

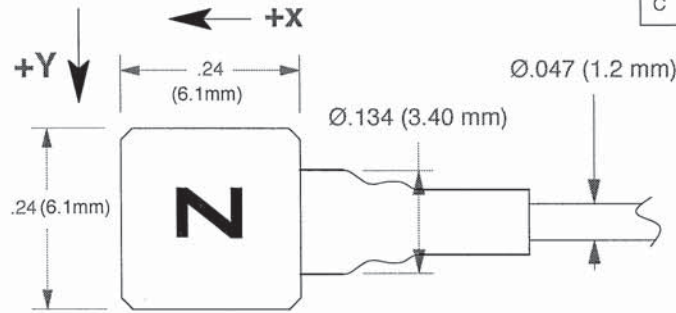
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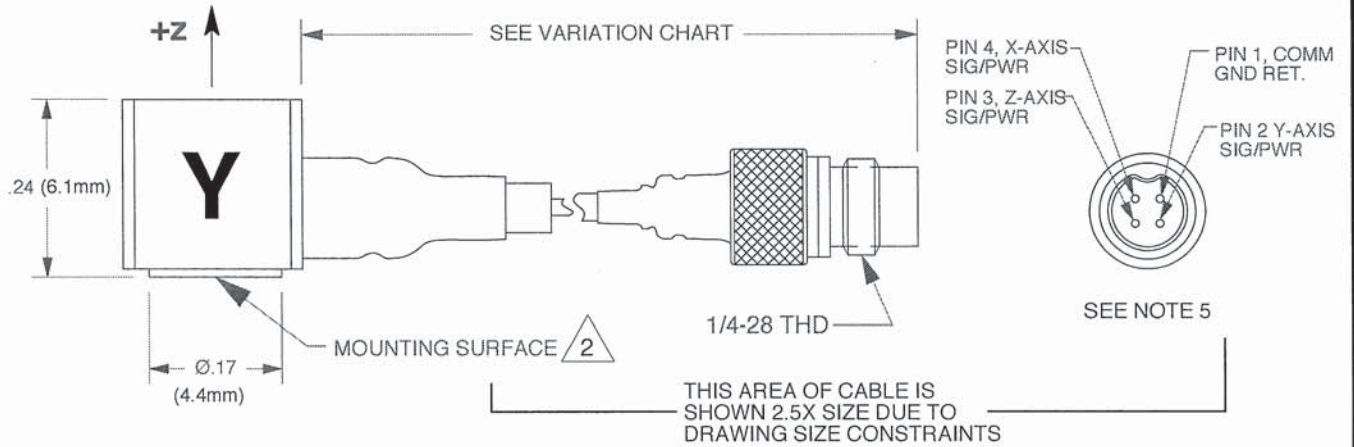


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| REV | ECN  | DESCRIPTION                                      | BY/DATE     | CHK | APPR |
|-----|------|--|-------------|-----|------|
| A   | 5992 | INITIAL RELEASE                                  | NC/5-14-09  | DV  | ANS  |
| B   | 6368 | UPDATED DRAWING WITH SMALLER CABLE DIAMETER      | NC/10-13-09 | DV  | ANS  |
| C   | 6531 | 3133A1 SENSITIVITY IS: 9-14 mV/g WAS: 10-15 mV/g | RA/01-26-10 | JJ  | DV   |



| VARIATION CHART |             |
|-----------------|-------------|
| MODEL           | SENSITIVITY |
| 3133A1          | 9-14 mV/g   |
| 3133A2          | 2-5 mV/g    |
| 3133A3          | 5-10 mV/g   |



REMOVAL TOOL, MODEL 6741, INCLUDED (ACTUAL SIZE)

1. WEIGHT, LESS CABLE: 0.8 GRAMS.
2. FOR BEST FREQUENCY RESPONSE, PREPARE FLAT MOUNTING SURFACE OF AT LEAST .20 DIAMETER, FLAT TO .0001 TIR. APPLY ONE DROP OF CYANOACRYLATE ADHESIVE TO MOUNT THE ACCELEROMETER.
3. THE LETTERS "X", "Y", & "Z" INDICATE THE DIRECTION OF ACCELERATION OF EACH AXIS FOR POSITIVE GOING OUTPUT VOLTAGE (AS THE MARKED SURFACE ACCELERATES TOWARD THE VIEWER.) SEE DIRECTIONAL ARROWS ON FACE OF DRAWING.
4. HOUSING MATERIAL: TITANIUM.
5. MATING CABLES ARE MODELS 6824AXX (SANOPRENE), OR 6811AXX, (TEFLON) 4-PIN CONNECTOR TO 3 BNC's. "XX" IS THE CABLE LENGTH IN FEET.
6. MODEL 6298 PETRO MOUNTING WAX IS INCLUDED.
7. UNLESS OTHERWISE INDICATED, ALL DIMENSIONS ARE IN INCHES. mm DIMENSIONS ARE INDICATED BY PARENTHISES.

# MASTER

## ONLY IF IN RED

CHATSWORTH, CA.

|  |                  |                       |                                   |                             |          |
|--|------------------|-----------------------|-----------------------------------|-----------------------------|----------|
| SCALE<br>4X  | DESIGN<br>N.C.   | DATE<br>11-10-08      |                                   |                             |          |
| DRAWN<br>N.C.  | DATE<br>11-10-08 | PART NO.<br>SEE CHART |                                   |                             |          |
| CHECKED<br>D.V.  | DATE<br>05-18-09 | MATERIAL              |                                   |                             | REV<br>C |
| APPROVED<br>ANS  | DATE<br>05-26-09 | NEXT ASSEMBLY         | USED ON<br>3133A1, 3133A2, 3133A3 |                             |          |
| TITLE<br><b>OUTLINE/INSTALLATION DRAWING, MODEL SERIES 3133A TRIAXIAL ACCELEROMETERS</b> |                  |                       |                                   | DWG NO.<br><b>127-3133A</b> |          |
| SHEET 1 OF 1   |                  |                       |                                   |                             |          |

| Model Number | PERFORMANCE SPECIFICATION     |  |  | DOC NO                     |
|--------------|-------------------------------|--|--|----------------------------|
|              |                               |  |  | PS3133A3                   |
| 3133A3       | Accelerometer, Triaxial, IEPE |  |  | REV E,ECN # 7210, 11/15/10 |



Actual Size

- ULTRA MINIATURE SIZE
- IDEAL LOW FREQUENCY RESPONSE

**This family also includes:**

| Model  | Sensitivity (mV/g) | Range (Gpeak) | Resolution (Grms) | Oper. Temp(°F) | TC         |
|--------|--------------------|---------------|-------------------|----------------|------------|
| 3133A1 | 10                 | 500           | 0.02              | -60 to 250     | 1.1 to 1.5 |
| 3133A2 | 2                  | 2500          | 0.15              | -60 to 300     | 0.3 to 0.5 |

Please, refer to the performance specifications of the products in this family for detailed description

**Supplied Accessories:**

- 1) Model 6298 small petro wax
- 2) Model 6741 removal tool
- 3) Accredited calibration certificate (ISO 17025)

**Notes:**

- [1] Measured at 100 Hz, 10 Grms
- [2] Actual sensitivity is given on a calibration certificate
- [3] Do not apply power to this device without current limiting, 20mA max, to do so will destroy the integral IC amplifier

**PHYSICAL**

|                 |           | ENGLISH |             | SI    |             |
|-----------------|-----------|---------|-------------|-------|-------------|
| Weight          |           | oz      | 0.03        | grams | 0.8         |
| Size            | Width     | inch    | 0.24        | mm    | 6.1         |
|                 | Height    | inch    | 0.24        | mm    | 6.1         |
| Mounting        |           |         | Adhesive    |       | Adhesive    |
| Integral Cable  | Length    | ft      | 3           | mm    | 914         |
|                 | Type      |         | TFE         |       | TFE         |
| Connector       | Type      |         | 4-pin       |       | 4-pin       |
| Housing         | Material  |         | Titanium    |       | Titanium    |
|                 | Isolation |         | Case Ground |       | Case Ground |
| Sensing Element | Material  |         | Ceramic     |       | Ceramic     |
|                 | Mode      |         | Shear       |       | Shear       |

**PERFORMANCE**

|                                  |                              |               |              |                               |              |
|----------------------------------|------------------------------|---------------|--------------|-------------------------------|--------------|
| Sensitivity [1], [2], ± 20%      |                              | mV/g          | 5            | mV/m/s <sup>2</sup>           | 0.5 to 10    |
| Acceleration Range               |                              | Gpeak         | 1000         | m/s <sup>2</sup> peak         | 9810         |
| Frequency Range Axis 1 & 2, ±10% |                              | Hz            | 0.25 to 7000 | Hz                            | 0.25 to 7000 |
|                                  | Frequency Range Axis 3, ±10% |               | Hz           | 0.25 to 10,000                | Hz           |
| Resonance Frequency              |                              | kHz           | >35          | kHz                           | >35          |
| Transverse Sensitivity           |                              | %             | 6            | %                             | 6            |
| Bias Voltage                     |                              | VDC           | +8 to +10    | VDC                           | +8 to +10    |
| Output Impedance                 |                              | Ω             | 100          | Ω                             | 100          |
| Noise floor                      |                              | Grms          | 0.06         | m/s <sup>2</sup> rms          | 0.59         |
| Discharge Time Constant          |                              | seconds       | 1.0 to 1.5   | seconds                       | 1.0 to 1.5   |
| Spectral Noise                   | 1Hz                          | μGrms/sqr(Hz) | 4000         | μm/s <sup>2</sup> rms/sqr(Hz) | 39240        |
|                                  | 10Hz                         | μGrms/sqr(Hz) | 2000         | μm/s <sup>2</sup> rms/sqr(Hz) | 19620        |
|                                  | 100Hz                        | μGrms/sqr(Hz) | 500          | μm/s <sup>2</sup> rms/sqr(Hz) | 4905         |
|                                  | 1000Hz                       | μGrms/sqr(Hz) | 200          | μm/s <sup>2</sup> rms/sqr(Hz) | 1962         |
|                                  | 10000Hz                      | μGrms/sqr(Hz) | 90           | μm/s <sup>2</sup> rms/sqr(Hz) | 883          |

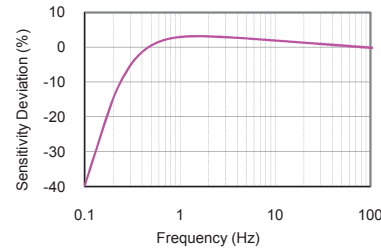
**ENVIRONMENTAL**

|                                   |  |         |             |                         |            |
|-----------------------------------|--|---------|-------------|-------------------------|------------|
| Shock                             |  | Gpeak   | 3000        | m/s <sup>2</sup>        | 29430      |
| Vibration                         |  | Gpeak   | 900         | m/s <sup>2</sup>        | 8829       |
| Operating Temperature             |  | °F      | -60 to +250 | °C                      | -51 to 121 |
| Seal                              |  |         | Epoxy       |                         | Epoxy      |
| Magnetic Sensitivity at 100 Gauss |  | g/Gauss | 0.00004     | m/s <sup>2</sup> /Gauss | 0.00039    |
| Base Strain Sensitivity           |  | g/με    | 0.15        | m/s <sup>2</sup> /με    | 1.47       |

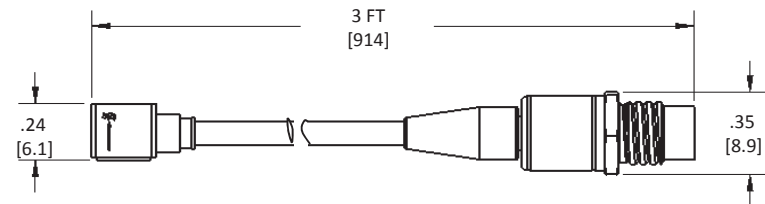
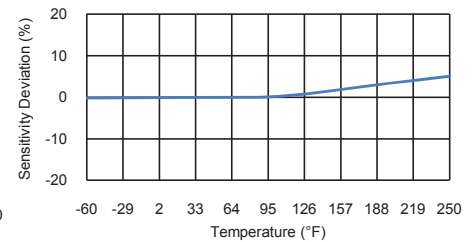
**POWER**

|                    |  |     |            |     |            |
|--------------------|--|-----|------------|-----|------------|
| Compliance Voltage |  | VDC | +18 to +30 | VDC | +18 to +30 |
| Current Range      |  | mA  | 2 to 20    | mA  | 2 to 20    |

TYPICAL LOW FREQUENCY RESPONSE



TYPICAL TEMPERATURE RESPONSE



Units on the line drawing are in inches, units in brackets are in millimeters. Refer to 127-3133A for more information



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