



Electronic Products

A Douglas Electrical Components Company

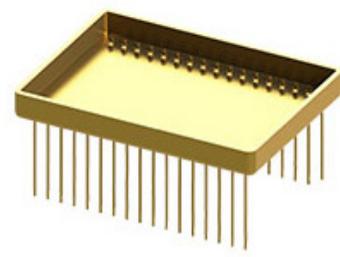
MICROELECTRONIC SOLUTIONS

THE WHOLE PACKAGE

Electronic Products (EPI) is an expert designer and manufacturer of hermetic microelectronic package solutions. EPI specializes in powder-to-package, high temperature co-fired ceramic (HTCC) packages and glass-to-metal seals. This ensures reliable power, signal, and optical transmission for a variety of applications.

Our goal is to deliver turnkey, custom-designed and standard microelectronic packages for multiple industries. In aerospace and defense applications, EPI manufactures microelectronic hermetic packages for applications including communication systems, guidance/navigation/radar, optics, and more. Our microelectronic packages are also common in industrial applications with harsh environments including space satellites, oil and gas instrumentation, process controls, and medical diagnostic equipment.

Partner with EPI to design a hermetic package solution that leads to optimal performance of your application. Our broad range of sealing methods, plating materials, and proprietary processes allow for a combination of specialized hermetic feedthroughs for challenging environments.



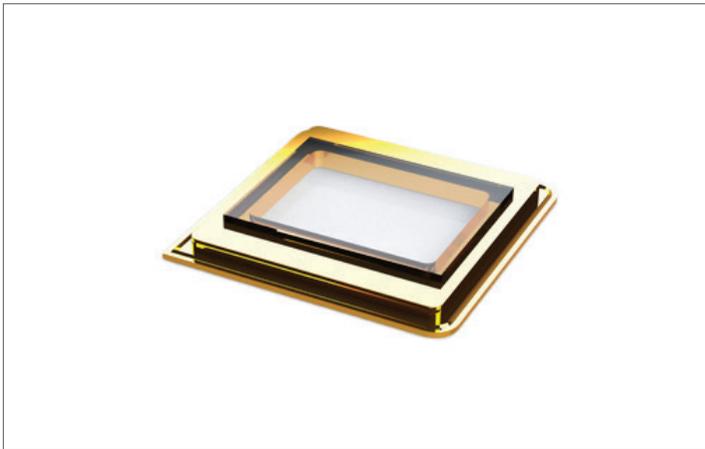
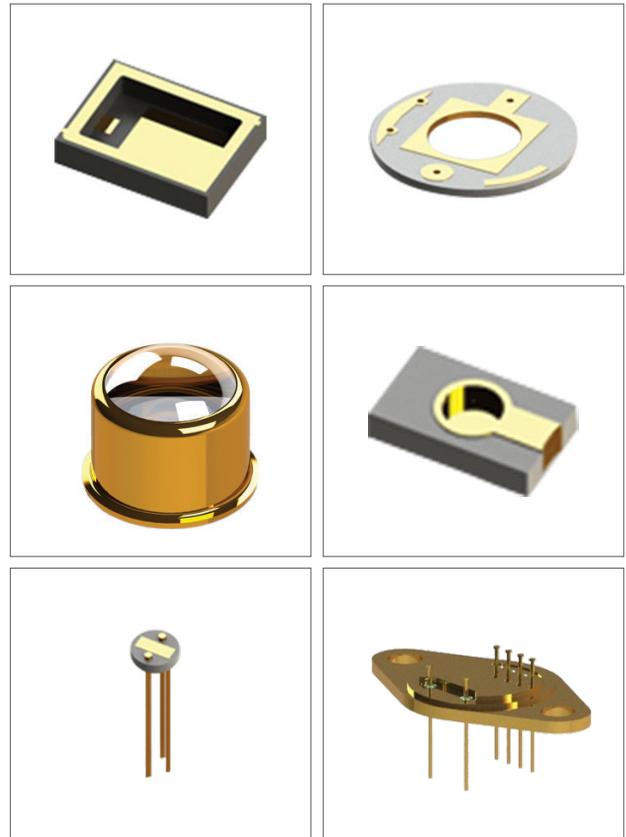
OPTICAL

EPI is your resource for a variety of optoelectronics packages. Our in-house capabilities and design expertise allow you the freedom to choose from any one of several standard optical package designs or choose to have us design a unique package for your custom optical device application.

We make some of the smallest footprint, hermetic, ceramic-based Pill packages for VCSEL, LEDs, and a variety of sensing elements, and we also design and manufacture large, multilayer, high I/O, Aluminum Nitride (AlN) based substrates for the most demanding focal plane arrays.

Our area of expertise includes ceramic-based optical TO-header packages that enable more complex circuit patterns than standard glass-to-metal seals.

- TO Headers
- ICs
- VCSEL
- LED
- Sensors
- Substrates
- Windows
- Lenses



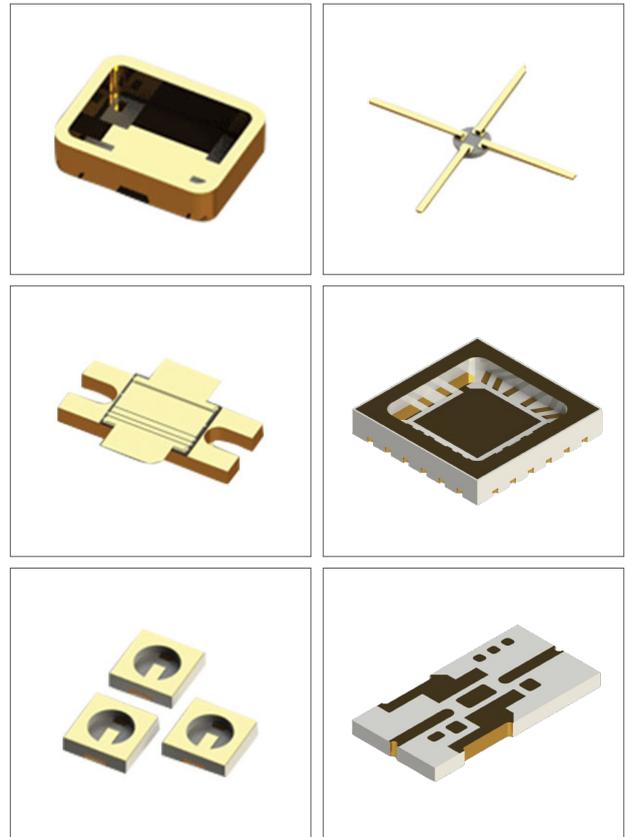
RF/MICROWAVE

EPI provides both high-performance custom RF and microwave electronics packages based on your unique applications, as well as a variety of industry standard packages. Our packages are in use today in a variety of high-level programs throughout the military, aerospace, satellite communications, and commercial wireless and instrumentation industries in applications such as electronic warfare, radar, uplink/downlink systems, and military communication networks, as well as in medical radiography, police radar, and radio astronomy.

Our complete in-house Alumina (Al_2O_3) and Aluminum Nitride (AlN) ceramic processing capabilities and design expertise allows us the flexibility to be able to tackle any RF and microwave packaging challenge you might have.

We are also your source for legacy ceramic packages that may have been discontinued or deemed obsolete by other RF and microwave package manufacturers.

- TO Headers
- Diodes (incl. MELF)
- MMICs
- Hermetic Components
- Hybrids
- Surface Mount (SMT) Devices
- RF and Microwave Power
- Substrates
- Connectors
- Feedthroughs
- Chassis
- Shrouds
- Covers
- Lids



POWER SEMICONDUCTOR

EPI has decades of experience providing semiconductor packaging for applications such as industrial power, medical, oil exploration, propulsion systems, satellites, energy storage, and directed energy.

Electronic Products offers AlN High Temperature Co-Fired Ceramic packaging technology for high power densities. Our AlN HTCC can be used in both high current and high voltage applications. We can provide compact 3D packages or chip scale interposers for Si, GaN, SiC or other high power substrate materials.

High Temperature Co-Fired Ceramic (HTCC) multilayer AlN circuits fired at 1800+°C are a fully dense hermetic structure that provides a low Co-Efficient of Thermal Expansion (CTE) perfectly matched with Tungsten and Silicon. The tungsten metallization can be plated to match the end use and can also be brazed at high temperature to allow the attachment of leads, seal rings, or other metal components.

- High Temperature Co-fired Ceramic for Single and Multi-layer Circuits
- Interposers
- Thermal Bridges
- SMD Packages



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