# Power Electronics Materials **Reliability Delivered**

A variety of industries are requiring more and more power from power electronics. As this trend continues, it is critical that we continue to research and develop materials that can meet power electronics' thermal, voiding, and all-around reliability needs.

## Substrate-/Spacer-Attach Solutions

- Uniform bondline
- Low-voiding

## **Die-Attach Solutions**

- Uniform bondline
- Dependable standoff heights

**Problem:** 

Even

Thickness

### -• Thermal Solutions

InFORM

- Low thermal resistence
- No pump-out or bake-out

# Proven Bondline Control

# **Preforms and Ribbon**\*

- >2X increase in reliability (-55/+150°C) passes 3,500 thermal cycles
- Most uniform bondline control
- Eliminates costly wire bond trimming process
- · Improved strength and dependable standoff heights
- Low-voiding
- Lowest cost of ownership

\*Patent pending

# Solved:

Baseplate

#### Contact our engineers: askus@indium.com Learn more: www.indium.com

# From One Engineer To Another

All of Indium Corporation's solder paste and preform manufacturing facilities are IATF 16949:2016 certified. Indium Corporation is an ISO 9001:2015 registered company.

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# Power Electronics Materials *Reliability Delivered*

# Proven Fast Sintering QuickSinter®

# **Silver Sintering Paste**

- Excellent joint strength
- Pressureless sintering solution with pressurized sintering capabilities
- Controllable bondline thickness from 30–70μm
- Versatile sintering profiles
- Voiding: <1%\*
- Porosity: <30%\*</li>

\*Average on most application runs



# High-Performance

# Metal Thermal Interface Solutions

## No pump-out or bake-out

- Heat-Spring<sup>®</sup>
- HSP
- HSMF
- Liquid metal
- m2TIM™



# Premium 80Au20Sn

# AuLTRA<sup>™</sup> ThInFORMS<sup>™</sup><sup>™™</sup>

- · Gold-tin preforms for die-attach applications
- Available in ultra-thin dimensions—0.00035" (0.00889mm)
- · Improve thermal transfer and overall operational efficiency
- Reduce voiding, solder volume, and wicking up the die

# **Other Available Products for Power Semiconductors**

- LV1000
- Indium3.2HF Solder Paste
- Solder preforms
- and more...

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**0.002"** Typical Die-Attach Preforms

