

# Ultra low power embedded accelerometer

## LVEP100-TO5

### SPECIFICATIONS

<b>Sensitivity, <math>\pm 10\%</math><sup>1</sup>, 25°C</b>		100 mV/g
<b>Acceleration range</b>		14 g peak
<b>Amplitude nonlinearity</b>		1%
<b>Frequency response, nominal<sup>2</sup>:</b>	<b><math>\pm 5\%</math></b>	6 - 5,000 Hz
	<b><math>\pm 10\%</math></b>	4 - 7,000 Hz
	<b><math>\pm 3</math> dB</b>	2 - 12,500 Hz
<b>Resonance frequency, nominal</b>		>25 kHz
<b>Transverse sensitivity, max</b>		7% of axial
<b>Sensitivity variation with temp:</b>	<b>-25°C</b>	+5%
	<b>+120°C</b>	-15%
<b>Power requirement:</b>		
<b>Voltage source</b>		3.0 - 5.5 VDC
<b>Quiescent current, nominal</b>		60 $\mu$ A
<b>Power-down mode</b>		0 $\mu$ A
<b>Electrical noise, nominal, equiv. g:</b>		
<b>Broadband</b>	<b>2.5 Hz to 25 kHz</b>	600 $\mu$ g
<b>Spectral</b>	<b>10 Hz</b>	24 $\mu$ g/ $\sqrt$ Hz
	<b>100 Hz</b>	8 $\mu$ g/ $\sqrt$ Hz
	<b>1,000 Hz</b>	4 $\mu$ g/ $\sqrt$ Hz
<b>Output impedance, max</b>		1,000 $\Omega$
<b>Bias output voltage, settling time<sup>3</sup>, nominal</b>		350 $\mu$ s
<b>Including temp effects</b>		1.5 VDC $\pm 5\%$
<b>Grounding</b>	none: pellet case must be isolated from mounting surface	
<b>Electromagnetic sensitivity, equiv. g, max</b>	200 $\mu$ g/gauss	
<b>Sensing element design</b>	PZT, shear	
<b>Sealing</b>	hermetic	
<b>Weight</b>	3.2 grams	
<b>Case material</b>	304L stainless steel	
<b>Header material</b>	Kovar	
<b>Mounting</b>	epoxy; pellet must be isolated from mounting surface or TO-5 4-pin mount	

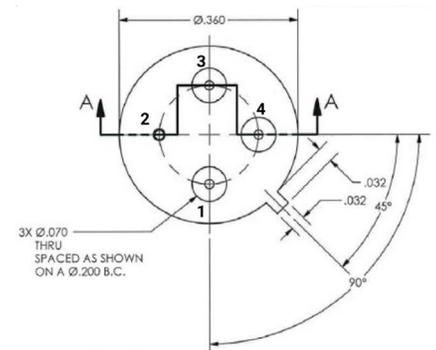
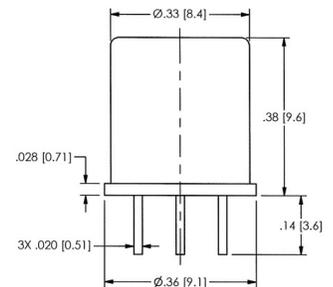
**Notes:** <sup>1</sup> 5% sensitivity tolerance available upon request.  
<sup>2</sup> Frequency response when epoxy mounted using flat shield surface.  
<sup>3</sup> Based on BOV within 10% of nominal BOV at 25°C. Power off for 30 sec minimum for fastest startup.

**Accessories supplied:** calibration data



### Key features

- 180  $\mu$ W power consumption
- Fast startup time, fast BOV settling time of 350  $\mu$ s
- Standardized TO-5 semiconductor package



Connections	
Function	Pin
common	1
case	2
output	3
power	4



Note: Due to continuous process improvement, specifications are subject to change without notice. This document is cleared for public release.