

MODEL 3031 Accelerometer

SMD Accelerometer

Miniature DC Response

Piezoresistive MEMS

10,000g Over-Range Protection

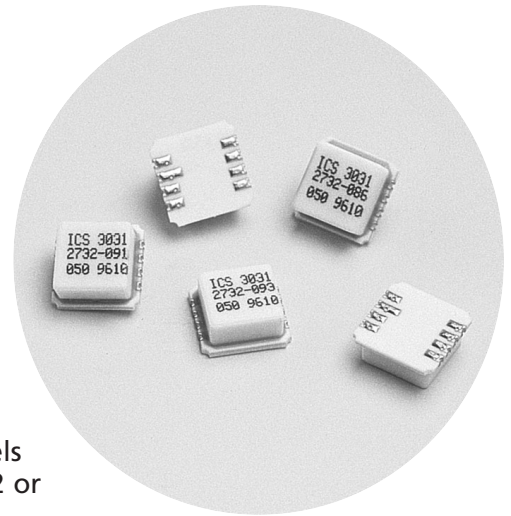
DESCRIPTION

The Model 3031 is a piezoresistive SMD accelerometer designed for demanding high volume applications. The accelerometer is ideal for applications requiring a miniature light weight accelerometer with outstanding performance.

The model 3031 incorporates a 2nd generation MEMS sensing element providing superior long-term stability. The accelerometer provides a

millivolt output signal and features mechanical overload stops that provide shock protection to 10,000g.

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



FEATURES

- ◆ Surface Mount Package
- ◆ 2nd Generation MEMS Element
- ◆ Hermetic LCC Package Available
- ◆ DC Response
- ◆ Gas Damping
- ◆ Built-in Overrange Stops
- ◆ Low Power Gas

APPLICATIONS

- ◆ Vibration/Shock Monitoring
- ◆ OEM
- ◆ Impact & Shock Testing
- ◆ Machinery

standard ranges

Range	g
±50	•
±100	•
±200	•

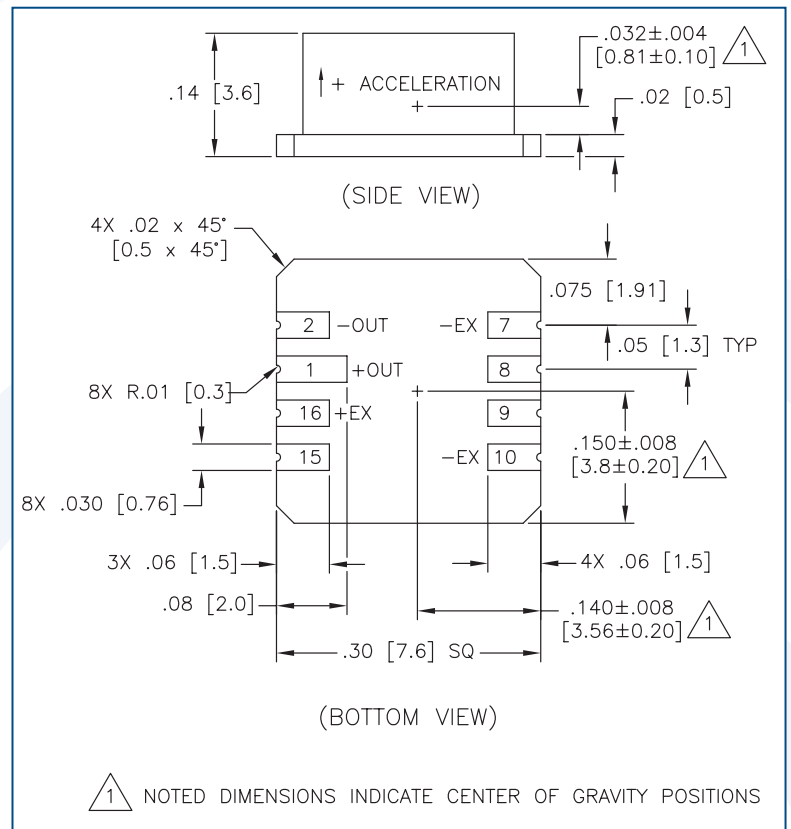
Contact factory for availability of higher g-ranges.

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RevA 10/6/05

dimensions



Model 3031 Acclerometer

performance specifications

Supply Voltage: 5.0 VDC

Ambient Temperature: 25°C (Unless otherwise specified)

PARAMETERS	RANGE			UNITS	NOTES
	±50G	±100G	±200G		
Frequency Response [MIN]	0-1000	0-1500	0-2000	Hz	1
Mounted Resonant Frequency [MIN]	4000	6000	8000	Hz	
Sensitivity (MIN/MAX)	0.6/1.5	0.3/0.6	0.15/0.3	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 (0°C to +50°C)	-0.3	-0.15	0	%/°C	
Temperature Error - Zero (0°C to +50°C)	-0.1	-0.05	+0.1	mV/°C	
Supply Voltage	2.0	5.0	10.0	VDC	
Output Noise		1.0		µV p-p	4
Output Load Resistance	5			MΩ	
Shock Limits			10,000	g	
Operating Temperature	-40°C to +125°C				
Storage Temperature	-40°C to +125°C				
Weight	0.3 Grams				

Notes

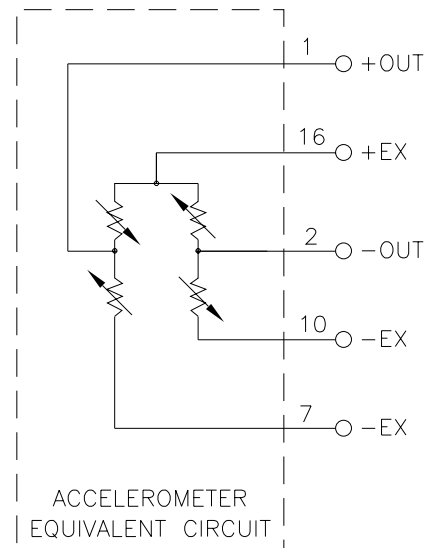
1. The frequency response is defined as the range of frequencies over which the device sensitivity is within ±5% of the DC value.
2. Output voltage increases for positive acceleration; output voltage decreases for negative acceleration.
3. Best Fit Straight Line.
4. 10 Hz to 1 kHz.

ordering information

3031 - 100



electrical schematic



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measurement
SPECIALTIES