

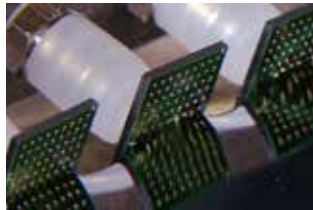


Microcross delivers the industry's most comprehensive range of high-reliability and mission-critical microelectronic components and component modification services available from a single source for over 45+ years.



ROBOTIC HOT SOLDER DIP (RHSD)

- Microcross is One of the Established Providers that Offer Robotic Hot Solder Dip
- Unparalleled Robotic Capacity Supporting Industry-Leading Quality and Lead-Times
- Robotic Hot Solder Dip for Tin Whisker Risk Elimination, Gold Removal & Restoration of Solderability
- RoHS Compliance: Removes SnPb & Replaces it with SAC305 or Specified Alloy
- Post-Process Testing: Solderability, XRF Solder Characterization, Ionic Cleanliness
- Proprietary Ultra-Flat Finish for Bottom Termination Packages (QFN, MLF, LCC)

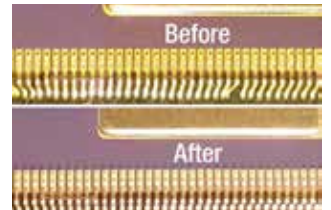


BGA REBALLING / BALL ATTACH

- Microcross Developed a Differentiated Process Solution for De-Balling and Pad Preparation
- Supports Proprietary Robotic Processes to Deliver Guaranteed BGA Reballing Yields
- BGA Reballing Converting RoHS BGAs to SnPb or Sn/Pb to SAC305
- Ball Attach to LGA, QFN and DFN Packages
- BGA Re-Work & Repair
- LGA Gold Removal & Reballing
- Ball Pitch from 0.40mm Min/Ball Diameter from 0.152mm
- Component Size for 0.858mm x 0.858mm, Pitch 0.4mm and Expertise with Plastic and Ceramic Components (Flip Chip & MCM)
- *CTE Mismatch Mitigation Options Include: HMPS Spheres, BTCE Microcross Patent, Non-Collapsible Spheres*

LEAD TRIM/FORM & RECONDITIONING

- Forms and Trims Straight Leads for Surface Mount Placement Per Customer's Drawing or Specification
- Reconditioning of Bent or Damaged Leads: Robotic Process Realigns Bent Leads & Scans to Verify Results
- Trim & Form for J-Leaded, SOIC, SOJ, DIP, PSOP, TSOP, FP, QFP & Other Package Outlines; Compliant to J-STD-001



LEAD ATTACH

- Reduce Solder Joint Stress Through Attachment of J-Shape and L-Shape Leads to LCC's Using Thermo-Compression Bond or Proprietary Hi-Temp Solder Process
- Lead Replacement: Restoration & Repair of Bent/Damaged Leads
- Lead Material: CDA 102 Copper, ASTM B-170 Grade 2
- Attachment Verified by Lead Integrity & Bond Pull Testing



CGA ATTACH

- Unique Solution to LGA/BGA Conversion to CGA 2,500+ Column Placement Capable and a Highly Desirable Solution to the Space Community
- Column Composition Sn10Pb90 or Sn20Pb80
- 1mm/2.7mm Pitch Tooling Available

Industry Leading Provider of Component Modification Services

BOTTOM TERMINATION COMPLIANT ENHANCEMENT (BTCE)

Greater Compliance for:

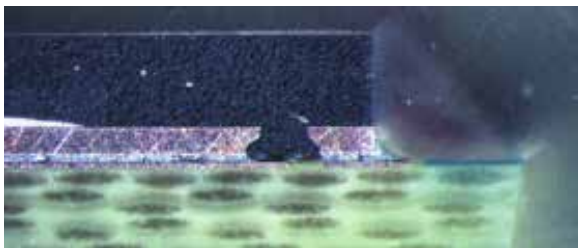
- CTE Mismatch
- Acceleration and Vibration
- Extreme Temperature Cycling

Increased mitigation for exposure to acceleration and vibration in application.

BTCE improves solder joint robustness through increasing solder volume in the peripheral filets.



The Issue: Open Solder Joint



Without Stand Off



With Stand Off

ELECTROLESS NICKEL/IMMERSION GOLD PLATING OVER A COPPER SUBSTRATE

Micross is one of the only facilities in the world that offers ENIG plating in an ESD environment.

- Fully ISO 14001 Compliant Whilst Giving a 98% Yield Rate
- This Process was 10 Years in Development and Serves the Aerospace Community



TEST INSPECTION

- Fine & Gross Leak Testing
- Acoustic Microscopy
- X-Ray Inspection & Fluorescence Analysis
- Scanning Electron Microscopy (SEM)
- 2D/3D Scanning
- Solderability Testing
- Ionic Cleanliness Analysis

PCB SOLUTIONS

- Assembly
- Rework
- Repair
- Component Harvesting

SUPPORT SOLUTIONS

- Tape and Reel
- 3D Scanning

QUALITY CERTIFICATIONS

- AS9100 BS EN ISO9001:2015
- ISO 14001

- JOSCAR Registered
- HM Government - Cyber Essentials



Need Information?

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Technical Support: micross.com/tech-support