

# GSA/GSB

## Au Bonding Wire for Stable Stitch Bond 安定した2nd接合が可能なAuボンディングワイヤ



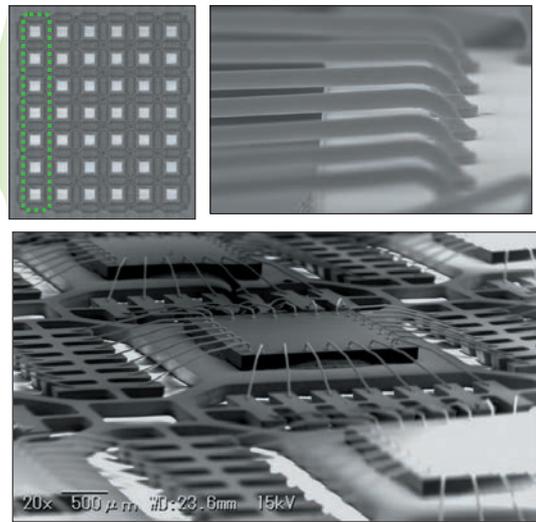
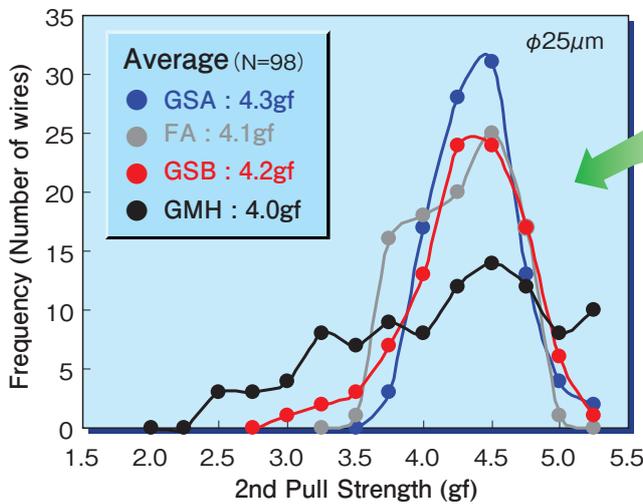
### Characteristics

- Stable stitch bond on QFN, QFPBGA packages.
- Good 2nd bond stitch remaining after pull test.
- Good squashed ball shape and excellent FAB softness.

### 特徴

- 安定したステッチ接合性によりQFN, QFP, BGAパッケージでも局所的な不着が発生しにくい。
- ステッチプル試験後の金残りが多く、ステッチ接合部でのボンドリフトが少ない。
- 圧着径のばらつきが少なく、真円性が良好且つFABが軟らかく圧着ボールが変形しやすい。

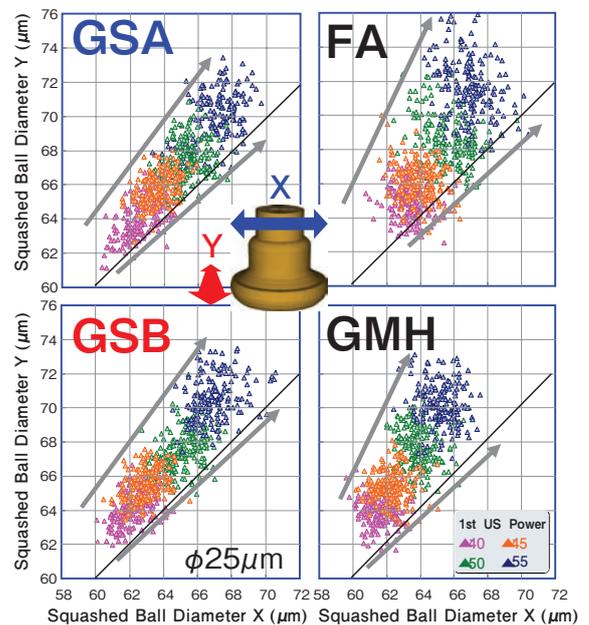
### Stable Stitch Bond on QFN Packages (PPF, 175°C)



### After Stitch Pull Test

| USG Current (mA)       | 50.0 | 47.5 | 45.0 | 42.5 |
|------------------------|------|------|------|------|
| Force (g)              | 35   | 34   | 33   | 32   |
| <b>GSA</b><br>BL.106mN |      |      |      |      |
| <b>FA</b><br>BL.106mN  |      |      |      |      |
| <b>GSB</b><br>BL.118mN |      |      |      |      |
| <b>GMH</b><br>BL.118mN |      |      |      |      |

### Squashed Ball Roundness



**GSA Data Sheet**  
**General Properties**

|                    |             |             |             |             |             |             |             |             |             |             |
|--------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Wire Diameter (um) | 15          | 18          | 20          | 23          | 25          | 28          | 30          | 32          | 35          | 38          |
| Tolerance (um)     | +/- 1.0     |             |             |             |             |             |             |             |             |             |
| Weight (mg/200mm)  | 0.595-0.777 | 0.877-1.096 | 1.096-1.338 | 1.469-1.748 | 1.748-2.052 | 2.212-2.552 | 2.552-2.916 | 2.916-3.305 | 3.508-3.933 | 4.155-4.616 |
| Breaking Load (gf) | Room Temp.  |             |             |             |             |             |             |             |             |             |
| Elongation (%)     | 1.0 - 6.0   |             | 1.0 - 7.0   |             |             |             | 1.5 - 8.5   |             |             |             |

**Physical Property**

|  |                |                |                |                |                |                |                |                |                |                |  |
|--|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--|
| Hardness (HV)                                      | Free Air Ball  | 35 - 55        |                |                |                |                |                |                |                |                |  |
|  | HAZ            | 45 - 70        |                |                |                |                |                |                |                |                |  |
|  | Wire           | 60 - 80        |                |                |                |                |                |                |                |                |  |
| Density (g/cm <sup>3</sup> )                       | 19.32          |                |                |                |                |                |                |                |                |                |  |
| Resistivity (uΩ cm) @ 20°C                         | 2.3            |                |                |                |                |                |                |                |                |                |  |
| Fusing Current (A, Length=3mm,10sec)               | 0.3            | 0.4            | 0.5            | 0.7            | 0.8            | 1.1            | 1.2            | 1.4            | 1.7            | 2.0            |  |
| Electrical resistance (Ω, Length 10mm, Room Temp.) | 1.14<br>- 1.49 | 0.81<br>- 1.01 | 0.66<br>- 0.81 | 0.51<br>- 0.61 | 0.43<br>- 0.51 | 0.35<br>- 0.40 | 0.30<br>- 0.35 | 0.27<br>- 0.30 | 0.23<br>- 0.25 | 0.19<br>- 0.21 |  |
| Thermal Conductivity @ 20°C (W/m/K)                | 315.5          |                |                |                |                |                |                |                |                |                |  |
| Linear Expansion Coefficient (0-100°C) (ppm/K)     | 14.1           |                |                |                |                |                |                |                |                |                |  |
| Elastic Modulus (GPa)                              | 60 - 80        |                |                |                |                |                |                |                |                |                |  |
| Melting Point (°C)                                 | 1,063          |                |                |                |                |                |                |                |                |                |  |

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**GSB Data Sheet**  
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| Breaking Load (gf) | Room Temp.  |             |             |             |             |             |             |             |             |             |
| Elongation (%)     | 1.0 - 6.0   |             | 1.0 - 7.0   |             |             |             | 1.5 - 8.5   |             |             |             |

**Physical Property**

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| Hardness (HV)                                      | Free Air Ball    | 35 - 55        |                |                |                |                |                |                |                |                |  |
|  | HAZ              | 45 - 80        |                |                |                |                |                |                |                |                |  |
|  | Wire             | 70 - 90        |                |                |                |                |                |                |                |                |  |
| Density (g/cm <sup>3</sup> )                       | 19.32            |                |                |                |                |                |                |                |                |                |  |
| Resistivity (uΩ cm) @ 20°C                         | 2.3              |                |                |                |                |                |                |                |                |                |  |
| Fusing Current (A, Length=3mm,10sec)               | 0.3 <sup>*</sup> | 0.4            | 0.5            | 0.7            | 0.8            | 1.1            | 1.2            | 1.4            | 1.7            | 2.0            |  |
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| Thermal Conductivity @ 20°C (W/m/K)                | 315.5            |                |                |                |                |                |                |                |                |                |  |
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| Elastic Modulus (GPa)                              | 70 - 90          |                |                |                |                |                |                |                |                |                |  |
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