| Model | Number |
|-------|--------|
| TLD3  | 39A37  |

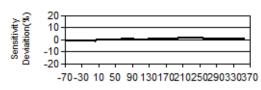
## TRIAXIAL ICP® ACCELEROMETER

Revision: C ECN #: 55147

| -                                      |                             |                                    |     |
|--|-----------------------------|------------------------------------|-----|
| Performance                            | ENGLISH                     | SI                                 |     |
| Sensitivity(± 10 %)                    | 100 mV/g                    | 10.2 mV/(m/s <sup>2</sup> )        |     |
| Measurement Range                      | ± 50 g pk                   | ± 490.5 m/s² pk                    |     |
| Frequency Range(± 5 %)                 | 0.3 to 4,000 Hz             | 0.3 to 4,000 Hz                    |     |
| Frequency Range(± 10 %)                | 0.2 to 7,000 Hz             | 0.2 to 7,000 Hz                    |     |
| Resonant Frequency                     | ≥ 35 kHz                    | ≥ 35 kHz                           |     |
| Filter Type                            | single pole                 | single pole                        |     |
| Electrical Filter Roll-off             | 20 dB/decade                | 20 dB/decade                       |     |
| Electrical Filter Corner Frequency     | ≥ 15 kHz                    | ≥ 15 kHz                           |     |
| Broadband Resolution(1 to 10,000 Hz)   | 0.002 g rms                 | 0.019 m/s <sup>2</sup> rms         | [1] |
| Phase Response(± 5°)(at 70°F [21°C])   | 3 to 2,000 Hz               | 3 to 2,000 Hz                      |     |
| Non-Linearity                          | ≤ 1 %                       | ≤ 1 %                              | [2] |
| Transverse Sensitivity                 | ≤ 5 %                       | ≤ 5 %                              |     |
| TEDS Compliant(Per IEEE 1451.4)        | Yes                         | Yes                                |     |
| Environmental                          |                             |                                    |     |
| Overload Limit(Shock)                  | ± 5,000 g pk                | ± 49,000 m/s² pk                   |     |
| Temperature Range(Operating)           | -65 to 356 °F               | -54 to 180 ℃                       |     |
| Temperature Response                   | See Graph                   | See Graph                          | [1] |
| Temperature Coefficient of Sensitivity | ≤ 0.011 %/°F                | ≤ 0.020 %/°C                       | [1] |
| Base Strain Sensitivity                | .001 g/με                   | .0098 (m/s²)/με                    | [1] |
| Electrical                             |                             |                                    |     |
| Excitation Voltage                     | 21 to 30 VDC                | 21 to 30 VDC                       |     |
| Constant Current Excitation            | 2 to 4 mA                   | 2 to 4 mA                          | [3] |
| Output Impedance                       | ≤ 200 Ohm                   | ≤ 200 Ohm                          |     |
| Output Bias Voltage                    | 8 to 15 VDC                 | 8 to 15 VDC                        |     |
| Discharge Time Constant                | 2 to 6 sec                  | 2 to 6 sec                         |     |
| Settling Time(within 10% of bias)      | < 30 sec                    | < 30 sec                           |     |
| Spectral Noise(1 Hz)                   | 210 μg/√Hz                  | 2,060 (µm/sec <sup>2</sup> )/√Hz   | [1] |
| Spectral Noise(10 Hz)                  | 40 μg/√Hz                   | 392 (µm/sec <sup>2</sup> )/√Hz [1] |     |
| Spectral Noise(100 Hz)                 | 20 μg/√Hz                   | 196 (µm/sec <sup>2</sup> )/√Hz     | [1] |
| Spectral Noise(1 kHz)                  | 12 μg/√Hz                   | 118 (µm/sec <sup>2</sup> )/√Hz     | [1] |
| Spectral Noise(10 kHz)                 | 10 μg/√Hz                   | 98 (µm/sec <sup>2</sup> )/√Hz      | [1] |
| Physical                               |                             |                                    |     |
| Sensing Element                        | UHT-12™                     | UHT-12™                            |     |
| Sensing Geometry                       | Shear                       | Shear                              |     |
| Housing Material                       | Titanium                    | Titanium                           |     |
| Sealing                                | Hermetic                    | Hermetic                           |     |
| Size (Height x Length x Width)         | 0.55 in x 0.80 in x 0.55 in | 14.0 mm x 20.3 mm x 14.0           |     |
|  |                             | mm                                 |     |
| Weight                                 | 0.37 oz                     | 10.5 gm                            | [1] |
| Electrical Connector                   | 1/4-28 4-Pin                | 1/4-28 4-Pin                       |     |
| Electrical Connection Position         | Side                        | Side                               |     |
| Mounting Thread                        | 5-40 Female                 | 5-40 Female                        |     |
| -                                      |                             |                                    |     |

Typical Sensitivity Deviation vs Temperature





Temperature (°F)

All specifications are at room temperature unless otherwise specified. In the interest of constant product improvement, we reserve the right to change specifications without notice. ICP® is a registered trademark of PCB Piezotronics, Inc.

## **OPTIONAL VERSIONS**

Optional versions have identical specifications and accessories as listed for the standard model except where noted below. More than one option may be used.

 $\begin{tabular}{ll} \textbf{TLB} - \textbf{TEDS LMS International - Automotive} \\ \textbf{Format} \end{tabular}$ 

## **NOTES:**

[1]Typical.

[2]Zero-based, least-squares, straight line method.

[3]Increased current up to 20mA acceptable to 250F (121C)

[4] See PCB Declaration of Conformance PS023 for details.

## **SUPPLIED ACCESSORIES:**

Model 010S10 Shielded cable, 10FT, 4-pin plug to (3) BNC plugs (Labeled X,Y,Z) (1)

Model 080A109 Petro Wax (1)

Model 080A145 Adhesive Mounting Base (1)

Model 080A90 Quick Bonding Gel (1)

Model 081A27 Mounting Stud (5-40 to 5-40) (1)

Model ACS-1T NIST traceable triaxial amplitude response, 10 Hz to upper 5% frequency. (1)

Model M081A27 Metric mounting stud, 5-40 to M3 x 0.50 long (1)

| Entered: ND      | Engineer: SDS    | Sales: KK        | Approved: BAM    | Spec Number: |
|------------------|------------------|------------------|------------------|--------------|
| Date: 08/13/2024 | Date: 08/13/2024 | Date: 08/13/2024 | Date: 08/13/2024 | 66651        |



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