

~ Calibration Certificate ~

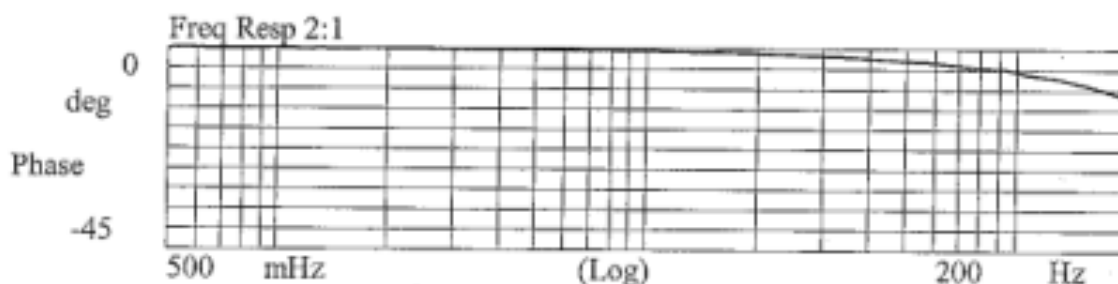
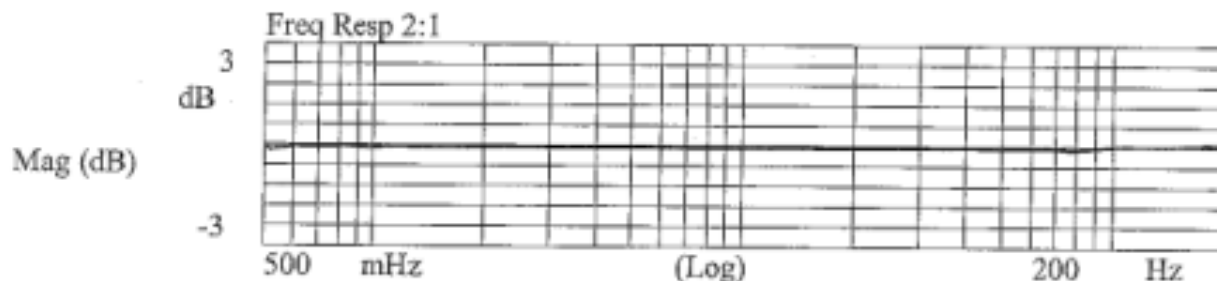
Model Number: 3801D3FB20G/AY
 Serial Number: 294
 Description: DC Capacitive Accelerometer
 Manufacturer: PCB

Method: Back-to-Back Comparison Calibration

Calibration Data

Voltage Sensitivity @ 100 Hz:	<u>99.4</u>	mV/g	Resonant Frequency	<u>1165</u>	Hz
	<u>10.14</u>	mV/(m/s ²)	Zero g Offset Voltage	<u>6</u>	mV DC
Temperature:	<u>71</u>	°F	Relative Humidity:	<u>23</u>	%

Response Plot



Data Points

Frequency (Hz.)	Dev. (%)	Phase (Deg.)	Frequency (Hz.)	Dev. (%)	Phase (Deg.)
0.5	-0.7	-0.5	50	-0.8	-2.6
1.0	-0.8	-0.1	100 (Ref.)	0	-5.0
2.0	-0.6	-0.1	150	0.3	-7.7
5.0	-0.7	-0.3	200	1.1	-10.5
10	-0.8	-0.5			
20	-0.7	-1.0			

Condition of Unit

As Found: n/a
 As Left: New Unit, In Tolerance

Notes

1. Calibration is N.I.S.T. Traceable thru Project 822/262123 and PTB Traceable thru Project 1059.
2. This certificate shall not be reproduced, except in full, without written approval from PCB Piezotronics, Inc.
3. Calibration is performed in compliance with ISO 9001, ISO 10012-1, ANSI/NCSL Z540-1-1994 and ISO 17025.
4. See Manufacturer's Specification Sheet for detailed listing of performance specifications.
5. Measurement uncertainty (95% confidence level with coverage factor of 2) for reference frequency is +/-1.6%.

CAPACITIVE ACCELEROMETER

DYNAMIC PERFORMANCE

Voltage Sensitivity	mV/g [(ms ⁻²) ⁻¹]	100 [10,19]	(10%)
Measurement Range	±g pk [(rms ⁻² pk)]	20 [196]	
Frequency Range:	(±5%) Hz	0 to 200	
	(±10%) Hz	0 to 400	
Mounted Resonant Frequency	Hz	≥800	
Phase Response: at 100 Hz, 70°F [21°C]	°	<15	[3]
Damping Ratio	% critical	70	[3]
Resolution (1 Hz to 100 Hz)	µg rms [(ms ⁻² rms)]	120 [1 200]	[3]
Amplitude Linearity	%	≤2	[1]
Transverse Sensitivity	%	≤5	[2]

ENVIRONMENTAL

Shock Limit - All Axes (maximum)	±g pk [(rms ⁻² pk)]	3,000 [29 400]
Operating Temperature Range	°F [°C]	-40 to +185 [-40 to +85]
Storage Temperature Range	°F [°C]	-85 to +250 [-65 to +121]
Temperature Coefficient	%FS/°F [%FS/°C]	0.005 [0,009]
Zero g Offset Temperature Coefficient	%FS/°F [%FS/°C]	<±0.14 [<±0,25]
Strain Sensitivity	g/µε [(ms ⁻²)/µε]	0.0001 [0,001]
Magnetic Sensitivity	equiv. µg/gauss [(ms ⁻² /Tesla)]	65 [6,37]

ELECTRICAL

Excitation Voltage	VDC	16 to 30
Current Draw	mA	≤10
Output Impedance	ohms	50
Zero g Offset Voltage	mVDC	<±50
Spectral Noise:	µg/√Hz [(µms ⁻²)/√Hz]	50 [490]
(1 Hz)	µg/√Hz [(µms ⁻²)/√Hz]	20 [196]
(10 Hz)	µg/√Hz [(µms ⁻²)/√Hz]	10 [98]
(100 Hz)	ohms	>10 ⁶

MECHANICAL

Housing	material/sealing	Ryton/Epoxy
Size (length x width x height)	in [mm]	0.85 x 0.85 x 0.5 [21,6 x 21,6 x 12,7]
Weight	oz [gm]	1.1 [30]
Electrical Connector	type/location	Integral Cable/Side
Mounting	in [mm]	2 x 0.116 [2,9] Thru Holes

OPTIONAL VERSIONS

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

- M - Metric Mount
- Modify Accessories**
- (2) Model M081A98 Screw replaces (2) Model 081A98

- HT - High Temperature Operation
- Operating Temperature Range °F [°C] -40 to +250 [-40 to +121]

NOTES:

- [1] Zero-based, least-squares, straight line method.
- [2] Transverse sensitivity is typically ≤1.5%.
- [3] Typical value.
- [4] With 10 ft of 010 cable.
- [5] Integral cable, 10 ft in length, terminates in labeled pigtailed.

SUPPLIED ACCESSORIES:

Model 081A98 Mounting Screw (2)
NIST Traceable Calibration Certificate



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Drawn: [Signature]	Eng: JCB	Sales: SL	App'd: [Signature]	Spec Number:
Date: 8/14/10	Date: 8/14/10		Date: 8/24/10	12771

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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