

## Improved Die and Lead Frame Bonding Via Directional Topography

### **Disclosure Number**

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### **Technology Summary**

This invention improves the mechanical reliability of the joint used to bond semiconductors and lead frames to metal-cladded substrates. Surface modification or engineering of the metal cladding on ceramic substrates or the working area metallization on semiconductors can increase the mechanical adhesive strength of (silver sintering) bonding joint with them. The controlled topography (or "engineered roughness") works to increase the overall bond strength which is allied to improved mechanical reliability. This will increase the overall electrical reliability in power electronic devices and in the applications that they are used in.

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