

MEMSCAP

SENSOR SOLUTIONS

SP 82 PRESSURE SENSOR

MEMSCAP high-end sensors offer unique performance for your applications. The high proven quality and reliability of our sensors that match Aerospace and Defense standards offer unmatched results in a wide variety of industry applications ranging from Meteorology, Sub-Sea, Instrumentation, Utilities, as well as R&D. The SP82 products are the result of an advanced silicon MEMS processing for extreme performances.

APPLICATIONS :

- Aerospace; Defense
- Meteorology
- Sub-Sea
- Instrumentation
- Utilities
- Industry
- R&D

BENEFITS :

- Excellent long-term stability (option L sensors)
- Unmatched results for high reliability applications
- Small and cost effective
- High accuracy
- Insensitive to humidity through unique passivation technique



FEATURES :

- Latest generation for pressure measurements
- Piezoresistive silicon chip
- Available in Absolute, Relative (Gauge) & Differential configurations
- Active chip temperature control
- Passivated Resistors
- Extensive stability screening test program
- Simple and mature package
- Fully hermetic TO-8 package

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MEMSCAP®
The Power of a Small World™

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SP82 PRESSURE SENSOR

ABSOLUTE, RELATIVE, DIFFERENTIAL



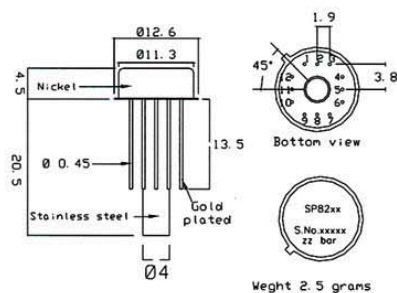
SPECIFICATIONS

INPUT PARAMETERS (25 °C ambient)	
Ranges (absolute)	1, 2, 5, 10, 30 and 60bar
Ranges (relative and differential)	0.5, 1, 2, 5, 10, 30 and 60bar
Excitation Current (recommended)	<1.5mA DC or AC
Excitation Voltage (recommended)	<7.5V DC or AC
Resistor Values R1, R2, R3 and R4	5000 Ω ±30%
Temperature Sensing Resistor RT	4600 Ω ±30%
Heating Resistor RE	120 Ω ±30%
OUTPUT PARAMETERS (25 °C ambient, 1 mA DC or 5V DC excitation)	
Full Scale Output (FSO)*	125mV ±35%
Zero Balance (max)	±50mV
Zero Balance (typical)	±10mV
Non-Linearity (max)**	0.2%FSO
Non-Linearity (typical)**	0.1%FSO
Hysteresis and Repeatability	±0.005%FSO
Long Term Stability	0.1%FSO/year
Long Term Stability (option L)	0.02%FSO/year
Option L in heated mode (using RE and RT)	0.05%FSO/year
TEMPERATURE EFFECTS	
1mA DC Excitation	
TC of Zero Signal (typical)	±0.07%FSO/°C
TC of Sensitivity	0.01 ±0.01%/°C
5V DC Excitation	
TC of Zero Signal (typical)	±0.02%FSO/°C
TC of Sensitivity	-0.23 ±0.01%/°C
ACCELERATION EFFECTS (25 °C ambient)	
Acceleration Sensitivity (DC to 2000Hz)	<0.003%FSO/g
Vibration Rectification Error (DC to 2000Hz)	<2.2 10 ⁻⁵ %FSO/g
MAXIMUM RATING	
Safe Overload	150%of pressure range
Operating Temperature Range	-55 °C to +125 °C
Storage Temperature Range	-55 °C to +125 °C
Excitation Current	2mA DC or AC
Excitation Voltage	10V DC or AC
Mechanical Shock	500g, 1ms

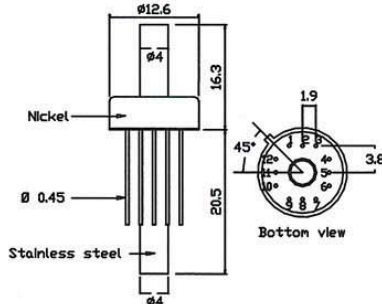
*Full Scale Output (FSO) 0.5bar=100mV ±35%

**Non Linearity 0.5bar: max 0.5%FSO and typical 0.2%FSO

Mechanical dimensions; Absolute and Relative



Mechanical dimensions; Differential



Electrical Schematic

