FlowMetal®
Silver Nanoparticle Die-attach Material

Features

- Pressure-free bonding between metals (Au, Ag, Cu)
- High bonding strength
- High electric and thermal conductivities
- High thermostability and reliability

Development background

Nanoparticles feature low-temperature sintering for improved melting points. Silver nanoparticles make use of Bando's dispersion technology for pressure-free, low-temperature bonding with high heat-resistance and high reliability.

Applications

- Bonding in power devices requiring high heat resistance and high reliability
- Lower thermal resistance for power devices and LED
- Lead-free alternative to high-lead solder
- Reduced-cost AuSn solder alternative

Silver Nanoparticle Die-attach Material FlowMetal® Line up

		XSR9800	XSR9100
Application		Power semiconductor device	LED
Applicable chip size (mm x mm)		～7 × 7	～1 × 1
Jointing condition	Printing method	Screen Printing, Dispensing	Stamping, Dispensing, Screen Printing
	Sintering temperature (℃)	250	150-190
	Sintering time (min)	60	30-90
	Sintering pressure	Pressure-free	Pressure-free
Jointing property	Shear strength (MPa)	>30	>30
	Thermal conductivity (W/mK)	～260	>100
	Resistivity ($\mu\Omega$cm)	2	3

XSR9100：Electric properties remain the same after 3000 cycle at -40/120℃ heat cycle tests.

XSR9800：No cracking Ag layer after 1000 cycle at -55/150℃ heat cycle tests.

High thermostability at heat cycle tests（XSR9800）