Preliminary

Piezo resistive Accelerometer

BST 10L Uniaxial

Features

- Very small size and rugged
- Anodized Aluminium Housing
- SEA J211 conform

Application

- Crash test
- Shock test

Description

The new model **BST 10L** is a uniaxial accelerometer based on piezo resistive technology. This accelerometer meets SAEJ211 specifications for instrumentation for impact testing. With the fully Wheatstone-Bridge (4 wire system) configuration helps to connect the sensor on all data acquisition systems. The very light weight and small size of the sensor makes it easy to mount it on difficult positions at the car for a crash test or for shock test application.

Do to the anodized aluminium housing and the position of the seismic mass makes it possible to use it for crash test. With a 6 m, very rugged, shielded and flexible 4-wire cable are all common connectors are mountable. As an option, we supply the sensor with a Dallas ID and a Shunt resistor in the connector.

A calibration for the sensor is obligatory.

Dimensions

![Dimensions Diagram]
Specifications

All Data at 24°C, 80 Hz and 10 V dc Excitation

<table>
<thead>
<tr>
<th>Range</th>
<th>500 g</th>
<th>1000 g</th>
<th>2000 g</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitivity typ.</td>
<td>0.4 mV/g</td>
<td>0.18 mV/g</td>
<td>0.016 mV/g</td>
</tr>
<tr>
<td>Frequency 5 % typ.</td>
<td>2200 Hz</td>
<td>3000 Hz</td>
<td>3500 Hz</td>
</tr>
</tbody>
</table>

Resonance Frequency > 14 kHz > 20 kHz
Shock limit 5000 g 8000 g
Supply voltage 3 to 10 V dc constant
Zero measurement output +/- 50 mV max.
Thermal Shift Zero <-/+ 0.04 % FSO (0° to 50° C)
Thermal Shift Span -0.2 °C +/- 0.05 (0° to 50° C)
Non-Linearity +/- 1% of FSO
Bridge Resistance 1800 to 2200 Ohm
Isolation Sensing Element is isolated from housing
Transverse sensitivity 2% typ. (3% max.)
Damping ratio 0.7 typ.
Warm-up time 3 sec.
Temperature Operation -20° to 70° C
Storage -50° to 80° C

Material Aluminium, anodized
Dimensions 15.0 x 5.0 x 4.0 mm
Mounting glue
Weight 2.0 gram without cable
Cable 6m, 4 wires, shielded PUR, AWG 30
Weight 12 grams/meter

Diagram

Cable Code

Red = Excitation + Green = Signal +
Black = Excitation – White = Signal -

Order information

BST 10L-2000-6Z
10L = Model Name
2000 = Range 2000 g
6 = 6 m cable
Z = no connector