

Model Number 3503A112KG	TRIAxIAL HIGH AMPLITUDE MEMS SHOCK ACCELEROMETER	Revision: C ECN #: 47458
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	<u>ENGLISH</u>	<u>SI</u>	
Performance			
Sensitivity(± 50 %)(at 10 VDC excitation)	0.20 mV/g	0.02 mV/(m/s ²)	[1]
Sensitivity	0.02 mV/V/g	0.002 mV/V/(m/s ²)	[7]
Measurement Range	± 2 kg	± 19,620 m/s ² pk	
Frequency Range(± 1 dB)	0 to 10,000 Hz	0 to 10,000 Hz	
Resonant Frequency	≥ 20 kHz	≥ 20 kHz	
Damping Ratio	0.7 critical	0.7 critical	[5]
Non-Linearity	± 1 %	± 1 %	
Transverse Sensitivity	≤ 3 %	≤ 3 %	
Environmental			
Overload Limit(Shock)	± 10,000 g pk	± 98,100 m/s ² pk	[4]
Overload Limit(Mechanical Stops)	≥ 2.2 kg	≥ 21,582 m/s ² pk	
Temperature Range(Storage)	-65 to 250 °F	-54 to 121 °C	
Temperature Range(Operating)	-65 to 250 °F	-54 to 121 °C	
Temperature Coefficient of Sensitivity	-0.11 %/°F	-0.20 %/°C	[5]
Zero g Offset Temperature Shift	± 20 mV	± 20 mV	[6]
Base Strain Sensitivity	0.01 g/µε	0.1 (m/s ²)/µε	[5]
Electrical			
Excitation Voltage(Maximum)	15.0 VDC	15.0 VDC	
Current Consumption	<30 mA	<30 mA	
Input Resistance(± 450 Ohm)	950 Ohm	950 Ohm	[1]
Output Resistance(± 1250 Ohm)	2750 Ohm	2750 Ohm	[1]
Offset Voltage	-40 to +40 mVDC	-40 to +40 mVDC	[1]
Settling Time	0.01 sec	0.01 sec	[2]
Electrical Isolation(Case)	≥ 10 ⁷ Ohm	≥ 10 ⁷ Ohm	[3]
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)	0.25 in x 0.47 in x 0.47 in	6.35 mm x 11.81 mm x 11.81 mm	
Weight(without cable)	0.1 oz	2.83 gm	[5]
Electrical Connector	Integral Cable	Integral Cable	
Electrical Connection Position	Side	Side	
Cable Type	8-Cond., shielded, silicone jacket	8-Cond., shielded, silicone jacket	
Cable Termination	Pigtail Ends	Pigtail Ends	
Cable Length	10 ft	3.05 m	
Mounting	Through Holes (2)	Through Holes (2)	
Mounting Torque	6 to 8 in-lb	68 to 90 N-cm	

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] Verified with test data provided on supplied calibration certificate.
 [2] 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.
 [3] Individually tested to ensure compliance with specified value.
 [4] Half-sine pulse duration, ≥ 20 µsec.
 [5] Typical.
 [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 PS153 for details.

SUPPLIED ACCESSORIES:

Model 081B114 Mounting Hardware (1)
 Model ACS-62T Shock Pulse Calibration of triaxial piezoresistive shock accelerometer to maximum amplitude of 5k g, 10 VDC excitation (1)

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All specifications are at room temperature unless otherwise specified.
 In the interest of constant product improvement, we reserve the right to change specifications without notice.

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