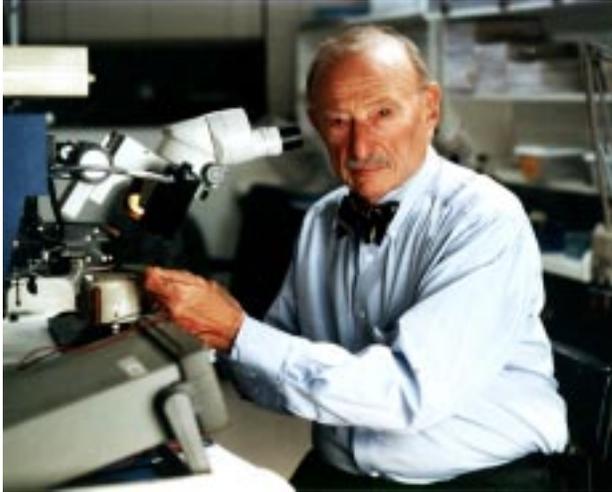


# Section 1 - Introduction

## 1.1 Introduction

Kulite Semiconductor Products is a privately owned and operated company which was founded in 1959 by Dr. A. D. Kurtz to manufacture Silicon Strain Gauges.



Dr. Kurtz and his team of engineers invented and patented the Silicon Integrated Pressure Sensor in the late 60's and have developed the miniature test pressure transducer market. Such has been the influence of Kulite on the field of miniature dynamic pressure transducers that the word "Kulite" is frequently used to refer to a dynamic pressure transducer, even when it is not manufactured by Kulite.

The next major development from Kulite after the Silicon Integrated Pressure Sensor, was the Silicon on Silicon Sensor design for

high temperature operation which Kulite successfully patented. Recent laboratory testing has demonstrated reliable operation of the silicon on silicon technology up to temperatures in excess of 1000 degrees F/ 540 degrees C. Kulite currently holds over 150 Patents on pressure sensor design and technology and employs over 480 employees worldwide. Sales are typically in excess of \$60 Million US.

Kulite's 100,000 square feet world headquarters are located in two modern adjacent facilities in Leonia, New Jersey. Kulite also have four subsidiaries in Europe (UK, France, Italy and Germany) with a world-wide representative network. Kulite is currently manufacturing over 10,000 transducers/month

## 1.2 Product Overview

Kulite is a world leader in the science and engineering of piezoresistive technology pressure sensors and manufactures a wide range of pressure transducers which are used wherever reliability, performance and value are required.

### Miniature IS Silicon Diaphragm Pressure Transducers

These transducers have found wide acceptance in the aerospace and the automobile industry, for wind tunnel, flight/ road testing and acoustic measurements. They have established the industry standard of excellence for dynamic pressure measurements. The small size of these devices has made them uniquely suited to a large variety of test and production applications in industry, research and development.

### Precision Pressure Transducers and Transmitters

These transducers are designed and produced for applications that require high performance, accuracy and reliability. They are specifically packaged to perform in severe environment pressure measurement situations. Internal Microprocessor compensation to eliminate the effects of temperature and non-linearity are now provided for the highest accuracy applications.

### Aircraft Pressure Transducers

There are a very wide range of Kulite Solid State Pressure Transducers which are used in numerous aircraft applications that require high performance and reliability. All Kulite Aircraft Transducers have evolved from four decades of having pioneered the development of miniature static and dynamic pressure measurement devices.

### Automotive Pressure Transducers

These transducers can be found in the automotive test lab, at the proving grounds, on the racetrack and even on the public highway. They are used to monitor brake lines, fuel and oil pressures, hydraulic pressures and pressures within automotive transmissions. They have been adapted to measure forces and structural vibration.

### OEM Pressure Transducers

The Original Equipment Manufacture (OEM) pressure transducers are solid state low cost pressure sensors available in mounted chip form to complete transducer assemblies.

### Strain Gauges

The semiconductor strain gauge may be thought of as a strain sensitive resistor. Generally cemented to a stressed member, its resistance changes as a function of applied strain. This characteristic makes it useful in the field of stress analysis, physical measurements and testing and transducer manufacture. Similar to conventional metallic wire and foil gauges, Kulite Semiconductor Gauges offer the significant advantages of higher sensitivity, smaller sizes, higher resistance, higher fatigue life and low hysteresis. Kulite piezoresistive strain gauges are also used in the manufacture of load cells.