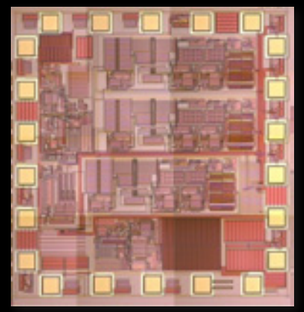
High Temperature Line of Pressure Transducers with High Temperature SOI Electronics

Kulite Semiconductor Products, Inc., a world leader in solid state technology and pressure sensing products, is proud to announce the release of a new, revolutionary line of high temperature pressure transducers with high temperature Silicon on Insulator (SOI) electronics. This patented technology (US Patent # 7,231,828) is designed for pressure measurements at 225°C (437°F) and above, while facilitating a high level output, 0.5V to 5V typical, and operating with unregulated supplies from 8V to 32V.

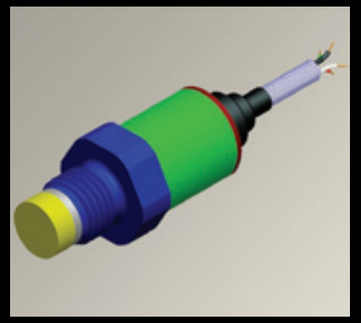
Kulite, has long been known as the leading manufacturer of reliable, high accuracy, miniature, SOI pressure transducers suitable for harsh high temperature environments. The major factor that made the new product line possible was the introduction of the (SOI) electronic interface and the integration of these electronics with the Kulite SOI sensors.

Kulite pursued the development of the SOI electronics in order to establish operability in excess of any other commercially available devices. In the SOI electronics the individual components of the circuit are dielectrically isolated from each other, thus eliminating the main problems (associated with parasitic leakage currents) encountered at high temperatures with other circuits.



Silicon on Insulator (SOI) ASIC

These currents, which typically double every 6°C, render conventional electronics inoperable above +125°C (+257°F). Only a few carefully designed circuits are able to achieve a maximum operating temperature of +175°C (+347°F). Kulite has introduced, and successfully qualified, the new SOI electronic interface such that all functions necessary for a high output level transducer are implemented on a single chip. These functions are: pre-regulator, precision regulator, instrumentation amplifier, output stage, gain control, and offset control.



Isometric View ETMER Series

Due to the single chip implementation, Kulite can offer: high precision, high level pressure transducers in extremely small sizes suitable for +225°C (437°F) and above operability. Three transducer types are now offered with integral electronics: ETL-UHT-375(M) series, ETM-UHT-375(M) series, and ETMER-UHT-375(M) series.

ETL-UHT-375 Series

The ETL-UHT series utilizes the patented leadless construction, ETM-UHT series utilizes the high temperature, SOI sensor/oil-filled construction, while the ETMER-UHT series utilizes metal diaphragm with glassed SOI sensor construction. The selection of transducer type (series) will depend upon the media and the pressure range.

In order to fully utilize the high temperature capability of the SOI sensors, Kulite is proud to offer the XTEH-UHT-190 series. This transducer series can be exposed to harsh environments up to 482°C (900°F) while the electronics can either be located in-line, or in the connector, and can be exposed to 225°C (437°F).

XTEH-UHT-190 Series

Considering the proven advantages of Kulite SOI sensors, such as: high proof and burst pressure, very good stability, low hysteresis and non-linearity, these new transducers will enable high accuracy pressure measurements in applications previously considered impossible. The use of the new line of Kulite high temperature transducers eliminates the need for tubing and thus enables the measurement of all the characteristics of the pressure signal, static and dynamic. The new transducers are ideally suited for:

- *internal combustion engine measurements (in-cylinder pressure, exhaust, etc)*
- *oil, gas and geo-thermal explorations and drilling*
- *gas turbines*
- *aircraft engines: test, monitoring and control*
- *automotive*

For more information, visit http://www.kulite.com or contact company representatives. Custom packages are available on request.

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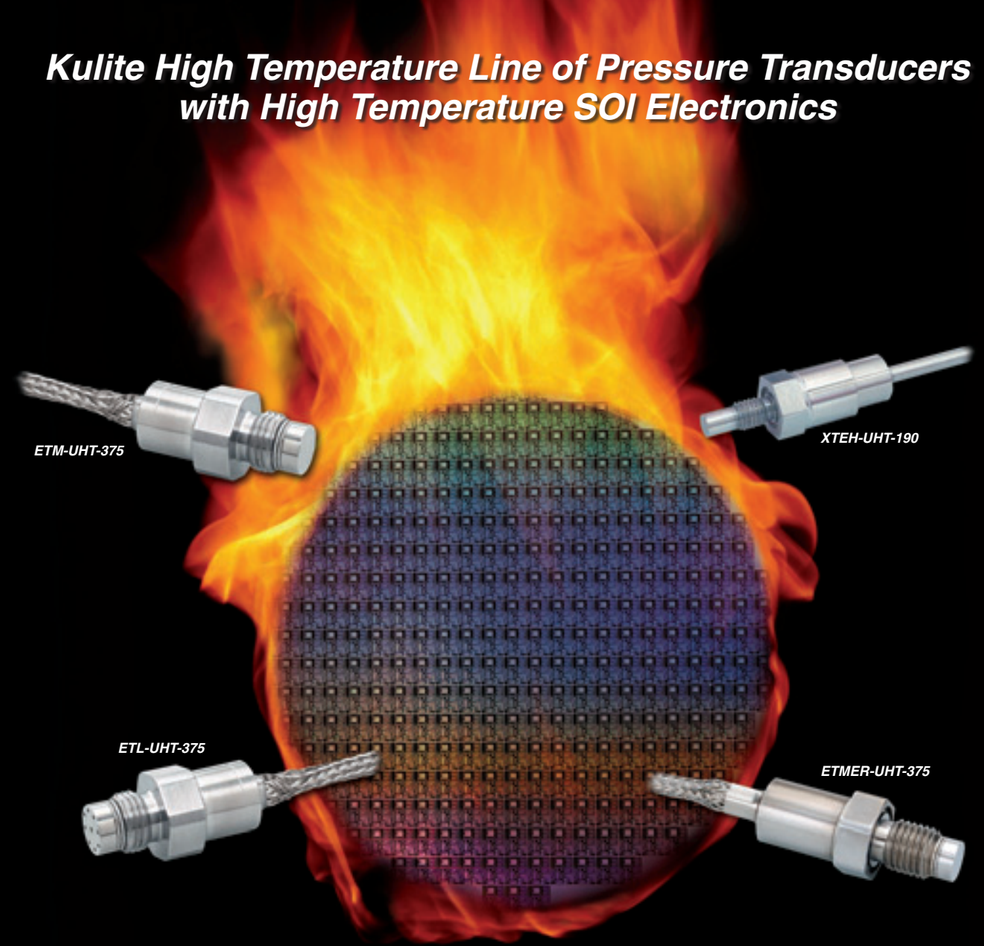

Applicable Patents

U.S. Patent No. 7,231,828 High Temperature Pressure Transducers Using SOI Electronics
U.S. Patent No. 5,286,671 Fusion Bonding Technique for Use in Fabricating Semiconductor Products

Kulite High Temperature Line of Pressure Transducers with High Temperature SOI Electronics

Product reliability in the most severe environments

*Kulite Semiconductor Products, Inc. is recognized worldwide as The Leader in **Pressure Transducers**, **Sensors and Transmitters** supporting almost every pressure measurement application associated with harsh environments. The unique piezoresistive SOI sensor coupled with high temperature SOI electronics in the lightweight package concept is the ideal product of choice for the engineer looking to: 1) perform measurement in high temperature, harsh environments, 2) obtain high level output, 3) reduce weight, 4) increase reliability, 5) achieve high accuracy, while meeting cost objectives.*

Kulite SOI silicon sensor with SOI electronics advantages:

- *High temperature capability*
- *High level output*
- *High signal to noise ratio*
- *Excellent long term stability, Excellent repeatability*
- *Media compatibility (Ruggedized to application)*
- *Negligible non-linearity and hysteresis*
- *Reduced weight, size*
- *Static and dynamic measurement*

Kulite transducer technology has demonstrated for over 45 years that it is a superior product necessary to meet the stringent requirements for all pressure measurement applications.