Piezoelectric Film Sensors

Pro-Wave presents a series of mechno-electrical sensors and detectors produced by advanced piezoelectric polymer film technology. The polymer film of polyvinylidene fluoride (PVF2) exhibits a conspicuous piezoelectric effect and also has high compliance when compared to other piezoelectric crystals or ceramic materials. Because of its superior piezoelectric strain constant (g value), 10-20 times larger than piezoelectric ceramic, it is an ideal sensing material for converting mechanical to electrical energy.
Besides the standard products shown here, we are also developing a series of sensing devices using this particular piezoelectric thin film material. Please contact with us for your special needs.

Features

- High Mechno-electrical coeﬃciency in planar, thickness and hydrostatic modes
- Low mechanical and acoustic impedance
- High resistance to moisture
- Pliant, flexible, tough and lightweight
- Self-generated voltage, non-contact, rust resistant, spark resistant

Applications

- Vibration sensors and motion detectors
- Low weight accelerometers
- Pressure or force sensors
- Keyboards, keypads and touch panels
- Coin and impact sensors
- Microphones and headset speakers
- Other mechno-electrical and electro-mechanical devices

Frequency response

Features:

- Programmable Signal Source HP 8165A
- Power Amplifier
- Exciter: Exciter B&K 4809
- Accelerometer B&K 8309
- Device (FS-2513P) under test
- Charging Amplifier B&K 2635
- Impedance Analyzer HP4192
### Piezoelectric Film Sensors

#### Specifications

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Type</th>
<th>Lead Pins</th>
<th>Lead Wires</th>
<th>FD-2513P</th>
<th>Unit</th>
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</thead>
<tbody>
<tr>
<td>FS-2513P</td>
<td>Lead Pins</td>
<td>70</td>
<td>70</td>
<td>-</td>
<td>mV/ms²</td>
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<tr>
<td>FS-2513W</td>
<td>Lead Wires</td>
<td>10</td>
<td>10</td>
<td>-</td>
<td>mV/ms²</td>
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<tr>
<td>FD-2513P</td>
<td>Lead Pins</td>
<td>80 ± 10</td>
<td>80 ± 10</td>
<td>-</td>
<td>Hz</td>
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<td></td>
<td>Capacitance</td>
<td>1.5 ± 30%</td>
<td>1.5 ± 30%</td>
<td>-</td>
<td>µF @ 1KHz</td>
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<td></td>
<td>Operation voltage (Vcc)</td>
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<td>-</td>
<td>3-30</td>
<td>DC volts</td>
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<td></td>
<td>Operation current</td>
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<td>-</td>
<td>1</td>
<td>mA</td>
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<tr>
<td></td>
<td>Max. output current</td>
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<td>-</td>
<td>20</td>
<td>mA</td>
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<tr>
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<td>-20 - +60</td>
<td>-20 - +60</td>
<td>°C</td>
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<tr>
<td></td>
<td>Storage temperature</td>
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<td>-40 - +70</td>
<td>-40 - +70</td>
<td>°C</td>
</tr>
</tbody>
</table>

#### Dimensions in mm

![Dimensions Diagram]

#### Driving circuit & pin assignment of model FD-2513P

![Driving Circuit Diagram]