

Hybrid Sintering

Features

- Pressure-less sintering
- Excellent bonding to Cu
- Good reliability & High thermal conductivity
- RoHS Compliance & Pb solder replacement

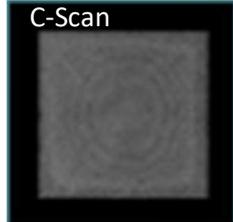
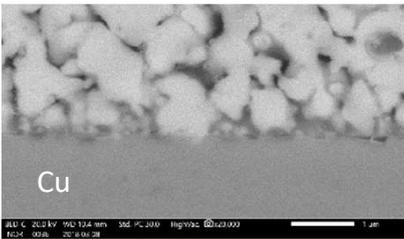


Die Attach

TS-9853G Bonding to Cu LF

7x7mm Si(Ag BSM)/Bare CuLF

TC 2000x



No delamination

Curing Condition:
200°C 60min / 250°C 60min in N₂
TC Condition:
-55°C 30min ⇄ 150°C 30min

Clip Attach*

*Collaborating with CITC

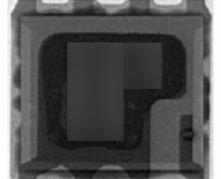
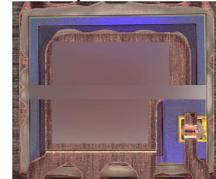
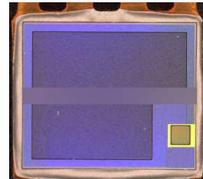


Bonding to Cu Clip

Die Attach

Clip Attach

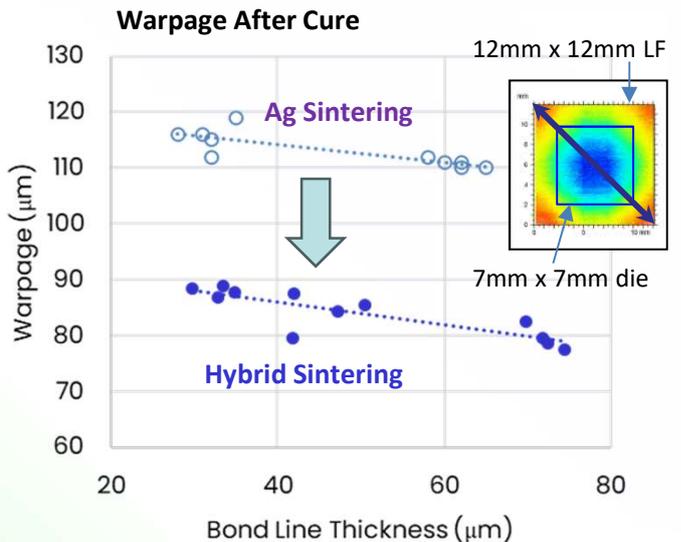
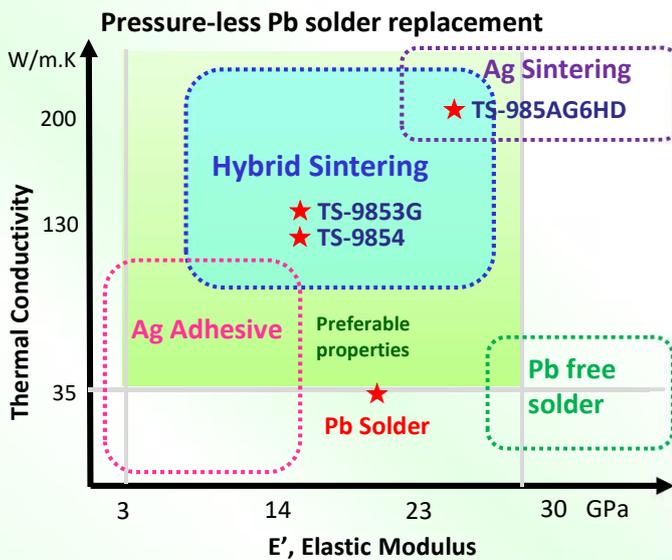
X-ray



Cross-section after TC 2000x



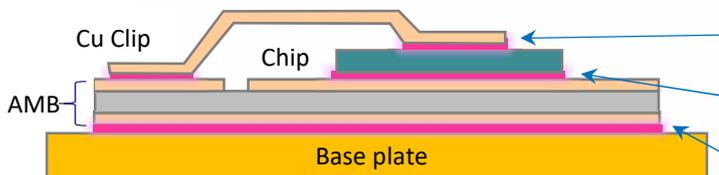
No delamination



Pressure Sintering

Features

- Both pressure and pressure-less available
- Excellent bonding to Cu
- Small to large area bonding
- RoHS Compliance & High performance



Clip Attach (Pressure/Pressureless)

Die Attach (Pressure/Pressureless)

Substrate Attach (Pressure/Pressureless)

Sintering for SiC die

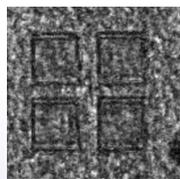
TS-985A-G6HD

Bonding to Cu AMB

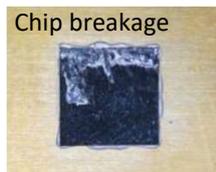
5mm x 5mm SiC (Ag BSM) / AMB (Bare Cu)



250°C, 20MPa, 2min



Thru scan



Chip breakage

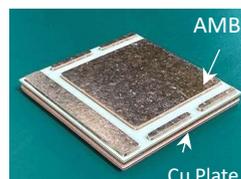
DSS >70MPa

Sintering for Large area

TS-9854

Bonding to Cu Plate

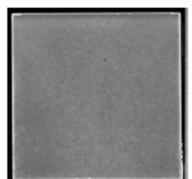
35mm x 35mm AMB(Bare Cu)/ Cu plate (1.5mmt)



250°C, 20MPa, 2min



Thru scan



C scan

	TS-985A-G6HD	TS-9854 / H
Category	Ag Sintering with Pressure	Hybrid Sintering with Pressure
Process	Dispensing/ Printing	Dispensing/ Printing
Viscosity	35 Pa.s	25Pa.s / 40Pa.s
Die Shear Strength at RT	>70 MPa	>70 MPa
Elastic Modulus at RT	(23,000 MPa)*	(15,000 MPa)*
Thermal Conductivity	>300 W/m.K	>150 W/m.K
Metallization	Ag, Au, Cu	Ag, Au, Cu
Bond area	~10mm x 10mm	~50mm x 50mm

*Measurement value with non pressured condition



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