

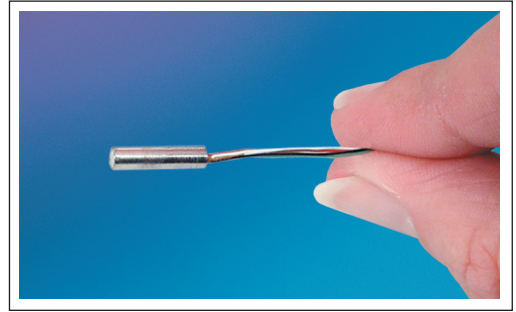


# HIGH SENSITIVITY MINIATURE PRESSURE TRANSDUCER WITH INTERNAL COMPENSATION

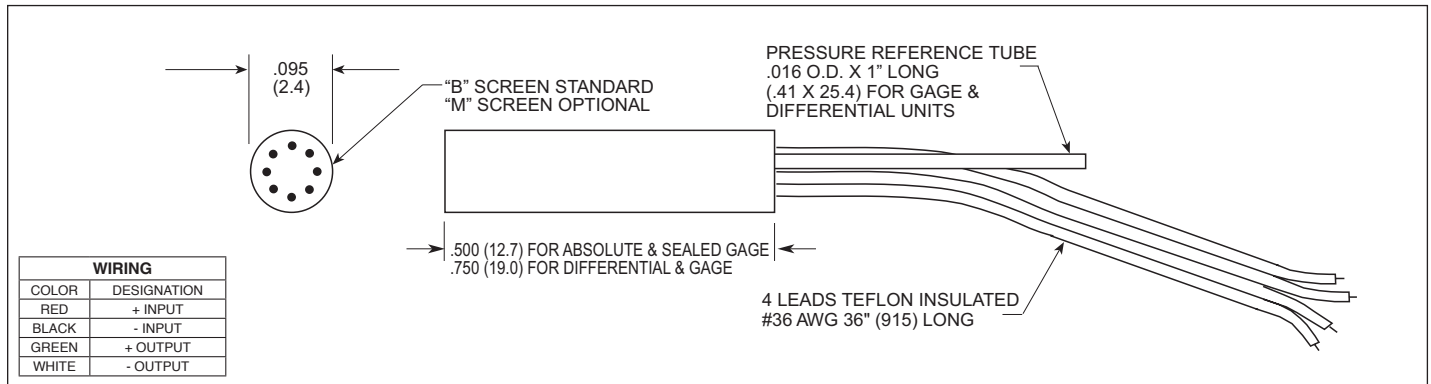
## XCS-IC-093 SERIES

- High Sensitivity
- Patented Silicon on Silicon Integrated Sensor **VIS**<sup>®</sup>
- Superior Signal To Noise Ratio
- Static And Dynamic Capability

The XCS Series uses a diaphragm of advanced design which gives a substantially higher basic output allowing for high mV/psi sensitivities and improved signal to noise ratio. Internal compensation allows for ease of installation by eliminating the external compensation module.



Kulite recommends the [KSC Series](#) of signal conditioners to maximize the measurement capability of the XCS-IC-093 transducer.



|                            |   |  |                      |                      |  |                      |
|----------------------------|---|--|----------------------|----------------------|--|----------------------|
| INPUT                      | Pressure Range  | 0.35<br>5  | 0.7<br>10            | 1.0<br>15            | 1.7<br>25                                    | 3.5 BAR<br>50 PSI    |
|                            | Operational Mode  | Gage, Differential   |                      |                      | Absolute, Gage, Differential                 |                      |
|                            | Over Pressure   | 2 Times Rated Pressure   |                      |                      |  |                      |
|                            | Burst Pressure  | 3 Times Rated Pressure   |                      |                      |  |                      |
|                            | Pressure Media  | All Nonconductive, Noncorrosive Liquids or Gases                                       |                      |                      |  |                      |
|                            | Rated Electrical Excitation                             | 10 VDC/AC  |                      |                      |  |                      |
|                            | Maximum Electrical Excitation                           | 12 VDC/AC  |                      |                      |  |                      |
|                            | Input Impedance   | 1000 Ohms (Min.)   |                      |                      |  |                      |
| OUTPUT                     | Output Impedance  | 1000 Ohms (Nom.)   |                      |                      |  |                      |
|                            | Full Scale Output (FSO)                                 | 150 mV (Nom.)  |                      |                      | 200 mV (Nom.)                                |                      |
|                            | 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  | 300                  |
|                            | 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>                         | 3.0x10 <sup>-4</sup> |
|                            | Insulation Resistance                                   | 100 Megohm Min. @ 50 VDC   |                      |                      |  |                      |
| ENVIRONMENTAL              | Operating Temperature Range                             | -65°F to +250°F (-55°C to +120°C)  |                      |                      |  |                      |
|                            | Compensated Temperature Range                           | +80°F to +180°F (+25°C to +80°C) Any 100°F Range Within The Operating Range on Request |                      |                      |  |                      |
|                            | Thermal Zero Shift                                      | ± 2% FS/100°F (Typ.)<br>(± 3% FS/100°F Max.)   |                      |                      | ± 1% FS/100°F (Typ.)<br>(± 2% FS/100°F Max.) |                      |
|                            | Thermal Sensitivity Shift                               | ± 2% /100°F (Typ.)<br>(± 3% /100°F Max.)   |                      |                      | ± 1% /100°F (Typ.)<br>(± 2% /100°F Max.)     |                      |
|                            | Mechanical Shock  | 20g Half Sine Wave 11 msec. Duration   |                      |                      |  |                      |
| PHYSICAL                   | Linear Vibration  | 20g Peak, Sine 10 to 2000 Hz   |                      |                      |  |                      |
|                            | Electrical Connection                                   | 4 Leads 36 AWG 36" Long  |                      |                      |  |                      |
|                            | Weight  | .4 Gram (Nom.) Excluding Module and Leads  |                      |                      |  |                      |
| Pressure Sensing Principle |   | Fully Active Four Arm Wheatstone Bridge Dielectrically Isolated Silicon on Silicon     |                      |                      |  |                      |

Note: Custom pressure ranges, accuracies and mechanical configurations available. Dimensions are in inches. Dimensions in parenthesis are in millimeters. All dimensions nominal. (C) 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.