

Model Number 3991B1160KG	HIGH AMPLITUDE MEMS SHOCK ACCELEROMETER	Revision: D ECN #: 48068
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	ENGLISH	SI	
Performance			
Sensitivity(± 50 %)(at 10 VDC excitation)	0.003 mV/g	0.0003 mV/(m/s ²)	[2]
Sensitivity	0.0003 mV/V/g	0.00003 mV/V/(m/s ²)	[7]
Measurement Range	± 0 to 60,000 g	± 0 to 588,400 m/s ² pk	
Frequency Range(± 1 dB)	0 to 20,000 Hz	0 to 20,000 Hz	
Resonant Frequency	>120 kHz	>120 kHz	
Damping Ratio	2 % Critical	2 % Critical	[1]
Non-Linearity(per 10,000 g (98,100 m/s ²))	≤ 1 %	≤ 1 %	
Transverse Sensitivity	≤ 3 %	≤ 3 %	
Environmental			
Overload Limit(Shock)	± 100,000 g pk	± 980,665 m/s ² pk	[5]
Overload Limit(Mechanical Stops)	≥ 80 kg	≥ 782,534 m/s ² pk	
Temperature Range(Operating)	-65 to 250 °F	-54 to 121 °C	
Temperature Coefficient of Sensitivity	-0.11 %/°F	-0.20 %/°C	[1]
Zero g Offset Temperature Shift	± 10 mV	± 10 mV	[6]
Base Strain Sensitivity	.3 g/με	2.94 (m/s ²)/με	[1]
Electrical			
Excitation Voltage(Maximum)	15.0 VDC	15.0 VDC	
Current Consumption	<3 mA	<3 mA	
Input Resistance(± 2000 Ohm)	6000 Ohm	6000 Ohm	[1][2]
Output Resistance(± 2000 Ohm)	6000 Ohm	6000 Ohm	[1][2]
Offset Voltage	± 40 mVDC	± 40 mVDC	[2]
Settling Time	0.01 sec	0.01 sec	[3]
Electrical Isolation(Case)	≥ 10 ⁷ Ohm	≥ 10 ⁷ Ohm	[4]
Physical			
Sensing Element	Piezoresistive MEMS	Piezoresistive MEMS	
Sensing Geometry	Full Active	Full Active	
Housing Material	Titanium	Titanium	
Sealing	Epoxy	Epoxy	
Size (Height x Length x Width)	0.120 in x 0.56 in x 0.28 in	3.05 mm x 14.22 mm x 7.11 mm	[1]
Weight(without cable)	0.045 oz	1.28 gm	
Electrical Connector	Integral Cable	Integral Cable	
Electrical Connection Position	Side	Side	
Cable Type	096 4-cond silicone jacket	096 4-cond silicone jacket	
Cable Termination	Pigtail Ends	Pigtail Ends	
Cable Length	10 ft	3.05 m	
Mounting	Through Holes (2)	Through Holes (2)	

OPTIONAL VERSIONS

Optional versions have identical specifications and accessories as listed for the standard model except where noted below. More than one option may be used.

NOTES:

[1] Typical.
 [2] Verified with test data provided on supplied calibration certificate.
 [3] Settling Time is the maximum time after power-up for the Offset Voltage to be within +/-2% of Measurement Range output of the final offset value. Mounting surface must be at thermal equilibrium.
 [4] Individually tested to ensure compliance with specified value.
 [5] Half-sine pulse duration, ≥ 20 μsec.
 [6] -65 to +250 °F, ref. 75 °F (-54 to +121 °C, ref. 24 °C)
 [7] Sensitivity is proportional to excitation voltage, and at other excitation values, sensitivity can be predicted from the 10VDC calibrated value with a small (<~.5%) increase in uncertainty.
 [8] See PCB Declaration of Conformance PS165 for details.

SUPPLIED ACCESSORIES:

Model 081A110 Mounting Screw (4-40 x 1/4" SHCS) (2)
 Model ACS-62 Shock Pulse Calibration of single axis piezoresistive shock accelerometer to maximum amplitude of 5k g, 10.0 VDC excitation

Entered: LK	Engineer: GD	Sales: RWM	Approved: BAM	Spec Number:
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All specifications are at room temperature unless otherwise specified.
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