



Background

Our client designs, manufactures and markets pressure, position, tilt, level and combination pressure/temperature sensors for the automotive, HVAC, industrial, aerospace and defense industrial. Their technical capabilities include ceramic capacitive, silicon micro-machined piezoresistive, silicon micro-machined (single chip) capacitive, dielectric, and electromechanical devices. They have revenues of approximately \$150MM+ and produce approximately 10MM pressure sensors annually.

Challenge

A pressure sensor that could take the heat. Our client was in search of a pressure sensor with elevated temperature performance capabilities for an automatic transmission application. They required a sensor that was capable of operating at a temperature of **150°C** – a temperature exceeding the capabilities of most, if not all, pressure sensor manufacturers at the time. Lastly, we needed to meet this and other performance requirements at an attractive price.

Solution

A new process was developed to provide an exceptional temperature range. After learning of the opportunity, requirements and inherent challenge, we went to work. Leveraging the experience of our VP/General Manager, Manny Rossell (co-founder of IC Sensors and Sentir Semiconductor, Inc.) and after six months of intense engineering effort, a cost-effective solution was developed, tested and proven. As a result, we introduced our **Sentium®** process – a process that provides the best operating temperature performance in class (-40°C to 150°C). This capability is ideal and required for a number of “under-the-hood” and higher-performance applications.

Key success factors were as follows:

- 1. Experience** – the 20-year average experience of our technical staff was invaluable.
- 2. Innovation** – we were willing to invest the time, take the risk and invent the solution.
- 3. Performance** – our sensors are stable, accurate and reliable.

Results

- Our client captured this opportunity and continues this business today.
- We have retained and grown our business with this client.

About Us

Located near Salt Lake City, Utah, Merit Sensor Systems, Inc. (www.MeritSensor.com) partners with clients to design, manufacture and service high-performing, component-level piezoresistive pressure sensor solutions for automotive, medical, consumer, aviation, defense and industrial applications.

We offer full-service design capabilities, in-house wafer fabrication, unparalleled production yields at 95%, flexible shipping, packaging and assembly, piezoresistive technology (PRT), expansive pressure ranges (below 5 psi and above 10,000), complete pressure measurement (absolute, gage, differential and vacuum) and unmatched operating temperature range (-40°C to 150°C) via our **Sentium®** process.