Model: 3991A1160KG

MEMS HIGH AMPLITUDE MEMS SHOCK ACCELEROMETER

MEMS Shock Accelerometer, 60 Kg, thru hole mount, 034 integral FEP cable (ITAR Controlled)

	ENGLISH	SI	
Performance			
Sensitivity (±50 %) (at 10 VDC excitation)	0.003 mV/g	0.0003 mV/(m/s²)	[1]
Sensitivity	0.0003 mV/V/g	0.00003 mV/V/(m/s²)	[3]
Measurement Range	±0 to 60000 g	±0 to 588400 m/s² pk	
Frequency Range (1 dB)	0 to 20000 Hz	0 to 20000 Hz	
Resonant Frequency	>120 kHz	>120 kHz	
Damping Ratio	2 % Critical	2 % Critical	[2]
Non-Linearity	±1 %	±1 %	
Transverse Sensitivity	≤3 %	≤3 %	
Environmental			
Overload Limit (Shock)	±100000 g pk	±980665 m/s² pk	[4][5]
Overload Limit (Mechanical Stops)	≥80000 g	≥782534 m/s² pk	
Temperature Range (Operating)	-65 to 250 °F	-54 to 121 °C	
Temperature Coefficient of Sensitivity	-0.11 %/°F	-0.20 %/°C	[2]
Zero g Offset Temperature Shift	±10 mV	±10 mV	[6]
Base Strain Sensitivity	.3 g/με	2.94 (m/s²)/με	[2]
Electrical			
Excitation Voltage (Maximum)	15.0 VDC	15.0 VDC	
Current Consumption	<3 mA	<3 mA	
Input Resistance (±2000 Ohm)	6000 Ohm	6000 Ohm	[2][1]
Output Resistance (±2000 Ohm)	6000 Ohm	6000 Ohm	[2][1]
Offset Voltage	±40 mVDC	±40 mVDC	[1]
Settling Time	0.01 sec	0.01 sec	[7]
Electrical Isolation (Case)	≥100000000 Ohm	≥100000000 Ohm	[5]
Physical			
Sensing Element	Piezoresistive MEMS	Piezoresistive MEMS	
Sensing Geometry	Full Active	Full Active	
Housing Material	Titanium	Titanium	
Sealing	Epoxy	Epoxy	
Size - Height	0.120 in	3.05 mm	
Size - Length	0.56 in	14.22 mm	
Size - Width	0.28 in	7.11 mm	
Weight (without cable)	0.045 oz	1.28 gm	[2]
Electrical Connector	Integral Cable	Integral Cable	
Electrical Connection Position	Side	Side	
Cable Type	034 4-cond Shielded	034 4-cond Shielded	
Cable Termination	Pigtail Ends	Pigtail Ends	
Cable Length	10 ft	3.05 m	
Mounting	Through Holes (2)	Through Holes (2)	

All specifications are at room temperature unless otherwise specified.

Product Notes

[1] Verified with test data provided on supplied calibration certificate.
[2] Typical.
[3] 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.
[4] Half-sine pulse duration, >= 20 µsec.
[5] Individually tested to ensure compliance with specified value.
[6] -65 to +250 °F, ref. 75 °F (-54 to +121 °C, ref. 24 °C)
[7] 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.

Accessories

Supplied

081A110	Mounting Screw (4-40 x 1/4" SHCS)	(2)
ACS-62	Shock Calibration of Piezoresistive High Amplitude Accelerometers	(1)