

# BUSINESS SEGMENTS

## HIGH RELIABILITY



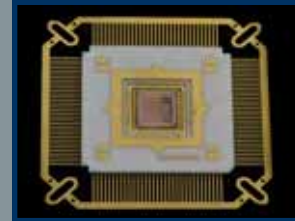
Austin Semiconductor fully supports the high-reliability requirements of industries including Military, Aerospace, Medical\* and Transportation by providing state-of-the-art Linear, Mixed Signal and Memory semiconductor packaged solutions to these critical markets. Our Standard package offerings include Ceramic 400/600mil DIP, SOJ, 2-sided LCC, 4-sided LCC, ZIP, Gull-Wing, QFP, PGA, Flat Pack, formed lead Flat Pack, TAB packages and Metal Can. It is our goal to provide our high-reliability customers with a full service solution to their product and manufacturing needs.

\*Diagnostic/Monitoring, Non-Life support Medical Applications



## CUSTOM

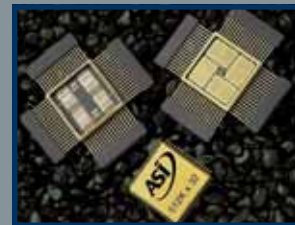
When it comes to packaging, Austin Semiconductor can build your product in a standard, off-the-shelf package or help with a completely custom designed package. Whatever your packaging requirements, Austin Semi is ready to work for you. Custom package offerings include, but are not limited to Plastic, Multi-layered Ceramic, Glob-Topped FR4, Monolithic, Multi-Chip Modules and Transitional Substrates.



## COTS / PEMS

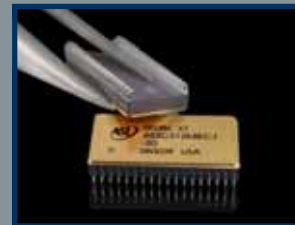


Austin's Team of professionals have applied their years of knowledge and experience, servicing the Hi-Rel community with traditional ceramic / hermetic component solutions, to the "COTS" (Commercial Off The Shelf) requirement. The Austin COTS product family supplies our customer base with standard memory and linear/mixed signal devices, packaged in industry standard, off the shelf plastic encapsulated packages. Each of the device offerings are put through a rigorous 100% test re-screening at temperature and voltage corners, thus providing our customer base with a group of Hi-Reliability PEMS (Plastic Encapsulated Microcircuits) meeting or exceeding the guidelines of the Perry Initiative.



## DMS / OBSOLESCENCE

Austin Semiconductor provides high-reliability customers with maximum flexibility by offering reliable DMS / Obsolescence solutions that add additional years of product life to our Customer's end uses. By utilizing our extensive knowledge and capabilities, we can maintain the mechanical footprint and electrical specifications required by the application. We have designed, assembled and tested thousands of "engineered solution" parts for our customers, from 2/3 pin discrete components to full custom ASIC's and MCM solutions.



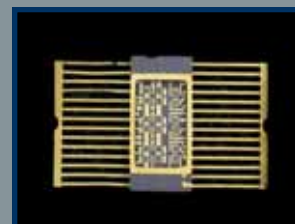
## TEST & LAB SERVICES



Austin Semiconductor offers a complete range of test, design and lab services to the high-reliability semiconductor marketplace. Services include package design, a wide range of assembly services, complete environmental and stress screening, component qualification and testing, and full electrical test and burn-in screening.

## RADIATION TOLERANT

Austin Semiconductor, a long-term supplier of customer specified Radiation Tolerant/Radiation hardened solutions now adds standard Radiation tolerant devices to its list of Products and Service solutions. We continue to add products to this grouping as interest warrants and we at Austin Semiconductor continue to provide our personalized and dedicated service to this highly specialized marketplace.



# CAPABILITIES

## DOMESTIC ASSEMBLY

- Multi-chip/Monolithic Ceramic Product Assembly Services
- Class 100 Clean Room
- Silicon, SOS and GaAs
- Die Attach - JMI7000, Eutectic, Epoxy, Solder
- Wire Bond- Al & Au, .7 mil to 1.25 mil to 20mil
- Internal Visual Inspection
- Seal - Solder, Glass Frit, Seam Seal, Can Weld
- Vacuum Bake
- Surface Mount Assembly
- Radiation Tolerant Shielded Packages

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## DOMESTIC TEST AND MANUFACTURING

- Test Temperature Standard Selections
- Up-Screening of Commercial Grade Devices
- Memory Testing: > 100K/month capacity
- ≤ 200 MHZ clock, >1GIG byte
- Microprocessor / Microcontroller w/ OEM Vectors
- Linear Testing
- Logic Testing
- ASIC Testing
- ECL Testing
- Static and Dynamic Burn-In
- Multi-site Handlers
- Lead Trim / Form & Solder Finish
- Part Marking & Cure

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## ENGINEERING AND ANALYTICAL SERVICES

- Electrical Characterization
- Component Evaluation and Qualification
- Sonoscan CSAM / X-Ray
- Die Shear / Stud Pull
- Bond Strength / Resistance to Solvents
- Steam Age/Solderability
- Salt Atmosphere
- Thermal Shock / Thermal Resistance / Thermal Impedance
- PIND
- High Mag Visual > 100X
- Lead Integrity
- Temperature Cycling
- Hermetic Testing: Fine Leak/Gross Leak
- SEM Inspection
- Centrifuge: up to 40,000Gs
- Lid Torque
- Mechanical Shock and Vibration
- HAST Screening 85/85
- Internal Water Vapor: RGA



# CAPABILITIES

## BUSINESS SERVICES

- Die Banking and Parts Management
- DMS support for example:
  - *Motorola ECL Family* - 5962-87501, 87502, 87503, 87504, 87508, 87512, 87557, 87560, 87561, 87567, 87729
  - *AMD TAXI Family* - 5962-9052701, 9052801
- Radiation Tolerant Shielded Packages
- Millions of units in inventory

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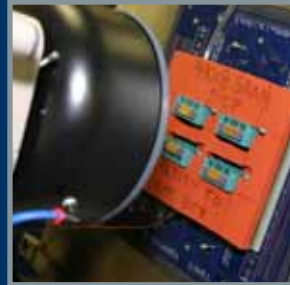
## MEMORY DEVICE CHARACTERIZATION

- -65°C to 150°C & Higher Temperatures
- Bit Map
- Parameter Shmoo
- Average & Standard Development (4-corner Characterization)
- Parameter MARGIN
- ICC's over Temperature & VCC
- DC Parameters (Nano-Amp Precision)
- VCC Functional vs. Temperature
- Special Algorithm (Application Specific)
- Sensitivities or Intermittencies
- Noise Margin Performance
- Data Retention Fail Threshold
- Speed
- Timing Sequence (Race Conditions Concerns)
- New Silicon Design Proof
- COTS / PEMS (Plastic Upscreen)

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## TIMELINE

- 1988:** Company founded and incorporated
- 1988:** Established MIL-I-45208A Quality System
- 1990:** Received Certified Supplier Status for USA Space Shuttle Program from NASA
- 1991:** Received Certified Supplier Status for the USA Space Station FREEDOM Program from NASA
- 1993:** Purchased Micron Semiconductors Military Products Group
- 1994:** Austin Semiconductor, Inc. becomes part of PMC, Inc.
- 1996:** Received QML Certification under MIL-PRF-38535, DSCC Certification No. ELSC-96-049
- 1998:** Received full QML Certification MIL-PRF-38535
- 1999:** Received MIL-PRF-38534 certification
- 1999:** Purchased North Penn Technology and MEG Products
- 1999:** Purchased the Texas Instruments Military Memory Products Line
- 2003:** Received V-Level / Class S assembly flow approval
- 2004:** Purchased SAAT Technology, Ltd. (ASIC Design House)



# QUALITY ASSURANCE

## QUALITY POLICY

To deliver the highest quality products and services on time. We ensure the quality of product and service through our policies and procedures, modeled and compliant to the ISO 9001-2000 Quality System.

## QUALITY SYSTEM

- ❖ All Austin Semiconductor personnel understand and are committed to the corporate policy, providing a confidence level to our customer base.
- ❖ The Quality System is understood and effective.
- ❖ Emphasis of our system is on problem prevention rather than dependence on detection and correction.
- ❖ There is a commitment to a philosophy of continuous improvement.

## CERTIFICATIONS

- ❖ **DSCC QML**
  - ✓ MIL-PRF-38534, CLASS H
  - ✓ MIL-PRF-38535, CLASS Q
  - ✓ MIL-PRF-38535, CLASS V (assembly only)
  - ✓ LABORATORY SUITABILITY
  - ✓ DSCC APPROVED, V-LEVEL
  - ✓ CLASS S MANUFACTURING FLOW
- ❖ **NSTS 5300.4 - NASA safety, reliability, maintainability and quality provisions for the Space Shuttle Program**
- ❖ **SMD, M Level & QD Level**
- ❖ **MIL-STD-883, paragraph 1.2.1**
- ❖ **ISO 9001-2000 Compliant Manufacturing**
- ❖ **Customer Specific, Source Control Drawings (SCD)**
- ❖ **COTS / PEMS Plastic Flow**
- ❖ **JEDEC Standards for Plastic**



## CONTACT INFORMATION

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