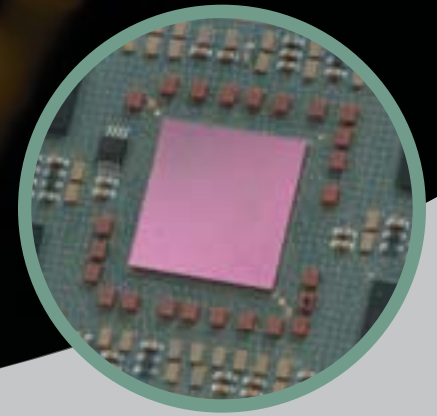


Integrated Circuit Assembly Services



Advanced Assembly Solutions

El combines advanced process and product development with manufacturing to provide prototype to volume production of flip chip and wire bond packaging assemblies. The power of our solutions lie in the ability to provide you with a breadth of products and services all under one roof. With expertise in materials science, mechanical, electrical, chemical and industrial engineering, we've earned global respect as assembly process experts, helping customers to increase yields, continually improve processes and optimize product reliability and life cycle support. We also look to identify and develop new and emerging technologies that will enable your next generation of products.

El's solutions support the needs of the defense and aerospace, communications and computing, semiconductor, advanced test equipment, and medical markets where highly reliable products built in robust manufacturing operations are essential to success.

Features

Low to medium volume production of complex flip chip and wire bond packages including SCM's, MCM's and SiP's on organic substrates

Full turnkey support from prototype through production

Focused NPI to production launch of products with dedicated program managers and engineering support

Outstanding service and on-time delivery performance that consistently rates 99% or better

Extensive quality and process controls integrated within all of our business processes including:

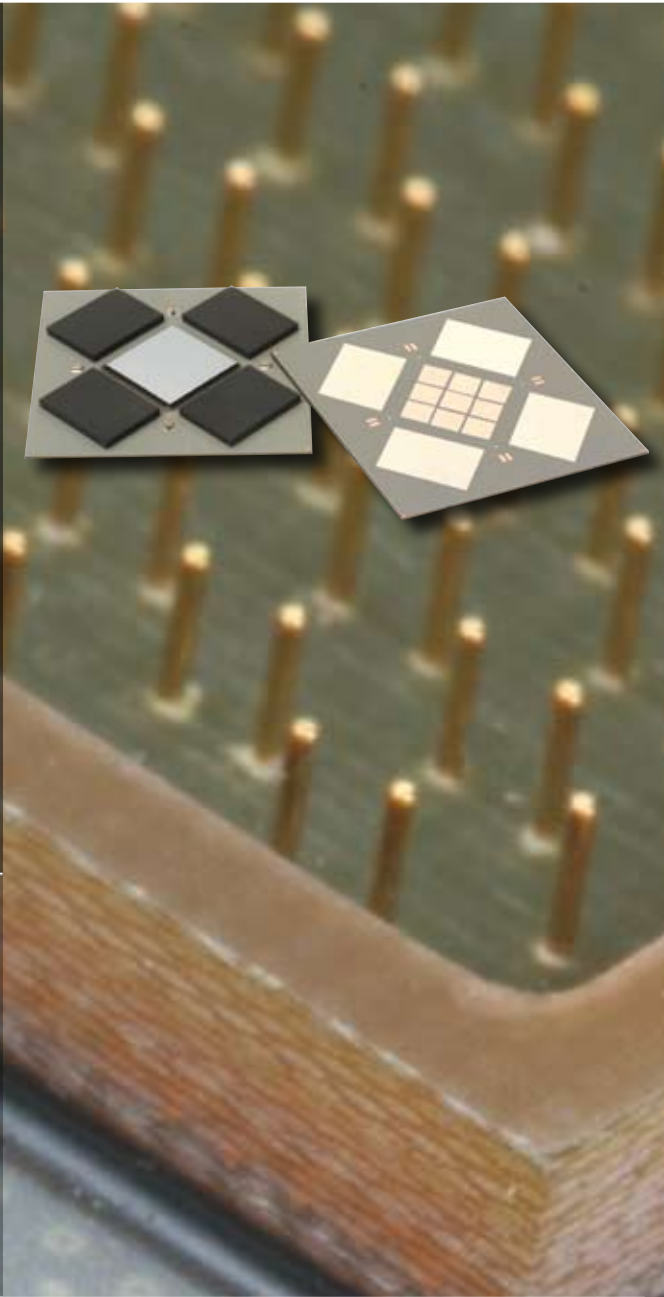
Traceability system tracks/documents components and materials throughout product manufacture

Comprehensive process capabilities including underfill and specialized dispense, coplanarity measurement, CSAM, custom stencil and automated solder paste volume measurement, wire pull and ball shear, AOI, X-ray and ionic cleanliness measurement

Leading edge process development for new materials and techniques and specializing in flip chip advancement

the power of advanced processes

Integrated Circuit Assembly Services



| |
|---|
| Capabilities |
| Package Size |
| Standard JEDEC 13.0mm to 55.0mm Custom sized SiP's |
| Assembly to Organic Substrates |
| FR4 & BT epoxy FR4 epoxy build-up PFTE-based carriers Kapton flex Various surface finishes |
| Core Technology / Capability |
| Flip chip to 150µm pitch and >25mm die Discretes to 01005 Underfill for die and connectors Pin arrays and BGA attach Heatspreader attach with mixed adhesives Wire bond – die up and cavity Ball bonding – 1.0mil Au wire to 5.0mil pitch Wire bond dam and glob top GaAs, SiGe die, 14µm die pitch, Pb free die bumps |
| Core Product Parametrics |
| Large MCM / SiP packages Hybrid / double sided assembly SCM and device packages |
| Test |
| Genrad ICT Custom module FCT |
| Key Operations |
| Die attach (for wire bond) Wire bonding to 5.0mil pitch Die place reflow (for flip chip) to 150µm pitch Discrete component and connector attach Post attach automated optical inspection (AOI) Underfill for die and connectors Wire bond damming and glob top BGA attach down to 0.5mm pitch Coverplate attachment with multiple materials |
| Support Operations |
| Post assembly coplanarity measurement Acoustic microscopy for interfacial inspection Real time X-ray for process monitors Ionic cleanliness measurements Wire pull & ball shear |
| Certifications |
| ISO 9001:2000 ISO 14001:2004 IPC-A-610 |

For more detailed information about semiconductor assembly solutions, call us today at 866-820-4820. Our application engineers are ready to assist you with detailed information for successful design and build. You can also visit our website at www.endicottinterconnect.com.



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For more information, visit our website at www.endicottinterconnect.com