PCB PIEZOTRONICS
AN AMPHENOL COMPANY

MODEL **116A05**

UHT-12™ HIGH TEMPERATURE PRESSURE SENSOR

- –320°F to +800°F (–196°C to +427°C) operating temperature range
- 100 psi (6.9 bar) measurement range; 4000 psi (276 bar) maximum pressure rating
- Case-isolated design to reduce electrical noise and ground loops
- Single-ended charge output with 10-32 jack connection

TYPICAL APPLICATIONS

- Rocket motor combustion instability
- High-temperature dynamic pressure
- Steam pipe and high-temperature process monitoring

ACCURATE PRESSURE DATA ACROSS EXTREME THERMAL CONDITIONS

Model 116A05 is a UHT-12™ high temperature pressure sensor engineered for applications that require accurate measurement of both dynamic pressure and acoustic behavior across extreme thermal conditions. Designed to capture ultra-low pressure fluctuations, the 116A05 delivers reliable performance from –320°F to +800°F (–196°C to +427°C). Its charge output UHT-12™ sensing element, case-isolated design, and 10-32 jack connection support consistent, high-fidelity transmission in demanding pressure and temperature environments.

With a 100 psi measurement range and 4000 psi maximum pressure rating, the 116A05 is well suited for propulsion testing, combustion studies, and demanding thermal-dynamic investigations.

SPECIFICATIONS

MODEL NUMBER 116A05	English	SI	Notes
Performance			
Sensitivity (± 15%)	7 pC/psi	101.5 pC/bar	
Measurement Range	100 psi	6.9 bar	
Maximum Pressure (Total)	4,000 psi	275.8 bar	
Resonant Frequency	≥ 100 kHz	≥ 100 kHz	
Transverse Resonance	> 15 kHz	> 15 kHz	
Frequency Response (± 5%)	20,000 Hz	20,000 Hz	Upper frequency response is calculated from resonant frequency.
Non-Linearity	≤ 1% FS	≤ 1% FS	Zero-based, least-squares line method.
Environmental			
Maximum Shock (Axial)	2,000 g pk	19,620 m/s² pk	Half-sine pulse duration, 1 msec.
Acceleration Sensitivity	0.01 psi/g	0.007 kPa/(m/s²)	Maximum.
Acceleration Sensitivity	0.004 psi/g	0.0028 kPa/(m/s²)	Typical.
Temperature Range (Operating)	–320 to 800 °F	–196 to 427 °C	
Maximum Flash Temperature	3,000 °F	1,650 °C	
Electrical			
Output Polarity (Positive Pressure)	Negative	Negative	
Capacitance	27 pF	27 pF	Typical.
Case Isolation (800 °F/430 °C)	≥ 50 kohm	≥ 50 kohm	
Insulation Resistance (Room Temp)	≥ 10^12 Ohm	≥ 10^12 Ohm	
Case Isolation (Room Temp)	≥ 10^12 Ohm	≥ 10^12 Ohm	
Insulation Resistance (800 °F/430 °C)	≥ 50 kohm	≥ 50 kohm	
Physical			
Sensing Element	UHT-12™	UHT-12™	
Sensing Geometry	Compression	Compression	
Housing Material	Nickel Alloy	Nickel Alloy	
Sealing	Welded Hermetic	Welded Hermetic	
Electrical Connector	10-32 Coaxial Jack	10-32 Coaxial Jack	
Weight	0.61 oz	17.2 g	Typical.

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