



Aerospace & Defense

Hi-Rel Market Solutions



Micross is uniquely positioned to provide unparalleled high-reliability solutions, from bare die, to fully packaged devices including ICs, hybrids & PCBs, to complete program life-cycle sustainment.



micross

one source. one solution.®

HI-REL MICROELECTRONICS

Control, Communications & RF Sensors

- GaN Power Amplifiers
- Switches
- Attenuators
- Low Noise Amplifiers
- Dedicated RF Communications
- Various Serial Communications Protocols
- Integrated Phased Array Antenna Electronics

Optimized Microelectronics

- Advanced Hi-Rel Packaging & Integration
- PEMS Upscreening & Qualification
- 2.5/3D Heterogeneous Integration
- Component Modification: RHSD, BGA Reballing, CGA Attach

Power Control & Battery Management

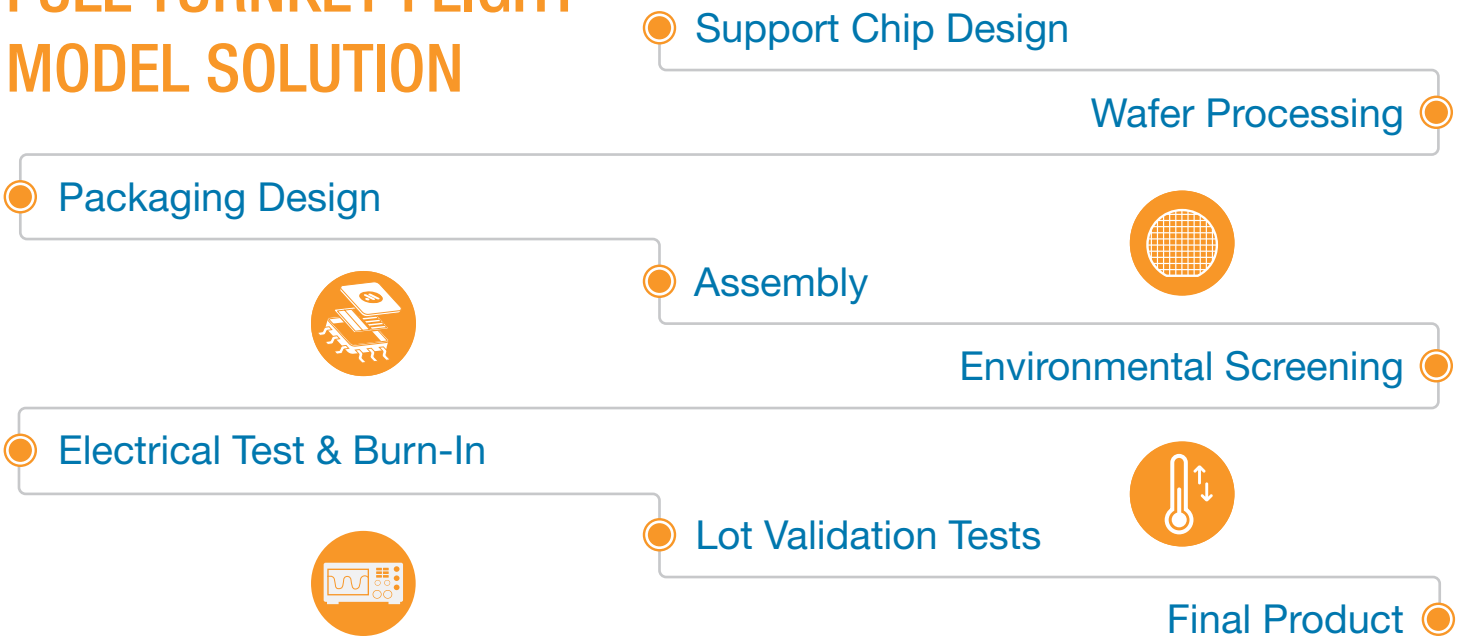
- DC-DC Hybrid Power Modules
- Custom DC-DC PCB Power Solutions
- JANS Diodes
- Hi-Rel Hermetic Packaging
- Switching Regulators

Data Processing & Networking

- Discrete Logic, MRAM, Analog Building Blocks & Power Modules
- MIL-STD-1553 Data Bus Couplers
- Harness Assemblies
- Optical Transceivers



FULL TURNKEY FLIGHT MODEL SOLUTION



45+ YEARS SERVING INDUSTRY LEADERS
SUPPORTING MISSION CRITICAL PLATFORMS



PAC-3 • THAAD • MIM-104 Patriot • AIM-120 AMRAAM • AIM-7 Sparow
FGM-148 Javelin • FIM-92 Stinger • AH-64 Apache • F-35 Lightning II
F-22 Raptor • F-18 Hornet



Distribution

Largest Franchised Offering of Bare Die & Wafer

Complete Line Card at micross.com/die-distribution



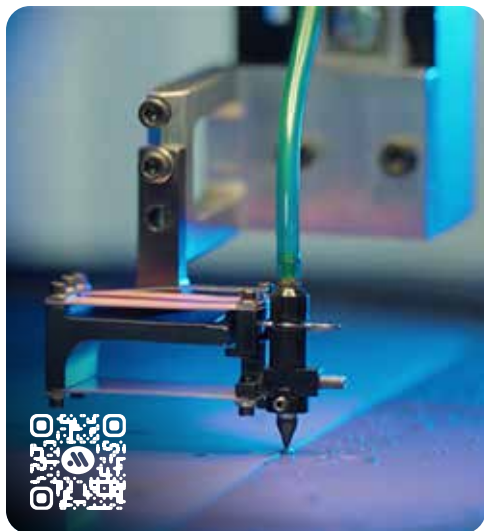
Hi-Rel ICs & Components

QML Certified Supplier

micross.com/hi-rel-ics-components

Micross is certified to MIL-PRF-38535 Class Q & V and MIL-PRF-38534 Class H, with over 1,800 SMD part numbers.

- Memory: STT-MRAM, SDRAM, DDR2, DDR3, EPROM...
- MIL-STD-1553 Data Bus
- Logic Devices
- Optocouplers
- Analog
- GaN, SiC, Power Devices
- Component Distribution



Wafer Processing

One Source for You Bare Die & Wafer Needs

micross.com/wafer-processing

Micross is the largest worldwide value-added bare die processor with a comprehensive array of capabilities to fully process wafers, including;

- Wafer Probe
- Wafer Bumping & RDL
- Wafer Mapping / Wafer Inking
- Wafer Thinning
- Wafer Dicing / Sawing
- Die Plating / Pick & Place
- Visual Inspection
- Customized Outputs



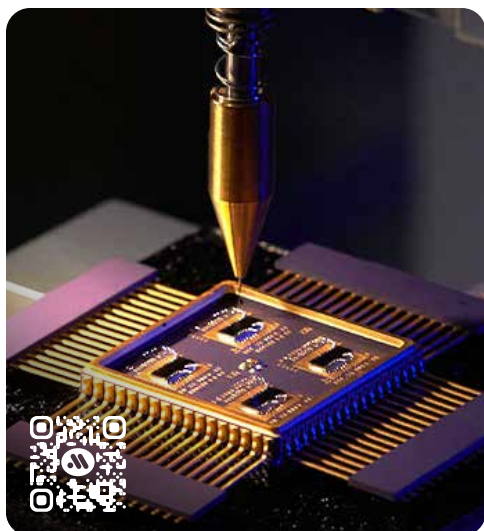
DC-DC Power Conversion

Leader in Power Management Solutions

micross.com/hi-rel-power-solutions

Our standard and radiation-hardened converters are at the heart of systems powering mankind's most mission critical applications.

- MIL-PRF-38534 Class K Hermetic Hybrid DC-DC Converters: 5W - 120W
- MIL-PRF-38534 Class H Hermetic Hybrid DC-DC Converters: 5W - 20W
- Space-Grade Custom Board Based DC-DC Converters: 5W - 400W
- MIL-PRF-38534 EMI Filters



Packaging & Assembly

Complete Packaging & Adv. Assembly Solutions

micross.com/component-design-packaging

Micross has the industries broadest range of formats and technologies with complete test capabilities.

- Ceramic 400/600 mil DIP
- Small Outline J-Lead
- 2 and 4-Sided LCC
- Zig-Zag
- Gull-Wing
- Ceramic Quad Flat Pack
- Ceramic Pin Grid Array
- Flat Pack
- Formed Lead Flat Pack
- Metal Can



RF & Microwave

Streamline Development & Reduce Risk

micross.com/hi-rel-rf-solutions

Over 20 years of custom and COTS RF & microwave solutions for space... with zero flight failures!

- Switches: GaAs, PIN, SPSI through SP8I Available with Driver
- Amplifiers: LNAs, Driver Amplifiers, & Power Amplifiers in GaAs or GaN
- Attenuators: VVAs or DSAs With or Without Driver
- Frequency Conversion: Vector Modulators, Frequency Multipliers



Diodes & ISOPAC® Assemblies

Hermetic, Non-Cavity, Double-Plug Construction

micross.com/hi-rel-diodes

Micross designs and manufactures discrete power products in axial and surface-mount packages, as well as custom assemblies.

- Zener Diodes: Power Ratings of 1.5W and 5W
- Rectifier Diodes: JANS Standard, Fast & Ultrafast Recovery
- TVS Diodes: JANS, Power Ratings of 500W and 1500W
- Schottky Diodes: JANS, 40V, 3A



Testing & Qualification

Meeting Critical Program Requirements

micross.com/silicon-turnkey-solutions

Our core engineering and manufacturing strengths provide advanced solutions in environmental, electrical test and specialty packaging.

- Component and Board Test/Inspection & Qualification
- RF & Digital, Electrical & Environmental Testing
- Burn-In & Mechanical Reliability Testing
- Wafer Probe and Turnkey Test & Device Characterization
- Complete PEMS/COTS Upscreening & Qualification



Premier Counterfeit Mitigation

AS6081 & AS6171 Component Validation

micross.com/counterfeit-mitigation-testing

Complete testing as fast as 3 days – screening components in accordance with defined government & industry standards, and custom requirements.

- Documentation
- Physical Properties
- Internal (Non-Destructive)
- Spectroscopy
- Mark Permanency
- Internal (Destructive)
- Solderability
- Electrical Performance



Component Modification

Best-in-Class Proprietary Processes

micross.com/component-modification

From pioneering RHSD in 1984, Micross remains the leader as the one source solution for component services. Turnkey & SMI available.

- Robotic Hot Solder Dip (RHSD)
- BGA Reballing
- Tin Whisker Elimination & Gold Embrittlement Mitigation
- Lead Attach, Trim, Form, and Reconditioning
- CGA Attach – Mitigate the Effects of CTE Mismatch, Shock & Vibration



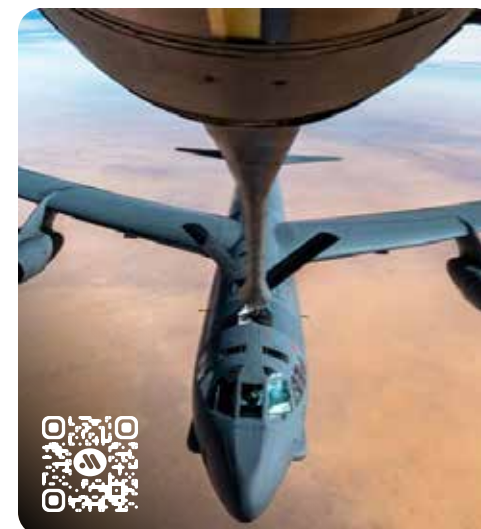
Adv. Packaging & Integration

DMEA Trusted Source: Post CMOS Processing

micross.com/adv-interconnect-technologies

Micross AIT offers advanced packaging and 3D integration solutions that enable higher performance systems with decreased SWaP.

- 300mm Wafer Processing Capabilities
- 2.5 & 3D Heterogeneous Integration
- Through-Silicon Vias (TSV)
- Si Redistribution Layers (RDL)
- Wafer Bumping & Wafer Level Packaging
- Novel Microfabrications & MEMS



EOL/DMSMS Sustainment

From Initial Production through Post-EOL

micross.com/eol-dmsms-sustainment

Extend program life beyond product life cycle end-of-life (EOL) obsolescence.

- Original Qualified Products
- Product Recreation
- Form-Fit-Function Equivalent
- BOM Monitoring & Reporting
- Supplier Managed Inventory

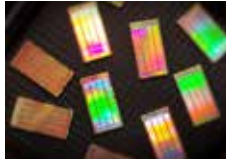
One Source. One Solution.

NORTH AMERICA



Apopka, FL

Die & Hi-Rel Components



Woburn, MA

Die Express



San Jose, CA

Hi-Rel Power Solutions



Sunrise, FL

Data Bus Products



Raleigh, NC

Adv. Interconnect Technology



Milpitas, CA

Silicon Turnkey Solutions



Shirley, MA

RF & Microwave Solutions



Reynosa, MX

Hi-Rel Diodes



Clearwater, FL

Counterfeit Mitigation Testing



Manchester, NH

Component Modification



Round Rock, TX

Component Modification



Melville, NY

Headquarters

EMEA & APAC



Norwich, UK

Die & Wafer Solutions



Portchester, UK

Hi-Rel Components



Herlev, DK

Hi-Rel Power Solutions



Crewe, UK

Component Modification



Portsmouth, UK

Hi-Rel Components

Engineering & Program Management Support

Micross' Highly Experienced Global Field Sales, and Expert Engineering Teams Provide Complete Application Support from Design Specification to Post-Production Sustainment and Program Management.

About Micross

Micross is the most complete provider of advanced microelectronic services and component, die and wafer solutions. With the broadest authorized access to die & wafer suppliers, an extensive portfolio of hi-rel power, RF, optoelectronics, memory, data bus, logic, and SMD/5962 qualified products, and the most comprehensive advanced packaging, assembly, modification, upscreening, and test capabilities, Micross is uniquely positioned to provide unparalleled high-reliability solutions, from bare die, to fully packaged devices including hermetic ICs/MCMs, PEMs, ASICs, FPGAs, and PCBs, to complete program life-cycle sustainment. For more than 45 years, Micross has been a trusted source for the aerospace, defense, space, medical, energy, communications, and industrial markets.



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