

R³D Solutions

Robinson & Robinson Research and Development, LLC

MOTS Component Design • Custom Projects • Subcontracting • Environmental Testing



Products and Services

- **Market-ready products including:**
 - Solid-state circuit breakers (proj. avail. 3 Qtr '09)
 - Switches (proj. avail. 2 Qtr. '10)
- **Custom alteration/redesign of our existing products**
- **Contract services including:**
 - Electronics Design - Modeling
 - Prototyping - Thermal cycling
 - PCB layout, etching, assembly, and testing
 - Typical Deliverables

Testing reports and analysis
Circuit Schematics and PCB Layouts
Bill of Materials
Specification Reports

Our relationships with mechanical engineering firms allow us to work with you from your work order specifications to your final production package. We can also obtain quotes for high-rate manufacturing as needed.



Thermal Gradient Test with Dry Ice

Other Capital Equipment

- Non-ferrous electric foundry with 3 ft² capacity (up to 1000°C)
- Additional equipment to allow pouring hot metal (up to 60lbs aluminum)
- Xilinx programmer
- Xeltec universal programmer
- Photographic Transfer process for etching PCB boards (prototype numbers)
- Room and Resources available for expansion of capability
- CNC milling machine
- PCB etching tanks



Example of the capability to analyze a failed part after thermal cycling through mil-spec range

Key Capabilities

- Design of military standard (MIL-STD 810F) circuits
- Environmental testing and failure analysis of circuits over mil. spec. temp. ranges
- Automated testing equipment including robotic arm (Seiko D-TRAN TT8010) and thermal shock chamber (BEMCO -100C to +350C, 4.9 ft³)
- Modeling of electrical components from -72°C to 150°C using proprietary modeler developed with physical data
- Temperature sensing and data logging using custom-made platinum RSTs
- ESD-protective workstations

Our Experience

- Deployment of system into wartime theater
 - Experience with USMC, and Army Logistics
 - Experience installing units in Iraq
 - Experience repairing systems in Iraq
- Over 2 decades of design experience including:
 - CNC Drives and Controllers
 - Solid State Circuit Breakers
 - Integration Engineering of assorted proprietary interfaces