



Custom Product Capabilities

Microcross Components (formerly Austin Semiconductor) has loyally served the Military & Hi-Rel custom assembly and test marketplace for over 22 years. Custom support has been the company foundation since its inception, with the philosophy that if it can be defined by the customer, Microcross will support the RFQ.

No semiconductor device is too simple or too complex, as the products supported over the years have spanned from diodes to Giga-bit 800Mhz memory devices. Microcross Components also consistently attends to the special high reliability process and ceramic packaging interest of the satellite and space community.

Microcross has always striven for high quality standards in serving space customers, having achieved class 'V' for MIL-PRF-38535 and currently pursuing Class 'K' for MIL-PRF-38534. In fact, Microcross was the first non-OEM company QML certified by DSCC. This tradition of quality standard has formed the pillars of Microcross success in this unique and special custom marketplace.



Example: Parallel multi-socket test boards used for greater efficiency





QUALITY LEVELS AND PROGRAMS

- DSCC QML
 - MIL-PRF-38534, Class H (Class K in process)
 - MIL-PRF-38535, Class Q
 - MIL-PRF-38535, Class V (assembly only)
 - Laboratory Suitability (MIL-STD-883)
- SMD, Q level and M level
- NSTS 5300.4
- MIL-STD-883, paragraph 1.2.1
- Capabilities for Class S Manufacturing
- AS9100:2004 , ISO 9001:2008 Certified
- Customer specific, Source Control Drawing (SCD)

PRODUCT OFFERING/CAPABILITIES

STANDARD MEMORY PRODUCTS

(Monolithic & Modules)

- SRAM / SSRAM
- DRAM
- SDRAM (SDR, DDR, DDR2)
- nvSRAM
- VRAM
- EEPROM
- FLASH (NOR, NAND, SERIAL)
- FIFO
- Dual-Port RAM
- Solid State Disk (SSD)

CUSTOM PRODUCTS

- Logic SSI to VLSI
 - Gates, Microcontrollers, Bus Controllers, TTL/CMOS/ECL
- Linear / Op Amps
 - Comparators, Voltage Regulators, References, Line Driver/Receivers
- Mixed-Signal
 - DAC's/ADC's, Analog Switches, Multiplexers
- Discretes
 - Diodes/Diode Arrays
 - Transistors/Transistor Arrays
 - MOSFET's /HEXFET's
 - SCR's/Triac's
 - Hall Effect Switches
 - SiC JFETs & Diodes

PACKAGING CAPABILITIES

THROUGH-HOLE

- Metal Can
- Pin Grid Array (PGA)
- Zig-Zag in-line (ZIP)
- Ceramic Dual-In-Line Package (CDIP)

SURFACE MOUNT (SMT)

- Ceramic Leadless Chip Carrier (CLCC)
- Ceramic Flat Pack (FP)
- Ceramic Gull-Wing, Leaded Package
- Ceramic Flatpack (CQFP)
- Plastic, Small-Outline, J-leaded (CSOJ)
- Plastic, Thin Quad Flat Package (TQFP)
- Plastic Ball Grid Array (PBGA)
- Radiation Tolerant Shielded Packages

OTHER PACKAGES PER REQUIREMENT

BUSINESS SERVICES

- Die Banking and Parts Management
- Total Turnkey Manufacturing
- DMS / Obsolescence support
- Flexible, Personalized Customer Support



ENGINEERING & ANALYTICAL SERVICES

- Component, Evaluation and Qualification
- Package and Sub-assembly Design
- Device Characterization
- Infant Mortality Testing
- Sonoscan (CSAM), X-Ray
- Stud Pull, Bond Pull
- Moisture Resistance
- Steam Age/Solderability
- Salt Spray
- Thermal Shock/ Thermal Analysis
- PIND
- Lead Failure
- Temperature Cycling
- Hermetic Testing
- SPC, Technical Support
- SEM Inspection
- Centrifuge
- Mechanical Shock and Vibration

DOMESTIC TEST & MANUFACTURING

- Full Temperature Up-Screening
- Testing for:
 - Memory, Mixed Signal, LSI / VLSI, Linear, Logic, ASICs, RF, Discretes

TEST EQUIPMENT

- Mixed Signal LTX Credence D10
- Memory Test - Teradyne J937 and J997
- Linear Test Systems LTX TS80
- Semitek Discrete Test System
- Sentry 7 & 21 Digital Test Systems
- ECL Test System
- Delta Flex Pick & Place Handlers
- Symtek Handlers - X1& X4
- Temptronics Temperature Forcing Systems
-65°C to +150°C capability
- Sophisticated Automated Bench Tester

FULL STATIC/DYNAMIC BURN-IN

- Burn-in Boards in Stock
- Convection Ovens
- Static & Dynamic Wakefield Chambers
- AMBYX Memory, Large Capacity Ovens
- AEHR's Ovens



DOMESTIC ASSEMBLY

- Multi-chip Module / Monolithic
- Three Clean Rooms
 - Class 100
 - Class 1000
 - Class 100,000
- Die Material - Silicon, SOS, GaAs, SiC
- Wafer Processing
 - Disco Dicing equipment
 - Cut range up to 8" or 250mm sq.
 - Die sorting – automatic pick and place
 - Wafer maps converted/uploaded to ALPS for binning, sorting to gel pack, waffle pack, or directly packaged
- Automatic Die Attach - JM7000
 - Eutectic
 - Epoxy
 - Solder
- Auto/Manual Wire Bonding
 - K&S and F&K Delvotec automatic wire bonders
 - 0.7 to 3.0 mil Aluminum Ultrasonic
 - 0.7 to 2.0 mil Gold Thermo sonic
- Bond Pull –Destruct / Non Destruct
- Hermetic Seal
 - Gold-tin eutectic solder reflow
 - Parallel Seam Seal
 - Resistance welding – T0 packages
 - Glass frit seal
- Solder Re-flow
- Vacuum Bake
- Lead Trim/Form

PREVIOUS CUSTOM PRODUCTS BY MICROSS

For over 22 years, Micross has manufactured over 2,500 different custom products, for hundreds of customers, in the Hi-Rel / Military and Aerospace market. These products span a broad range of different types of electronic components and many types of packages.

The products listed below are a small representation of the complete custom products list manufactured by Micross. Although many of these products have long since passed, they have given Micross vast experience and capability, which are traits that exalt confidence in handling any custom requirement.

Discrete Diode Diode Array Diode Bridge FET Array FET Transistor Hall Effect Switch IGBT Transistor JFET Transistor MOSFET Transistor MOSFET Transistor Array Optocoupler Optocoupler/Transistor Power MOSFET Transistor Transistor Array	Linear RF Op-Amp Analog Gate Analog Switch Current Amp Current Buffer D/A Converter Four Quadrant Multiplier IF Op-Amp IF-AMP Instrumentation Amp Log-Amp Modulator/Demodulator Op-Amp Phase Decoder Phase Locked Loop RF/IF Op-Amp RMS Sensor Sample and Hold Amp VCO Video Amp Voltage Comparator Voltage Converter Voltage Follower Voltage Reference Voltage Regulator	Special Function Data Synchronizer Avionic Receiver-Transmitter Cache Tag RAM Checker/Generator Clock Generator Compactor Cristal Controlled Oscillator Data Synchronizer DC-DC Converter Divider Four Phase Clock Driver Freq. To Digital Converter Function Generator GaAs Switch HD path controller Log Adder Manchester Encoder/Decoder Motor Driver Nuclear Event Detector Phase-Freq. Detector Power Seq. Program control unit RAM I/O Timer RTC -CMOS Supply Voltage Supervisor System Timing Controller Temperature sensor Timer Tri-Quint Counter Voltage Supervisor Voltage to Freq. Converter
Interface Analog MUX Analog Switch Clock Driver Decoder/Counter Driver LED Driver Line Driver Line Driver/Receiver Line Receiver Linear Driver Logic Level Driver MOSFET Driver Motor Controller Multiplexer Peripheral Driver Power Driver Power Supply Supervisory Pulse Width Modulator Serial Adapter TAXI chip Timer Special function Interface Driver Multiplexer Transceiver	Memory DRAM Dual-Port Ram ECL RAM EEPROM EPLD UVEPROM FIFO Module Nonvolatile RAM PROM Puma Module SRAM, SSRAM SDRAM, DDR, DDRII VRAM	
Logic ASIC BI-Bus Transceiver BICMOS CMOS DTL ECL FPGA PLD Serial Adapter Shift Register TTL (L, LS, AS, S, H, etc.)	Mixed Signal A/D Converter Controller D/A Converter Disk Pulse Detector	
	VLSI 4 bit Slice Microprocessor DMA Address Generator Dual-Rate Demodulator FFT Processor LAN Controller 8 & 16 Bit Microcontrollers Peripherals SCSI Controller Vector Signal Processor	




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