

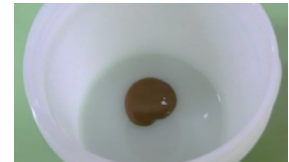
AuRoFUSE™

低温接合・高熱伝導度を兼ね備えたサブミクロン金粒子ペースト

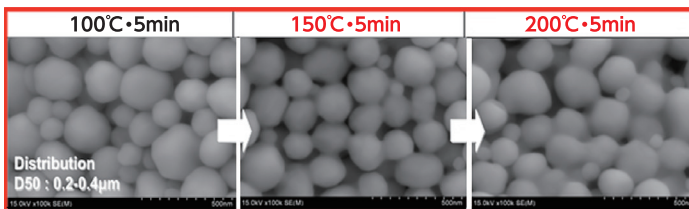
Gold Paste with Sub-Micron Size Particles

特長 Features

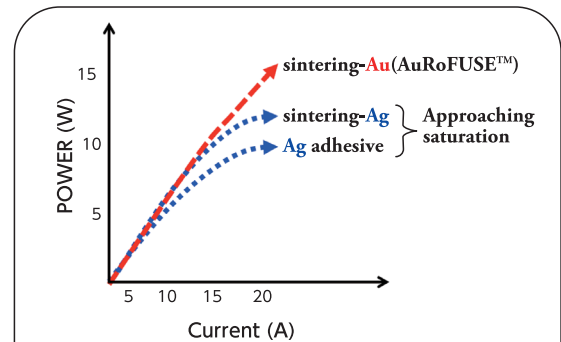
- ◆鉛フリーはんだよりも低温(200-230℃)で接合可能
Lower temperature (200-230℃) bonding available than Pb-free solder
- ◆焼成銀ペーストよりも優れた放熱特性
Excellent Heat dissipation characteristic superior to Sintering-Ag
- ◆高熱伝導特性・高信頼性によりパワーデバイスに適応可能
Adapted to Power devices due to high thermal conductivity and high reliability



AuRoFUSE™



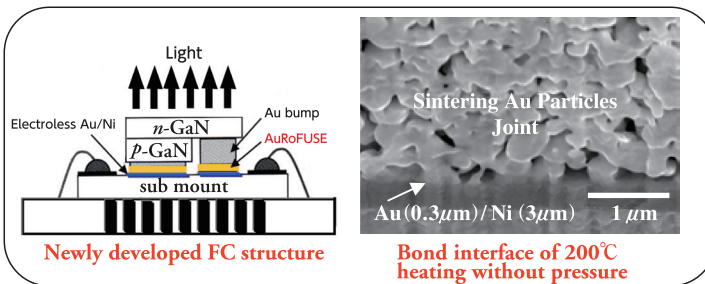
Sintering Behavior of Sub-micron Au Particles



Relationship between Laser Diode output and current

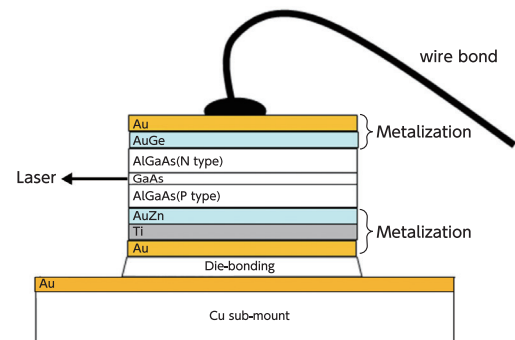
用途例 Use case

- ◆パワーデバイス用のダイボンド材
Die Bonding material for Power Devices
- ◆WLP向けウエハ間のシーリング材
Sealing material between wafers for WLP (*1)
(*1) Wafer Level Package



Newly developed FC structure

Bond interface of 200°C heating without pressure



Structure of Laser Diode

特性 Characteristics (Comparison with AuSn solder)

BOND PROPERTIES	AuRoFUSE™ 230°C heating in air with no pressure	80Au20Sn (mass%) 350°C soldering with Flux
Electrical resistivity	5.4 $\mu\Omega\text{cm}$ (25°C)	27.6 $\mu\Omega\text{cm}$ (25°C)
Thermal conductivity	> 150 W/mK	57.3 W/mK
Heat-resistant	1064°C (melting point)	278°C (melting point)
Young's modulus	9.5GPa (25°C)	> 60GPa (25°C)
Shear strength	40MPa (25°C) (*2)	100MPa (25°C)
Au content	99.95 mass%	80mass %
Under Barrier Metal	Au/Pt/Ti, Au/TiW	Au/Ni

(*2) "Ar plasma cleaning" against bonding surface of Au finish is recommended to eliminate the surface contamination such as some oxidations of under barrier metals Ni, Cu, Ti etc., resulting in the increment of shear strength.

