



Microcircuits

Global Microelectronic Assembly and Manufacturing

Ceramic and metal-based thick film hybrid microcircuits

Specialized Electronic Manufacturing Services (EMS)

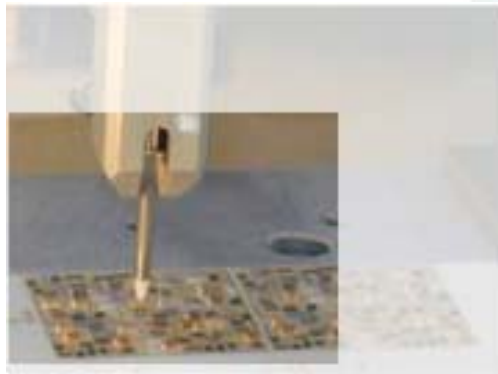
Chip and Wire Assembly using gold and aluminum bonding techniques

Surface Mount to Ceramic and PCB Substrates

Flip Chip and BGA Assemblies

Optical and RF Assemblies

Full engineering, design and test solutions



www.cmac.com



C-MAC Microcircuits Core Capabilities

Thick Film Printing

- Multiple substrate materials
- Multiple thick film systems
- Comprehensive probe test and laser trimming capability
- Absolute accuracies 0.2% ratio down to 0.05%



Chip and Wire Assembly in Clean Room Environment

- Multiple substrates supported
- Die attach
- Ball, wedge and tape bonding
- Comprehensive packaging
 - Hermetic metal (*seam and laser seal*)
 - Glob top
- Active laser adjustment
- Active burn-in
- Real time X-Ray
- Real time thermal imaging



Controlled Environment Assembly

- Flexible SMD and through-hole machine base
- BGA and flip chip assembly capability
- Low to high complexity
- Specialized assembly
- AOI/SPC control
- Visual standard to IPC 610
- Fully functional electrical test
- Flying probe electrical test for small batch manufacture



Quality Certifications

- ISO-9000
- QS-9000
- TS-16949

