

Model Number 3991B1160KG	HIGH AMPLITUDE MEMS SHOCK ACCELEROMETER				Revision: D ECN #: 48068
Performance	ENGLISH	SI			OPTIONAL VERSIONS
Sensitivity(± 50 %)(at 10 VDC excitation)	0.003 mV/g	0.0003 mV/(m/s ²)	[2]		Optional versions have identical specifications and accessories as listed for the standard model except where noted below. More than one option may be used.
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					NOTES:
Excitation Voltage(Maximum)	15.0 VDC	15.0 VDC			[1] Typical.
Current Consumption	<3 mA	<3 mA			[2] Verified with test data provided on supplied calibration certificate.
Input Resistance(± 2000 Ohm)	6000 Ohm	6000 Ohm	[1][2]		[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.
Output Resistance(± 2000 Ohm)	6000 Ohm	6000 Ohm	[1][2]		[4] Individually tested to ensure compliance with specified value.
Offset Voltage	± 40 mVDC	± 40 mVDC	[2]		[5] Half-sine pulse duration, ≥ 20 μsec.
Settling Time	0.01 sec	0.01 sec	[3]		[6] -65 to +250 °F, ref. 75 °F (-54 to +121 °C, ref. 24 °C)
Electrical Isolation(Case)	≥ 10 ⁷ Ohm	≥ 10 ⁷ Ohm	[4]		[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.
Physical					[8] See PCB Declaration of Conformance PS165 for details.
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			
Weight(without cable)	0.045 oz	1.28 gm	[1]		
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)			
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:	
Date: 4/10/2018	Date: 4/10/2018	Date: 4/10/2018	Date: 4/10/2018	65882	
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