

Model Number
3801D1FB200G

CAPACITIVE ACCELEROMETER

Revision C
ECN #: 18958

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

HT - High temperature, extends normal operation temperatures
Temperature Range (Operating) -40 to +250 °F -40 to +121 °C

Notes

- [1] Offset tolerance is based on manufacturers supplied cable length.
- [2] Typical.
- [3] Measured at 100 Hz, 1 grms.
- [4] Zero-based, least-squares, straight line method.
- [5] Transverse sensitivity is typically $\leq 1\%$
- [6] See PCB Declaration of Conformance PS027 for details.

Supplied Accessories
 080A152 Easy Mount Clip (1)
 081A98 4-40 socket head cap screw x 0.675" long (for Series 3801) (2)
 ACS-11 NIST traceable amplitude and phase response from 0.5 Hz to upper 5% frequency (1)
 M081A98 Mounting Screw (2)

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|--------------------------------------|------------------|---------------------------------|
| Performance | ENGLISH | SI |
| Sensitivity ($\pm 10\%$) | 10 mV/g | 1.02 mV/(m/s ²) |
| Measurement Range | ± 200 g pk | ± 1960 m/s ² pk |
| Frequency Range ($\pm 5\%$) | 0 to 600 Hz | 0 to 600 Hz |
| Frequency Range ($\pm 10\%$) | 0 to 800 Hz | 0 to 800 Hz |
| Resonant Frequency | >2 kHz | >2000 Hz |
| Phase Response (100 Hz) | $<10^\circ$ | $<10^\circ$ |
| Damping Ratio | 70 % Critical | 70 % Critical |
| Broadband Resolution (0.5 to 100 Hz) | 1000 μ g rms | 9800 μ m/s ² rms |
| Non-Linearity | $\leq 2\%$ | $\leq 2\%$ |
| Transverse Sensitivity | $\leq 5\%$ | $\leq 5\%$ |

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| Environmental | | |
| Overload Limit (Shock) | ± 3000 g pk | ± 29400 m/s ² pk |
| Temperature Range (Operating) | -40 to +185 °F | -40 to +85 °C |
| Temperature Range (Storage) | -85 to +250 °F | -65 to +121 °C |
| Temperature Coefficient of Sensitivity | $\leq 0.005\%/^\circ\text{F}$ | $\leq 0.009\%/^\circ\text{C}$ |
| Zero g Offset Temperature Coefficient | $\leq 0.132\%/^\circ\text{F}$ | $\leq 2.353\text{ m/s}^2/^\circ\text{C}$ |
| Base Strain Sensitivity | 0.0005 g/ μ e | 0.005 (m/s ²)/ μ e |
| Magnetic Sensitivity | 3 equiv. μ g/gauss | 0.3 (m/s ²)/Tesla |

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|-----------------------------|---------------------------------|---|
| Electrical | | |
| Excitation Voltage | 5 to 30 VDC | 5 to 30 VDC |
| Current Consumption | ≤ 10 mA | ≤ 10 mA |
| Output Impedance | ≤ 50 ohm | ≤ 50 ohm |
| Offset Voltage (0 g) | ± 40 mVDC | ± 40 mVDC |
| Spectral Noise (1 Hz) | 400 μ g/ $\sqrt{\text{Hz}}$ | 3920 (μ m/s ²)/ $\sqrt{\text{Hz}}$ |
| Spectral Noise (10 Hz) | 90 μ g/ $\sqrt{\text{Hz}}$ | 880 (μ m/s ²)/ $\sqrt{\text{Hz}}$ |
| Spectral Noise (100 Hz) | 50 μ g/ $\sqrt{\text{Hz}}$ | 490 (μ m/s ²)/ $\sqrt{\text{Hz}}$ |
| Electrical Isolation (Base) | $>10^9$ ohm | $>10^9$ ohm |

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| Physical | | |
| Housing Material | Polymer | Polymer |
| Sealing | Epoxy | Epoxy |
| Size (Height x Length x Width) | 0.5 in x 0.85 in x 0.85 in | 12.7 mm x 21.6 mm x 21.6 mm |
| Weight (with cable) | 1.1 oz | 30 gm |
| Electrical Connector | Integral Cable | Integral Cable |
| Electrical Connection Position | Side | Side |
| Cable Type | 036 4-cond silicone jacket | 036 4-cond silicone jacket |
| Cable Length | 10 ft | 3.05 m |
| Mounting | Through Hole | Through Hole |

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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| Entered: BLS | Engineer: JMS | Sales: WDC | Approved: JJB | Spec Number: |
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