance 30 m $\Omega$ max.. Dielectric Strength should be OK, Insulation Resistance should be 5000 M $\Omega$ min.<br>(測試後,產品無損壞，接觸阻抗：30 m $\Omega$ 最大；耐電壓測試 OK，絕緣阻抗 5000M $\Omega$ 最小;) | Temperature range from -40°C to +85°C .Start from -40°C, after 30 min. change to +85°C; change time is no more than 30 seconds. Total 5 cycles.<br>MIL-STD-202, Method 107D, condition A.<br>(溫度變化範圍： -40°C~ +85°C；從 -40°C 開始，30 分鐘後換到+85°C；轉換時間不超過 30 秒；共 5 個循環.適用：MIL-STD-202，方法 107D，條件 A.) |
| 6. Humidity                          | After testing, no damage, Contact   | Temperature :85 $\pm$ 2° C 96 hours.   |



## PRODUCT SPECIFICATION OF OUPIIN

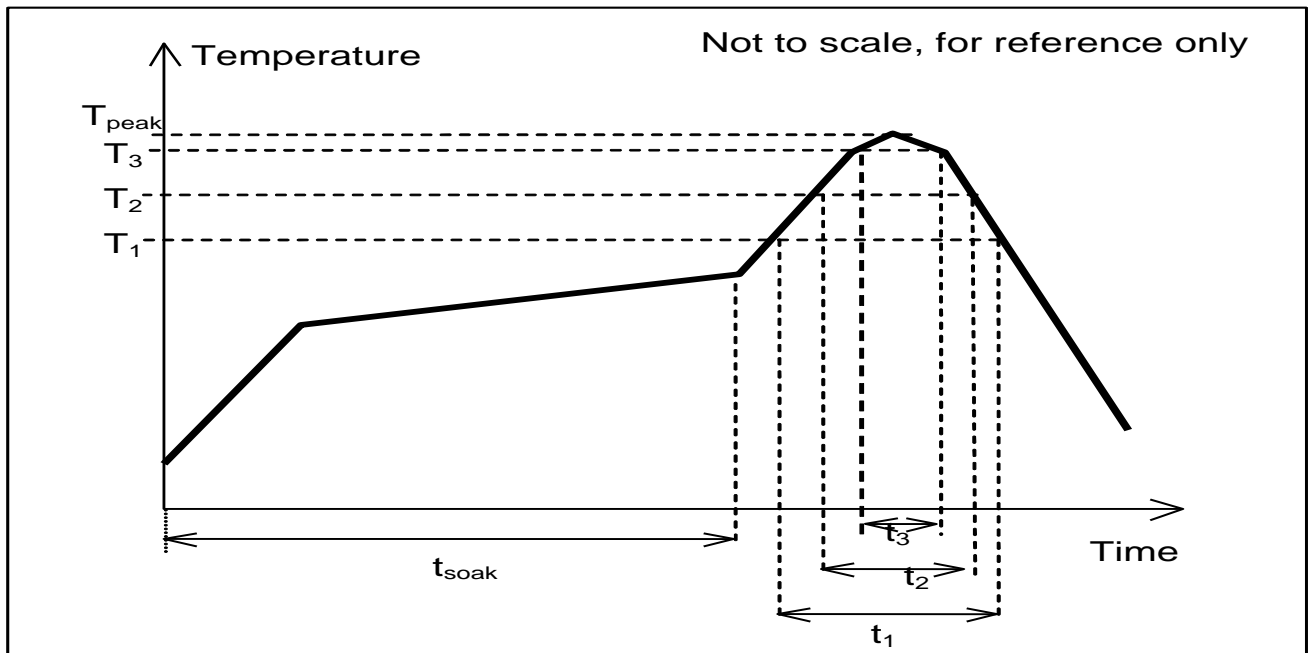
|  |   |  |
|--|---|--|
| (恆溫恆濕)                                 | Resistance 30 m $\Omega$ max.. Dielectric Strength should be OK, Insulation Resistance should be 5000 M $\Omega$ min.<br>(測試後,產品無損壞, 接觸阻抗: 30 m $\Omega$ 最大; 耐電壓測試 OK, 絕緣阻抗 5000M $\Omega$ 最小;)                                   | (溫度: 85 $\pm$ 2 $^{\circ}$ C 96 小時)<br>Relative Humidity : 90-95%;<br>(相對濕度 : 90-95%; )<br>Duration :96 Hours. MIL-STD-202, Method 108,<br>(時間: 96 小時; MIL-STD-202, 方法 108。) |
| 7.High temperature<br>(高溫)             | After testing, no damage, Contact Resistance 30 m $\Omega$ max.. Dielectric Strength should be OK, Insulation Resistance should be 5000 M $\Omega$ min.<br>(測試後,產品無損壞, 接觸阻抗: 30 m $\Omega$ 最大; 耐電壓測試 OK, 絕緣阻抗 5000M $\Omega$ 最小;) | Subject product to 105 $\pm$ 2 $^{\circ}$ C for 96 hours continuously. MIL-STD-202, Method 108.<br>(產品置於 105 $\pm$ 2 $^{\circ}$ C 連續 96 小時, 適用 MIL-STD-202, 方法 108。)         |
| 8.Resistance to soldering heat<br>耐焊接熱 | No damage<br>產品無損壞  | Leave subject product in the 260 $\pm$ 5 $^{\circ}$ C chamber for 5 Seconds<br>產品置於 260 $\pm$ 5 $^{\circ}$ C 烘箱內 5 秒。  |

**Table II: Reflow soldering profile**

(附錄二:回流焊接曲線圖)

**Pb-free reflow profile requirements: (無鉛回流焊接曲線)**

| Parameter<br>(參數)                                   | Reference<br>(參考) | Specification<br>(規格) |
|---|-------------------|-----------------------|
| Average Temperature Gradient in Preheating (平均預熱溫度) |                   | 2.5°C/s               |
| Soak Time 25~150°C                                  | $T_{soak}$        | 60 Seconds (max)      |
| Time Above 150~200°C                                | $t_1$             | 120 Seconds (max)     |
| Time Above 200~230°C                                | $t_2$             | 50 Seconds (max)      |
| Time Above 230~255°C                                | $t_3$             | 5 Seconds (max)       |
| Peak temperature in reflow<br>(回流焊接中最高溫度)           | $T_{peak}$        | 260°C (+0/-5°C)       |
| Temperature Gradient in Cooling<br>(冷卻時溫度幅度)        |                   | Max -5°C/s            |



This profile is the minimum requirement for evaluating soldering heat resistance of components. Heat transfer method used for reflow soldering is hot air convection. The actual air temperatures used to achieve the specified profile largely dependent on the reflow equipment.

(這個曲線圖是評估原器件焊接抗熱的基本要求。應用在對流焊接中的熱傳遞方式是熱氣對流。達到特定曲線圖的實際溫度主要依賴於回流焊接設備。)





# PRODUCT SPECIFICATION OF OUPIIN

Material Housing : 058-PA9T

[SGS Test Report Click here](#)

[如需 SGS 測試報告請點選此處](#)

## Material properties of Genestar

| Grade  | Unit    | Test method | Genestar (flame-retardant grade) |                  |                    |                    |                    |                  |                  |                        |                            |                     | Other products for reference |                  |                     |                     |  |
|--|---------|-------------|----------------------------------|------------------|--------------------|--------------------|--------------------|------------------|------------------|------------------------|----------------------------|---------------------|------------------------------|------------------|---------------------|---------------------|--|
|  |         |             | G2330                            | G2330            | GR2300             | GN2330             | GN2450             | GT2330           | GN2332           | GW2458HF               | GW2508                     | PA6T                | PA46                         | PPS              | LCP                 | LCP                 |  |
| Type   |         | (ASTM)      | 9                                | 12               | 1                  | 1                  | 1                  | 2                | 1                | 1                      | 1                          | Zytel               | Stanyl                       | Fortron          | Zenite              | Vectora             |  |
|  |         |             | standard                         | standard         | high weld strength | high weld strength | high weld strength | toughness        | high flow        | low warpage, high flow | low warpage, high strength | FR52G30I            | TE250F8                      | 1140A6           | 6130L               | E130I               |  |
| Glass fiber content                            | %       | -           | 33                               | 33               | 30                 | 33                 | 45                 | 33               | 33               | 45                     | 50                         | 30                  | 40                           | 40               | 30                  | 30                  |  |
| <b>Physical properties</b>                     |         |             |                                  |                  |                    |                    |                    |                  |                  |                        |                            |                     |                              |                  |                     |                     |  |
| Specific gravity                               | g/cm3   | -           | 1.68                             | 1.68             | 1.57               | 1.62               | 1.73               | 1.58             | 1.62             | 1.73                   | 1.78                       | 1.65                | 1.68                         | 1.67             | 1.62                | 1.61                |  |
| Water absorption (105F/40C/95%RH/96hrs)        | %       | -           | 0.9                              | 0.9              | 1.1                | 1.0                | 0.7                | 1.0              | 1.0              | 0.8                    | 0.7                        | 2.6                 | 3.6                          | 0.06             | [0.04]              | [0.04]              |  |
| Flammability                                   | -       | UL94        | V-0                              | V-0              | V-0                | V-0                | V-0                | V-0              | V-0              | V-0                    | V-0                        | V-0                 | V-0                          | V-0              | V-0                 | V-0                 |  |
| <b>Mechanical properties</b>                   |         |             |                                  |                  |                    |                    |                    |                  |                  |                        |                            |                     |                              |                  |                     |                     |  |
| Tensile strength                               | MPa     | D638        | 175                              | 185              | 184                | 190                | 210                | 195              | 172              | 175                    | 185                        | 179                 | 163                          | 208              | 150                 | 150                 |  |
| Tensile elongation                             | %       | D638        | 2.8                              | 3.1              | 2.7                | 3.2                | 2.6                | 3.2              | 2.6              | 2.5                    | 2.5                        | 2.7                 | 2.8                          | 2.5              | 2.7                 | 2.4                 |  |
| Weld strength                                  | MPa     | D638        | 45                               | 45               | 51                 | 54                 | 40                 | 60               | 36               | 35                     | 35                         | 57                  | 57                           | 67               | 22                  | 20                  |  |
| Weld elongation                                | %       | D638        | 0.5                              | 0.5              | 0.7                | 0.7                | 0.4                | 0.8              | 0.3              | 0.3                    | 0.3                        | 0.7                 | 0.7                          | 0.7              | 0.2                 | 0.2                 |  |
| Flexural strength                              | MPa     | D790        | 222                              | 222              | 209                | 225                | 260                | 233              | 210              | 222                    | 245                        | 227                 | 223                          | 257              | 170                 | 167                 |  |
| Flexural modulus                               | GPa     | D790        | 11                               | 11               | 9                  | 11                 | 14                 | 10               | 10               | 15                     | 16                         | 10                  | 12                           | 13               | 12                  | 11                  |  |
| Izod impact strength (notched)                 | J/m     | D256        | 100                              | 100              | 100                | 100                | 100                | 100              | 100              | 100                    | 100                        | 90                  | 90                           | 80               | 120                 | 116                 |  |
| Bar-flow length (610F.320C/0.5mm/750kgf)       | mm      | -           | 67                               | 66               | 63                 | 55                 | 37                 | 45               | 85               | 71                     | 50                         | 60                  | 62 (590F)                    | 31               | 85 (645F)           | 80 (645F)           |  |
| Rockwell hardness                              | R scale | D785        | 125                              | 125              | 125                | 125                | 125                | 125              | 125              | 125                    | 125                        | 125                 | 125                          | 123              | -                   | -                   |  |
| <b>Thermal properties</b>                      |         |             |                                  |                  |                    |                    |                    |                  |                  |                        |                            |                     |                              |                  |                     |                     |  |
| Melting point                                  | F/C     | -           | 583/306                          | 583/306          | 583/306            | 583/306            | 583/306            | 583/306          | 583/306          | 583/306                | 583/306                    | 590/310             | 563/295                      | 536/280          | -                   | -                   |  |
| Glass transition                               | F/C     | -           | 257/125                          | 257/125          | 257/125            | 257/125            | 257/125            | 257/125          | 257/125          | 257/125                | 257/125                    | 185/85              | 140/60                       | 194/90           | -                   | -                   |  |
| DTUL (1.82MPa)                                 | F/C     | D648        | 545/285                          | 545/285          | 545/285            | 545/285            | 545/285            | 545/285          | 545/285          | 545/285                | 545/285                    | 545/285             | 545/285                      | 509/265          | 509/265             | 527/275             |  |
| <b>Electrical properties</b>                   |         |             |                                  |                  |                    |                    |                    |                  |                  |                        |                            |                     |                              |                  |                     |                     |  |
| Dielectric strength                            | MV/m    | D149        | 30                               | 30               | 30                 | 30                 | 30                 | 30               | 30               | 30                     | 30                         | [28]                | 24                           | 24               | [30]                | [30]                |  |
| Volume resistivity                             | Ωcm     | D257        | 10 <sup>15</sup>                 | 10 <sup>15</sup> | 10 <sup>15</sup>   | 10 <sup>15</sup>   | 10 <sup>15</sup>   | 10 <sup>15</sup> | 10 <sup>15</sup> | 10 <sup>15</sup>       | 10 <sup>15</sup>           | [10 <sup>15</sup> ] | 10 <sup>15</sup>             | 10 <sup>15</sup> | [10 <sup>15</sup> ] | [10 <sup>15</sup> ] |  |
| Tracking resistance                            | V       | IEC-CTI     | 550                              | 550              |                    | 400                | 400                | 400              | 400              | >600                   | 400                        | [400]               | 225                          | 175              | [175]               | [175]               |  |
| Dielectric constant (10GHz)                    | -       | D150        | 3.7                              | 3.4              |                    | 3.4                | [3.8]              | [3.4]            | 3.5              | 3.8                    | 3.9                        | [3.4]               | 4.1                          | 3.8              | [4.2]               | [4.2]               |  |
| Dielectric loss tangent (10GHz)                | -       | D150        | 0.012                            | 0.0095           |                    | 0.0097             | [0.0097]           | [0.0097]         | 0.0101           | 0.0098                 | 0.0098                     | [0.009]             | 0.0123                       | 0.0064           | [0.018]             | [0.018]             |  |
| <b>Dimensional characteristics</b>             |         |             |                                  |                  |                    |                    |                    |                  |                  |                        |                            |                     |                              |                  |                     |                     |  |
| Molding shrinkage : in direction of flow (1mm) | %       | -           | 0.1                              | 0.1              | 0.1                | 0.1                | 0.1                | 0.1              | 0.1              | 0.03                   | 0.02                       | 0.1                 | 0.1                          | 0.04             | 0.1                 | 0.1                 |  |
| at right angles to flow                        | %       | -           | 0.6                              | 0.6              | 0.6                | 0.6                | 0.5                | 0.6              | 0.6              | 0.40                   | 0.30                       | 0.6                 | 0.7                          | 0.50             | 0.6                 | 0.6                 |  |

\* Table shows typical values, which are not specified values.

Material Housing :UL



QMFZ2.E90350

Plastics - Component

Guide Information

**KURARAY CO LTD**

E90350

HIGH PERFORMANCE MATERIALS DEV DEPT

1-12-39 UMEDA

KTTA-KU

OSAKA 530-0001, JAPAN

|   |        |      |       |   |   |      |      |     | H | D |   |
|---|--------|------|-------|---|---|------|------|-----|---|---|---|
|   |        | Min. |       | H | H | RTI  |      |     | V | 4 | C |
|   |        | Thk  | Flame | W | A | Elec | Mech |     | T | 9 | T |
| Material Dsg                                | Color  | mm   | Class | I | I |      | Irrp | Str | R | 5 | I |
| Polyamide 9T (PA 9T), furnished as pellets. |        |      |       |   |   |      |      |     |   |   |   |
| GN2200#                                     | NC, BK | 0.75 | V-0   | — | — | 65   | 65   | 65  | — | — | — |
| GN2330#                                     | ALL    | 0.75 | V-0   | 0 | 0 | 105  | 85   | 105 | — | — | — |
|   |        | 1.5  | V-0   | 0 | 0 | 105  | 85   | 105 | — | — | — |
|   |        | 3.0  | V-0   | 0 | 0 | 105  | 85   | 120 | 3 | 5 | 1 |
| GN2331                                      | NC, BK | 0.75 | V-0   | — | — | 65   | 65   | 65  | — | — | — |

|        |     |      |     |   |   |    |    |    |   |   |   |
|--------|-----|------|-----|---|---|----|----|----|---|---|---|
| GN2332 | ALL | 0.75 | V-0 | 0 | 0 | 65 | 65 | 65 | — | — | — |
|        |     | 1.5  | V-0 | 0 | 0 | 65 | 65 | 65 | — | — | — |
|        |     | 3.0  | V-0 | 0 | 0 | 65 | 65 | 65 | 4 | 5 | 1 |

#-Suffix optional.

This page and all contents are Copyright © 2003 by Underwriters Laboratories Inc.®

The appearance of a company's name or product in this database does not in itself assure that products so identified have been manufactured under UL's Follow-Up Service. Only those products bearing the UL Mark should be considered to be Listed and covered under UL's Follow-Up Service. Always look for the Mark on the product.

UL permits the reproduction of the material contained on UL's Website subject to the following conditions: 1. The Guide Information, Designs and/or Listings (files) must be presented in their entirety and in a non-misleading manner, without any manipulation of the data (or drawings). 2. The statement "Reprinted from the Online Certifications Directory with permission from Underwriters Laboratories Inc." must appear adjacent to the extracted material. In addition, the reprinted material must include a copyright notice in the following format: "Copyright © 2003 Underwriters Laboratories Inc.®"



# PRODUCT SPECIFICATION OF OUPIIN

Material Contact :Copper Alloy (SQUAREPIN-Au)

[SGS Test Report Click Here](#)

[如需 SGS 測試報告請點選此處](#)

國 晟 工 業 股 份 有 限 公 司

GWO CHERN INDUSTRIAL CO., LTD.

桃園縣蘆竹鄉海湖村海湖 16 鄰 186 之 28 號

No . 186 – 28 Hai Hu Village . Lu Chu

Hsiang Tao Yuan Hsien Taiwan

## 電腦分析儀化學成份(CheMical Compositions)測試報告

|                     |  |                            |                 |              |                |           |
|---------------------|--|----------------------------|-----------------|--------------|----------------|-----------|
| 客戶名稱                |  |                            |                 |              |                |           |
| 訂單號碼                |  |                            |                 | 出貨日期         | 96/10/24       |           |
| 國際標準                | JIS 國際標準                               | 試材品名                       | C2700W (SBS)    | 試材規格         | 1.08m/m ± 0.02 |           |
| 化學試驗                | CHEMICAL TESTING                       |                            |                 |              |                |           |
| 儀器名稱                | X 光電腦分析儀 (VACUUM X RAY SPECTROGRAPH)   |                            |                 |              |                |           |
| 此份材質表僅供參考，不做其他證明使用。 |  |                            |                 |              |                |           |
| 元素名稱                | 標準規範 %                                 | 實際含量 %                     | 元素名稱            | 標準規範 %       | 實際含量 %         |           |
| 銅 (Cu)              | 63.2-63.8                              | 63.485                     | 鐵 (Fe)          | ≤ 0.02       | 0.0017         |           |
| 鋅 (Zn)              | Remainder                              | 36.4794                    | 矽 (Si)          | —            | —              |           |
| 鉛 (Pb)              | ≤ 0.010                                | ≤ 0.01                     | 錳 (Mn)          | —            | —              |           |
| 錫 (Sn)              | Fe+Sn ≤ 0.02                           | ≤ 0.02                     | 銻 (Sb)          | —            | —              |           |
| 鎳 (Ni)              | —                                      | —                          | 鋁 (Al)          | ≤ 0.005      | 0.0039         |           |
| 磷 (P)               | —                                      | —                          | 其他(other)       | —            | —              |           |
| 導電率測試值              | 架橋式                                    |                            |                 |              |                |           |
| 機械試驗                | MECHANICAL TESTING                     |                            |                 |              |                |           |
| 試驗方法                | 油壓拉伸法                                  |                            |                 |              |                |           |
| 儀器名稱                | 電腦萬能材料試驗機 (computer universal machine) |                            |                 |              |                |           |
| 物理性質                | 拉力(tesile strength)                    | 降伏點(yield strength)        | 延伸率(elongation) | 硬度(hardness) | CD 值 1         | CP 值 2    |
| 標準要求                | — kgf/m m <sup>2</sup>                 | — gf/m m <sup>2</sup>      | 15 % 以上         | 1/4 H        | 750 m/m 以下     | 50 m/m 以下 |
| 實際數值                | 36.9 kgf/m m <sup>2</sup>              | 18.12 kgf/m m <sup>2</sup> | 37 %            | 1/4 H        | 550 m/m        | <5 m/m    |
| 製造批號                | 101821                                 | 101822                     |                 |              |                |           |
| 單位主管                | 張景松                                    |                            | 分析員             | 何三吾          |                |           |