



## PRODUCTS & SERVICES

## DISTRIBUTION

### SEMICONDUCTORS

- HERMETIC / CERAMIC PACKAGES
- HI-REL MEMORY
- CUSTOM DEVICE PACKAGING
- COTS / PEMS
- DMS / EOL / WHOLE LIFE
- RADIATION TOLERANT DEVICES
- DEVICE TESTING / PROGRAMMING
- WAFER PROCESSING
- COB ASSEMBLY
- ASIC DESIGN

### ELECTRO-MECHANICAL

- BGA RE-BALLING
- CONNECTORS
- HARNESSES
- HI-REL LEAD ATTACH
- PCB RE-WORKING
- PACKAGE TRIM & FORM
- ROBOT CONTROLLED TIN DIPPING
- SOLDER EXCHANGE PB & PB FREE

### BARE DIE & PASSIVES

- CHIP CAPACITORS
- CHIP RESISTORS
- GaAs RECTIFIERS
- SILICON ICs
- SILICON DISCRETES

### PACKAGED PARTS

- PLASTIC DISCRETES



888.330.8811  
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www.microcross.com

## semiconductors



## HERMETIC / CERAMIC PACKAGING

- **SRAM:** 256Kb to 16Mb Mono, 16Mb MCM, 5V & 3.3V, 10ns to 100ns , x8/x16/x32
- **Legacy DRAM:** 256Kb to 64Mb, 5V, x1 and x4 LCC, Flatpack and Dip
- **EEPROM:** 1Mb Mono, 4Mb MCM, 5V, in Flatpack, LCC, CSOJ, PGA, and CQFP
- **FLASH:** 1Mb & 4Mb Mono, 16Mb to 64Mb MCM, 5V & 3V, 60ns to 150ns, Multiple packages including DIP, Flatpack, LCC and CQFP
- **UVEPROM:** 256Kb to 1Mb Mono, 55ns to 200ns, in LCC, DIP
- **VRAM:** 1Mb/4Mb, 100ns to 200ns, in LCC, DIP and CSOJ
- **Radiation Tolerant Devices**

## CUSTOM PACKAGING

### SILICON

Linear / Analog  
Mixed-Signal  
Digital  
SRAM  
EEPROM  
NAND & NOR FLASH  
nvSRAM  
Microcontrollers  
SDRAM / DDR  
Discretes

### STANDARD

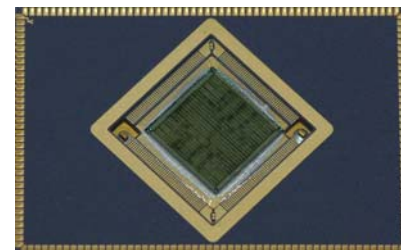
CERAMIC  
CDIP (300, 400, 600 mil)  
ZIP  
CSOJ  
CQFP  
CPGA  
LCC  
FLATPACK

### PLASTIC

CAN  
TSOP  
TQFP  
QFN  
PBGA  
PSOJ  
PLCC

### CUSTOM

By Requirement



## COTS / PEMS

- **SDRAM - SDR, iPEM SDR, iPEM DDR, iPEM DDR2**
  - SDR: 64Mb, 128Mb, 256Mb, 512Mb, PC100 or PC133
  - iPEM SDR: 1.2Gb, 25mm x 32mm
  - iPEM DDR: 1.2Gb, 2.4Gb, 25mm x 32mm & 16mm x 23mm
  - iPEM DDR2: 2.1Gb, 2.4Gb, 4.2Gb, 4.8Gb, 25mm x 32mm & 16mm x 23mm
- **SRAM** - 256Kb to 16Mb, 10ns - 85ns, 5V and 3.3V
- **Sync SRAM** - 4.0Mb to 36Mb, 100-250MHZ, 3.3V, Pipeline, Flow-Trough & ZBL
- **DRAM**
- **FLASH & EEPROM** - 1Mb to 16Mb, 70ns - 120ns, 3V and 5V
- **Standard and Low Power options available on most**
- **Packaging: PBGA, PSOJ, SOJ, TSOP, TSOPII, TQFP**

## SEMICONDUCTOR SERVICES

### TURNKEY & BUILD TO PRINT

#### Hermetic & Plastic Packaging

- Domestic Quick Turn, Prototype, and High Volume Assembly
- MIL-PRF-38535 Class V Assembly and Qualification,
- MIL-PRF-38534 Hybrid Assembly
- Wafer Processing
- Extensive Test & Burn-In Capabilities

#### Program Management

- DMS / EOL and Whole Life Product Support

#### Additional Services

- Environmental / Stress Screening
- Device Upscreening
- Engineering / Analytical Services
- Mechanical

## QUALITY ASSURANCE

### CERTIFICATIONS:

- DSCC QML
  - MIL-PRF-38534, Class H
  - MIL-PRF-38535, Class Q
  - MIL-PRF-38535, Class V (assembly only)
  - Laboratory Suitability (MIL-STD-883)
- SMD, M Level & QD Level
- AS9100:2009, ISO 9001:2008 Certified

### FLAWS:

- Customer specific, Source Control Drawing (SCD)
- COTS/PEMS Plastic Flow
- JEDEC Standards for Plastics

Please visit [www.microcross.com](http://www.microcross.com) for more information on our products & services.

## COMPONENT MODIFICATIONS

### LEAD ATTACH TO LCC'S

- Thermocompression Weld Lead Attachment Process
- High Temp Solder Lead Attachment Process
  - J-Form
  - Gullwing Form
  - Spider Gullwing Form
- Replace & Reform Leads on Components

### TRIM & FORM COMPONENTS

- Trim, Form and Solder Dip 'J' Leaded, SOIC, SOJ Packages; Other Packages Not Limited to DIP, PSOP, TSOP, FP's and QFP's.

### ROBOTIC HOT SOLDER DIP

- Lead Tinning/Solder Dip
- Terminal Finish Conversion
- Solder Exchange From RoHS to SnPb

### BGA MODIFICATIONS

- BGA Reballing For Conversion to Tin-Lead (SnPb)
- Ball Attach

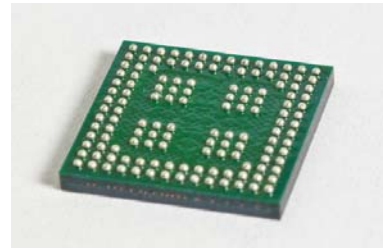
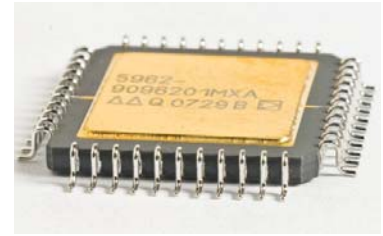
### TAPE & REEL

### HIGH PERFORMANCE EPOXY PREFORMS

- Individual Preforms are Mounted to Ceramic, Glass or Metal Caps & Lids

### TEST

- X-Ray Fluorescence Analysis (XRF)
- Solderability Testing
- Particle Impact Noise Detection Test (PIND)
- Fine & Gross Leak Testing
- Lead Integrity / Bond Strength



### MILSPEC CONNECTORS

#### MIL-DTL-55302 Series

- Pin & Socket
- Test Point
- Cardedge

#### MIL-DTL-28748 Series

- Micro-Miniature
- Removable Crimp
- Sub-Miniature
- Power Series
- Centerscrewlock

#### MIL-SAE-AS-39029 removable contacts

### CUSTOM CONNECTORS



## QUALITY ASSURANCE

### Component Modifications:

AS9100 Certified

### Interconnects:

ISO9001-2008 Certified

## INTERCONNECTS

### CABLE AND WIRE

### HARNESS ASSEMBLIES

- Cable Assemblies
- Wire Harnesses
- Cabinet Assemblies
- Custom Assemblies



## distribution

### Capacitors

#### Manufacturer

Johanson Dielectrics  
 Novacap  
 Dielectric Labs  
 Johanson Technology  
 Firadec  
 Dionics

#### Component

Ceramic Capacitors  
 Ceramic Capacitors  
 RF/Microwave Capacitors  
 RF/Microwave Capacitors  
 Tantalum Capacitors  
 MOS Capacitors

### Semiconductors

Analog Devices

Diodes, Inc.

Dionics

Fairchild

Infratech

Interfet

International Rectifier

Intersil

ISSI

IXYS

Knox

Linear Systems

Maxim

Micrel

Microsemi

National

ON Semi

Sensitron

Solitron

Supertex

Sussex

TI

Vishay

Zetex

### Resistors

#### Manufacturer

State Of The Art  
 IMS

#### Component

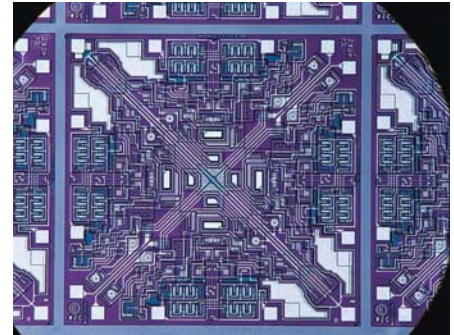
Thin & Thick Film Resistors  
 Thick Film Resistors

## CLASS 10K CLEAN ROOM

- Full compliance with all applicable MIL Standards.
- Die inspection under high power metallurgical microscopes.
- All die stored in desiccator cabinets under a constant nitrogen blanket.
- Full ESD protection with daily verification.

## QUALITY ASSURANCE

- AS9100:2009, ISO 9001:2008 Certified
- QA Manual is the cornerstone of our commitment to quality.
- Constantly reviewed and maintained by management.
- Processing of all components governed by strict adherence to corporate quality standards.
- Mechanical and electrical verification of capacitors.



## PERFORMANCE

- Outstanding quality record
- Excellent track record for on-time deliveries
- Advance notification of late deliveries
- Unequaled customer service

## SUPPORT

- Diverse supplier base
- Review of SCD's with correlation to generic parts
- Full lot and wafer traceability
- Tracking for previously evaluated lots
- Visual inspection to appropriate MIL standard
- Maintain large inventory

