Piezoelectric Film Sensors

Pro-Wave now 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 comparing with 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 on this catalogue, we are also developing a series of sensing devices by 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, rustless, free of sparking

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 electromechanical devices

Frequency response

Measuring diagram

SG: Programmable Signal Source HP 8165A
Amp: Power Amplifier
Exciter: Exciter B&K 4809
Acc: Accelerometer B&K 8309
DUT: Device (FS-2513P) under test
CA: Charging Amplifier B&K 2635
IA: Impedance Analyzer HP4192

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# Piezoelectric Film Sensors

## Specifications

<table>
<thead>
<tr>
<th>Specifications</th>
<th>FS-2513P</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model Number</td>
<td>FS-2513P</td>
<td></td>
</tr>
<tr>
<td><strong>Type</strong></td>
<td>Lead Pins</td>
<td></td>
</tr>
<tr>
<td>Voltage sensitivity at fr (V)</td>
<td>70</td>
<td>mV/µs⁻²</td>
</tr>
<tr>
<td>Transverse sensitivity (V)</td>
<td>10</td>
<td>mV/µs⁻²</td>
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<tr>
<td>Resonant frequency (fr) (Hz)</td>
<td>80±10</td>
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<tr>
<td>Capacitance (pF)</td>
<td>660±30%</td>
<td></td>
</tr>
<tr>
<td>Operation voltage (Vcc) (DC volts)</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Operation current (mA)</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Max. output current (mA)</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Operation temperature (°C)</td>
<td>-20 - +60</td>
<td></td>
</tr>
<tr>
<td>Storage temperature (°C)</td>
<td>-40 - +70</td>
<td></td>
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</tbody>
</table>

## Dimensions in mm

![Dimensions Diagram](image)

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

![Driving Circuit Diagram](image)

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