



**Addressing functionality, space, weight and cost concerns, Molex delivers MID/LDS 3-D selective trace solutions, providing engineering and manufacturing expertise to create customized, miniaturized connectors, antennas, sensors and more**

## 3-D Custom Circuitry with MID/LDS Technology

Laser Directed Structuring (LDS)/  
Molded Interconnect Device (MID) Custom Capabilities

### Features and Benefits

Selective circuits on an injection molded plastic design and manufacturing

Enable production of 3-D interconnect packaging, integrating both electrical and mechanical designs into a single molded device for significant space savings over traditional technologies like PCB, flex circuit and insert molding. Reduce components, processes and are easy to prototype. Scalable from small- to large-volume production quantities. Cost-effective in total applied value

Circuitry can be imaged with a three-axis laser on a variety of RoHS-compliant plastics with pattern modification

Enables multi-function features, including circuit vias, switch pads, sensors, or even antennas. Excellent for miniaturization strategies. Fine pitch capability down to 0.10mm gap and trace width. Ultra-fine-pitch capability down to 0.06mm gap and trace width in development

Comprehensive manufacturing base and streamlined supply-chain for design, manufacturing, testing and quality control

Provides for a simplified supply chain to the customer for any complex MID/LDS assembly through vendor reduction, 3rd party margin reduction, and shortened supply chain

Wide array of high-temperature RoHS-compliant plastics

Allows for soldering of electronic components (such as integrated chips (IC's), capacitors, inductors, etc.) directly to the selective plating on the plastic. Ideal for SMT applications to meet specific mechanical requirements

Insert- and over-molding capability

Enables additional built-in features to reduce weight and increase functionality

Powder coating available on metal castings and stampings that require a metal base

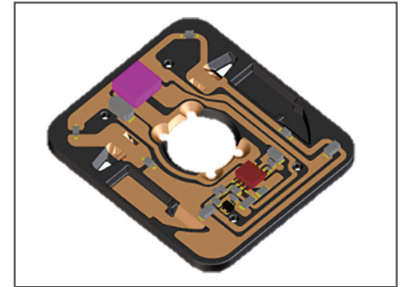
Provides an ideal technology for applications that require heat sinks or a metal base

Plastic laser or ultrasonic welding

Increases assembly functionality; decreases weight and assembly cost

Wire bonding available to connect ICs with LDS circuit traces

Increases the electronic capabilities for an LDS assembly



MID/LDS PCB Assembly



### Applications

#### Automotive Transportation

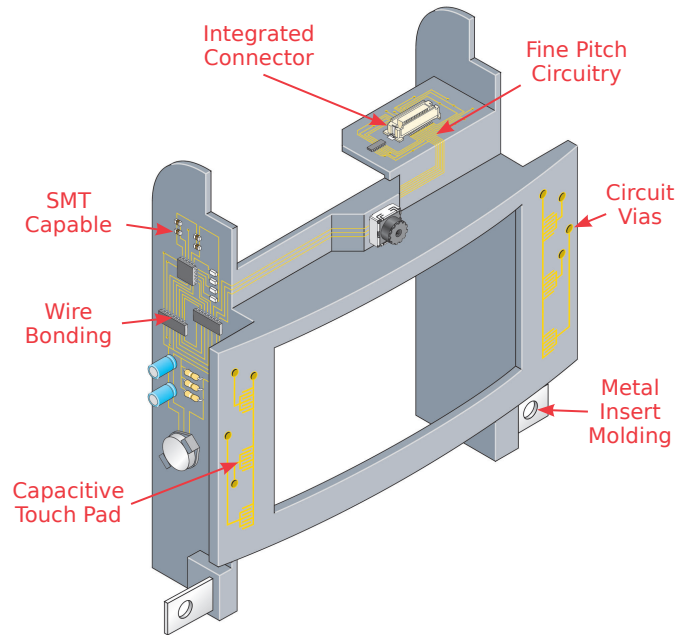
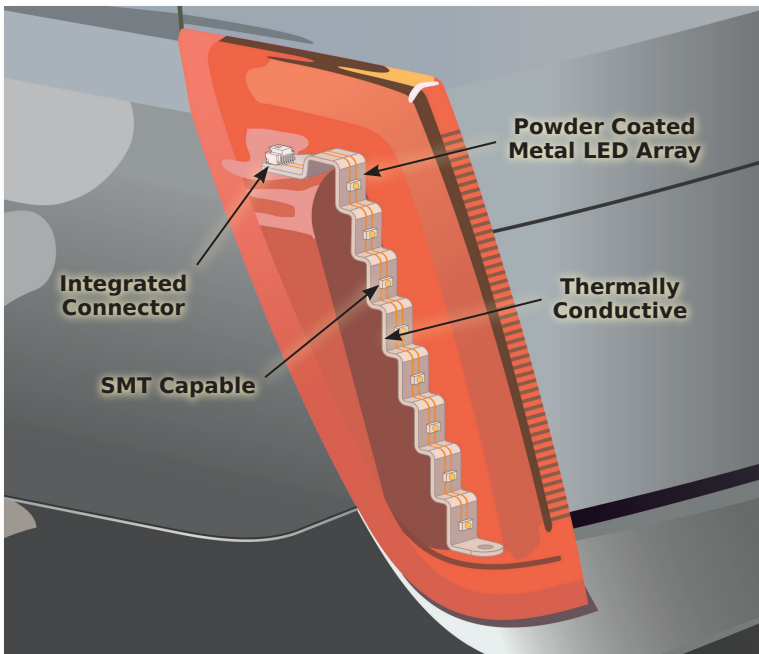
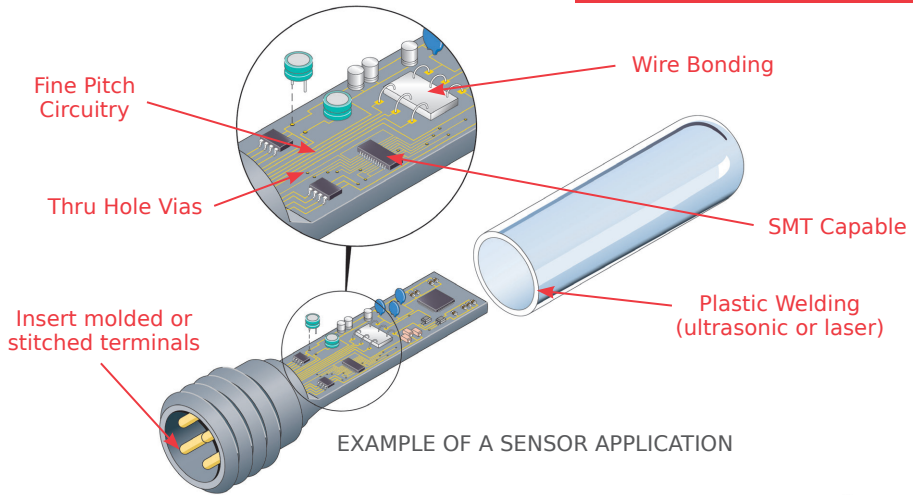
- Sensors
- Antennas
- Lighting

#### Industrial

- Sensors
- Lighting
- Antenna

#### Medical

- Blood Glucose Meter
- Home Healthcare Telemetry
- Telehelath
- Catheter Interface
- Pulse Oximetry Sensors
- Hearing Aids
- RFID Solutions



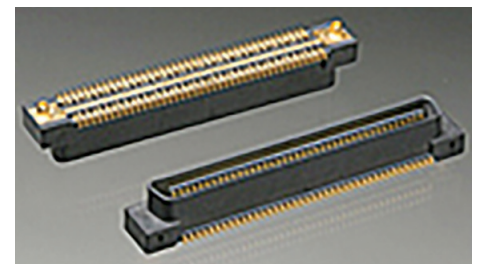
EXAMPLE OF THE WIDE RANGE OF TECHNOLOGIES AVAILABLE WITH LDS



LDS Antenna on Phone Housing



LDS Antenna, Speaker and Microphone Phone Sub-Frame



Plastic EBBI™ connectors