



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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PC Board Mountable Accelerometer
Millivolt Output
Small Size
Low Cost

- ▶ **Vibration/Shock Monitoring**
- ▶ **Consumer Electronics**
- ▶ **Patient Monitoring**
- ▶ **Crash Recorder**



DESCRIPTION

The Model 3031 is a piezoresistive silicon accelerometer in a surface mount package. It is intended for high volume applications where small size, light weight, and low cost are required.

This accelerometer consists of a micro machined silicon mass suspended by multiple beams from a silicon frame. Piezoresistors located in the beams change their resistance as the motion of the suspended mass changes the strain in the beams. Silicon caps on the top and bottom of the device are added to provide over-range stops. This design provides for a very low profile, high shock resistance, durability and built-in damping over a wide usable bandwidth.

For non-surface mount accelerometers please see the Models 3022, 3028, 3052 or 3058.

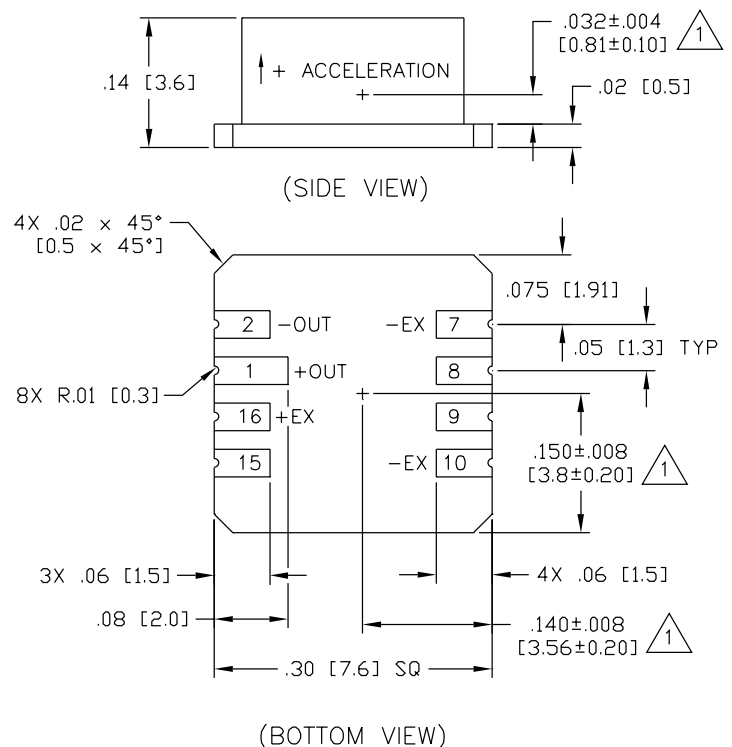
FEATURES

- ▶ Surface Mount Package
- ▶ $\pm 0.5\%$ Non-linearity (typical)
- ▶ $\pm 1.0\%$ Temperature Performance (with comp resistors—typical)
- ▶ DC Response
- ▶ Built-in Damping
- ▶ Built-in Overrange Stops
- ▶ Low Power

STANDARD RANGES

Range	g
± 50	●
± 100	●
± 200	●
± 500	●

DIMENSIONS



(1) NOTED DIMENSIONS INDICATE CENTER OF GRAVITY POSITIONS.

PERFORMANCE SPECIFICATIONS

Supply Voltage: 5.0 VDC
 Ambient Temperature: 25°C (Unless otherwise specified)

PARAMETERS	RANGE				UNITS	NOTES
	±50G	±100G	±200G	±500G		
Frequency Response [MIN]	0-1000	0-1500	0-2000	0-2400	Hz	1
Mounted Resonant Frequency [MIN]	2000	3000	4000	5000	Hz	
Sensitivity (MIN/MAX)	0.6/1.5	0.3/0.6	0.15/0.3	0.06/0.15	mV/g	2

PARAMETERS	MIN	TYP	MAX	UNITS	NOTES
Zero Acceleration Output		5	25	±mV	
Damping Ratio	0.4	0.7	0.9		
Non-linearity		0.5	1	±% Span	3
Transverse Sensitivity		1	3	±% Span	
Input & Output Resistance	2.5	3.5	6.5	kΩ	
Temperature Error - Span		1.0	2.0	±% Span	4, 5
Temperature Error - Zero		1.0	2.0	±% Span	4, 5
Supply Voltage		5.0	10.0	VDC	
Output Noise		1.0		μV p-p	6
Output Load Resistance	5			MΩ	
Acceleration Limits (Any Direction)		20X		Rated	7
Operating Temperature	-40°C to +125°C				
Storage Temperature	-55°C to +150°C				
Weight	0.3 Grams				

- Notes**
1. The frequency response is defined as the range of frequencies over which the device sensitivity is within ±5% of the DC value.
 2. Output voltage increases for positive acceleration; output voltage decreases for negative acceleration.
 3. Best Fit Straight Line.
 4. Percentage values are with external compensation.
 5. Compensated temperature range: 0-50°C in reference to 25°C.
 6. 10 Hz to 1 kHz.
 7. 20X or 2000g, whichever is less.
 8. Solder on pads is 62% Tin, 36% Lead, 2% Silver. Maximum allowable temperature during mounting is 220°C for 1 minute. Contact factory if a higher mounting temperature will be used.

ORDERING INFORMATION



CONNECTIONS

