

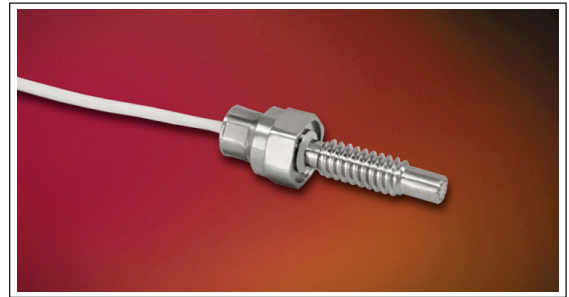


# SUBMINIATURE HIGH TEMPERATURE PRESSURE TRANSDUCER

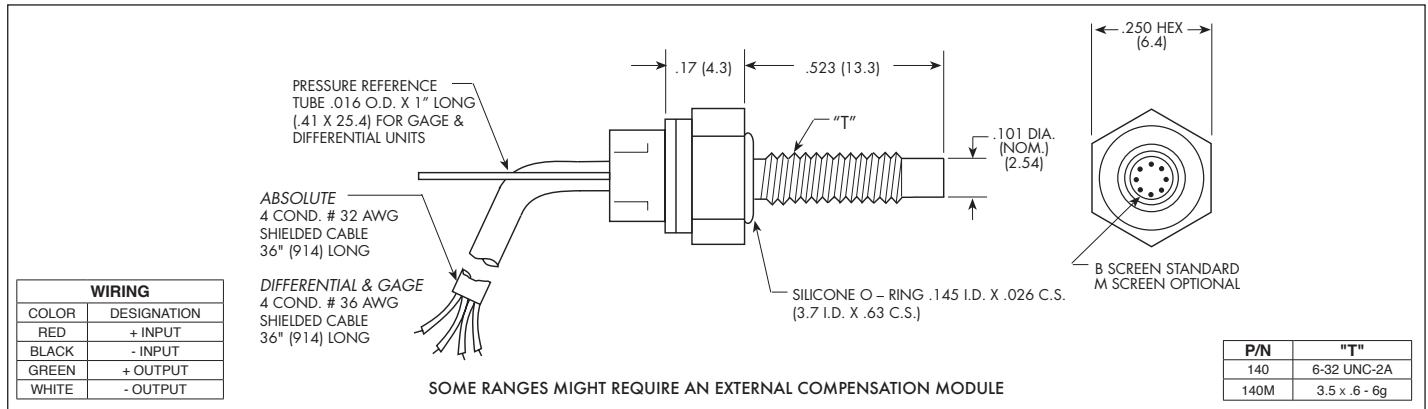
## XTE-140 (M) SERIES

- Wide Temperature Capability -65°F To 525°F
- Easy Installation
- Smallest Threaded Device Available
- Silicon on Silicon Integrated Sensor **VIS®**
- High Natural Frequency

The XTE-140 Series uses a standard miniature silicon diaphragm to obtain extremely high natural frequencies in the smallest thread mount available. This transducer is well suited for both dynamic and static pressure measurements in benign or harsh environments. Its wide operating range (-65°F to +525°F) makes it ideal for numerous applications in Aerospace and other areas of industry.



Kulite recommends the **KSC Series** of signal conditioners to maximize the measurement capability of the XTE-140 transducer.



|               |   |   |                      |  |                      |
|---------------|---|---|----------------------|--|----------------------|
| INPUT         | Pressure Range  | .35<br>5  | 0.7<br>10            | 1.0<br>15  | 1.7 BAR<br>25 PSI    |
|               | Operational Mode  | Absolute, Gage, Differential  |                      | Absolute, Gage, Sealed Gage, Differential                                      |                      |
|               | Over Pressure   | 2 Times Rated Pressure  |                      |  |                      |
|               | Burst Pressure  | 3 Times Rated Pressure  |                      |  |                      |
|               | Pressure Media  | All Nonconductive, Noncorrosive Liquids or Gases (All Media May Not Be Suitable With O-Ring Supplied) |                      |  |                      |
|               | Rated Electrical Excitation                             | 10 VDC  |                      |  |                      |
|               | Maximum Electrical Excitation                           | 12 VDC  |                      |  |                      |
|               | Input Impedance   | 1000 Ohms (Min.)  |                      |  |                      |
|               | Output Impedance  | 1000 Ohms (Nom.)  |                      |  |                      |
|               | Full Scale Output (FSO)                                 | 100 mV (Nom.)   |                      |  |                      |
| OUTPUT        | Residual Unbalance                                      | ± 5 mV (Typ.)   |                      |  |                      |
|               | Combined Non-Linearity, Hysteresis and Repeatability    | ± 0.1% FSO BFSL (Typ.), ± 0.5% FSO (Max.)   |                      |  |                      |
|               | Resolution  | Infinitesimal   |                      |  |                      |
|               | Natural Frequency of Sensor Without Screen (KHz) (Typ.) | 150   | 175                  | 200  | 240                  |
|               | Acceleration Sensitivity % FS/g Perpendicular           | 1.5x10 <sup>-3</sup>  | 1.0x10 <sup>-3</sup> | 6.5x10 <sup>-4</sup>   | 5.0x10 <sup>-4</sup> |
|               | Insulation Resistance                                   | 100 Megohm Min. @ 50 VDC  |                      |  |                      |
| ENVIRONMENTAL | Operating Temperature Range                             | -65°F to +525°F (-55°C to +273°C) (Media) -65°F to +450°F (-55°C to +232°C) (Ambient)                 |                      |  |                      |
|               | Compensated Temperature Range                           | +80°F to +450°F (+25°C to +232°C)   |                      |  |                      |
|               | Thermal Zero Shift                                      | ± 2% FS/100°F (Typ.) (± 3% FS/100°F Max)  |                      |  |                      |
|               | Thermal Sensitivity Shift                               | ± 2% /100°F (Typ.) (± 3% /100°F Max)  |                      |  |                      |
|               | Mechanical Shock  | 20g Half Sine Wave 11 msec. Duration  |                      |  |                      |
|               | Linear Vibration  | 20g Peak, Sine 10 to 2000 Hz  |                      |  |                      |
| PHYSICAL      | Electrical Connection                                   | For Differential & Gage<br>4 Conductor 36 AWG Shielded Cable 36" (914) Long                           |                      | For Absolute & Sealed Gage<br>4 Conductor 32 AWG Shielded Cable 36" (914) Long |                      |
|               | Weight  | 3 Grams (Nom.) Excluding Cable  |                      |  |                      |
|               | Pressure Sensing Principle                              | Fully Active Four Arm Wheatstone Bridge Dielectrically Isolated Silicon on Silicon                    |                      |  |                      |
|               | Mounting Torque   | 15 Inch-Pounds (Max.) 1.7 Nm  |                      |  |                      |

Note: Custom pressure ranges, accuracies and mechanical configurations available. Dimensions are in inches. Dimensions in parenthesis are in millimeters. All dimensions nominal. (P) Continuous development and refinement of our products may result in specification changes without notice. Copyright © 2014 Kulite Semiconductor Products, Inc. All Rights Reserved. Kulite miniature pressure transducers are intended for use in test and research and development programs and are not necessarily designed to be used in production applications. For products designed to be used in production programs, please consult the factory.