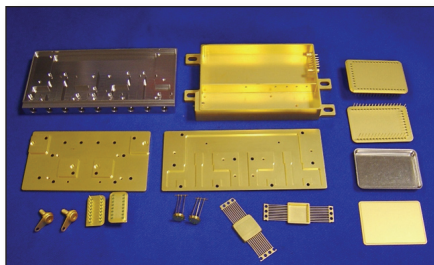


Products

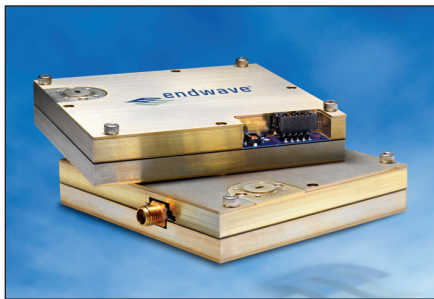
Hermetic microelectronic packages



CPS Technologies offers hermetic microelectronic packages. Made from materials such as Kovar, aluminum and steel, the hermetic microelectronic packages enable communications for the military, electronics, satellite and aerospace markets. CPS will supply and assemble aluminum silicon carbide (AlSiC) components for use in hermetic microelectronic packages. The company operates in a vertically integrated 38,000-square-foot manufacturing facility that is certified to ISO:9001:2000. Providing quality assurance testing to MIL-STD 883 and MIL-STD 202, CPS is compliant to DFARS clause 252.225-7014 ALT.1. Test and plating capabilities include electrolytic nickel per QQ-N-290 and ASTM B-689, electroless nickel per Mil-C-26074E and ASTM B-733, and gold per ASTM B-488 and Mil-G-45205C.

CPS Technologies
(508) 222-0614
www.alsic.com

E-band Tx/Rx modules



Endwave's transmit-receive module pair operates over the E-band frequency spectrum from 71 GHz to 86 GHz. These modules enable broadband point-to-point radios to carry voice and data traffic at multigigabit-per-second rates.

The performance of the transmit module includes a conversion gain of 15 dB and an output power of 16 dBm, with an integrated power detector on the Tx output. The E-band receiver provides a NF of 9 dB, better than 25 dB of RF-to-IF conversion gain, and an input P1dB of -25 dBm. Separate models cover

the 71 GHz to 76 GHz and 81 GHz to 86 GHz operating bands.

Both Tx and Rx use an MLMS subharmonic mixer topology that provides a single level of conversion direct from E-band to IF. The E-band MLMS mixer design provides functionality and performance that is not available in MMIC format today. This architecture reduces the cost of the local oscillator circuit chain relative to the costs of comparable fundamental mixer approaches.

These E-band Tx/Rx modules are the first to employ MLMS and Epsilon packaging technologies in a single RF subsystem solution. These innovations facilitate small size and low cost, and demonstrate the viability of these technologies in applications from low RF frequencies to more than 100 GHz.

Epsilon enables mixed chip-on-board and SMT on a single-printed circuit structure. MLMS passive circuitry includes filters, couplers and W/G probes. The unit uses a subharmonically pumped Tx/Rx architecture and supports modulation formats ranging from on/off keying to 16 QAM modulation. It includes closed-loop AGC on the Tx output (up to 10 dB range), and an onboard microcontroller for software-controlled compensation.

Endwave
(408) 522-3100
www.endwave.com

Expanded real-time applications platform hosting

Real Time Innovations (RTI) development tools suite for distributed real-time applications is now hosted on the Eclipse platform. This move provides the advantages of Eclipse integration for building and integrating distributed applications using RTI data distribution service (DDS).

The platform provides an infrastructure that gives software tools the ability to plug in and share common services. Services such as dynamic data sharing between tools, source-code control and editing make it possible to employ common activities across a range of tools. Eclipse plug-ins share a common look and feel, providing the experience of an integrated environment.

Eclipse enables development teams to customize the environment with tools and layouts that focus on specific types of projects. Thousands of plug-ins are available.

The RTI developer platform includes the analyzer, which is integrated into Eclipse. The analyzer provides a dynamic, object-based view of an active RTI system from a node and data-topic perspective. Development teams can visualize system behavior and identify bugs and incorrect system configurations. In addition to viewing a system in real

time, the analyzer can save snapshots of a system's state and compare and visualize the differences between snapshots. This is useful during development or regression testing.

The developer platform simplifies the challenge of developing and integrating complex, high-performance distributed systems. The suite targets a development environment based on the open-standard DDS for building large and distributed real-time applications.

The developer platform is available for Microsoft Windows, Linux and Sun Solaris hosts. Pricing begins at \$11,995 for three developers and includes one year of maintenance and support.

Real Time Innovations
(408) 200-4700
www.rti.com

High-power terahertz system

Advanced Photonix's Picometrix division has introduced its fourth-generation terahertz system. The T-Ray 4000 is a time-domain terahertz instrumentation and is targeted at the application research and off-line quality control markets. The system weighs approximately 55 pounds and is the size of a briefcase.

The heart of the T-Ray 4000 is the pulsed terahertz controller. The controller is a full-featured, self-contained time-domain terahertz (TD-THz) engine. It condenses all of the capability of a large TD-THz system into a single compact instrument.

It is available with expandable, multiple THz channels, which enables it to make multiple simultaneous measurements. The fiber-coupled terahertz sensors enable the user to easily reconfigure the system to do transmission or reflection measurements, to translate the sensors to generate images and gather spectroscopic information, or to switch sensors to fit the application being researched. The technology to generate and detect terahertz pulses is automatic and portable.

Advanced Photonix
(805) 987-0146
www.advancedphotonix.com

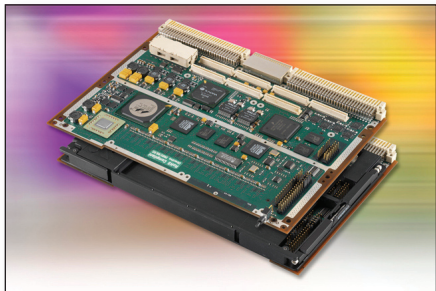
Design guide for flexible heaters

Minco's heaters design guide is intended to steer design engineers from the initial concept to the end application, and to provide a repeatable design process checklist for integrating flexible heaters into their designs on a regular basis. The guide provides step-by-step information on how flexible heaters work, choosing a heater for prototyping, and deciding on a long-term heating solution. Detailed information on hundreds of stock and standard heaters is available for experimentation and proof-of-concept testing, along with options for temperature sensors and controllers for

a complete thermal solution. Obtain a hard copy or download a copy of the design guide at www.minco.com/literature.

Minco
(763) 571-3121
www.minco.com

Single-board computer



GE Fanuc Embedded Systems' EP2A 6U VME single-board computer is the latest in the EmPower family. Featuring a Free-scale PowerPC MPC7448 processor and 1 GB of DDR SDRAM, the EP2A includes the Marvell Discovery V integrated system controller. The EP2A offers an I/O set with its four HDLC-capable serial ports (enabled by a PowerQUICC 2 device) complementing its Gigabit Ethernet, USB and GPIO capabilities. Flexibility is achieved by two PMC sites as well as an additional flexible interface Xtension (AFIX) card site that allows custom functionality to be added to the board at minimum cost and time.

The unit is designed for the defense and aerospace market and applications such as mission computing and embedded communications. Its two PMC sites and single AFIX site can be employed simultaneously without sharing I/O pins with the onboard I/O features. AFIX cards are available that support dual MIL-STD-1553B interfaces, SCSI, graphics and flash memory modules, and customer-specific versions. The fast HDLC-capable serial channels and Gigabit Ethernet ports make the EP2A suited to communications-oriented embedded computing applications.

Available in five air- and conduction-cooled environmental levels, the EP2A is supported by deployed test software (BIT and BCS) and BSPs for VxWorks from Wind River Systems, LynxOS from LynuxWorks and Integrity from Green Hills Software.

GE Fanuc Embedded Systems
(800) 368-2738
www.gefanucembedded.com

Hot mirrors with spectral blocking

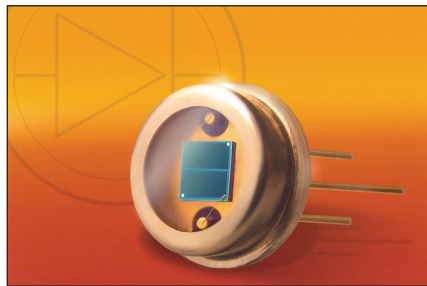
Deposition Sciences HeatBuster Xenon and HeatBuster UV Xenon hot mirror filters are designed to work with xenon lamps and

feature enhanced blocking in the spectral band between 800 nm and 950 nm where the heat output from the lamp is greatest. Developed to withstand heat efficiently and provide high durability, both filters have high transmission in the visible spectrum, while HeatBuster UV Xenon transmits the UV portion of the spectrum down to 340 nm.

The filter is ideal for use at the exit of a xenon lamp to protect downstream components from the heat and UV from the lamp. HeatBuster Xenon can also be used as a filter for a CMOS chip. Blocking background UV and near-IR, the filter is useful in many UV curing systems and biofluorescence applications. The filter blocks the infrared heat of the source and allows the fluorescence and curing wavelengths of the spectrum to pass through. These coatings are extremely stable over temperature and humidity changes, meeting the abrasion, adhesion, humidity and salt fog tests of MIL-C-675 standards.

Deposition Sciences
(707) 573-6785
www.depisci.com

Bi-cell photodiode



Opto Diode's ODD-3W-2 bi-cell photodiode is a low noise, 3 mm x 3 mm bi-cell detector that features high spectral response of 0.55 A/W at 900 nm and high shunt resistance at 250 M Ω , minimum. The chip dimensions are 0.100 in. x 0.48 in. (per element), packaged in standard TO-5 cans for easy integration. The bi-cell photodiodes are ideal for position-sensing applications, emitter alignment, test and measurement and other industrial tasks where single-axis nulling is required. Operating temperature is from -40 °C to +125 °C. The detector is priced at \$15 each in quantities of 100 pieces.

Opto Diode
(805) 499-0335
www.optodiode.com

Source code analysis suite

Coverity has introduced features and updates to Coverity Prevent designed to help Windows developers produce high-quality, secure software. Coverity developed defect checkers for its flagship product to enhance

analysis of Windows applications and detect programming errors that could cause system crashes and memory leaks due to COM-related mistakes. By leveraging the analysis engines, the checkers cover 100% of software paths and accurately pinpoint defects. This release is important to Windows developers faced with building COM-based distributed systems where the complexity can be an order of magnitude higher, and the task of finding defects with manual procedures can take months.

New checkers include capabilities to detect incorrect type conversions, incorrect usage of wrapper classes, and reference counting mistakes. The checkers can scale to quickly analyze tens of millions of lines of code on a daily basis and have high accuracy rates with low false positive results. Enhancements to Prevent's understanding of standard Windows libraries allow checkers to find even more high-value defects in code written on the Windows platform.

Prevents works with a range of operating systems and compilers. The company offers support for eight operating systems, including Linux, Mac OS X, and Solaris. Coverity Prevent can be integrated with 15 different compilers, including GCC, Intel compiler for C/C++, and Wind River Diab compiler.

Coverity
(415) 321-5200
www.coverity.com

Hard real-time development environment

PERC Pico technology from **Aonix** is a development environment for Java developers to create resource-constrained and embedded hard real-time applications and components. PERC Pico is designed to solve problems for projects including avionics, satellites, deep space probes, radio communications, telecom, weapons systems, and flight surface controls.

PERC Pico offers deterministic response times in the low microseconds, the ability to directly access low-level hardware devices, and memory requirements as low as 256 kB.

Designed as a profile of the RTSJ, PERC Pico can be used in a stand-alone configuration on bare target boards or with an RTOS kernel where footprint and execution speed are at a premium.

PERC Pico 1.0 is available for Linux/x86 platforms and is portable to all major processor architectures for RTOS and bare-board platforms. The development tools are available with flat project-based pricing starting at \$25,000 for an unlimited number of developers.

Aonix
(800) 972-6649
www.aonix.com