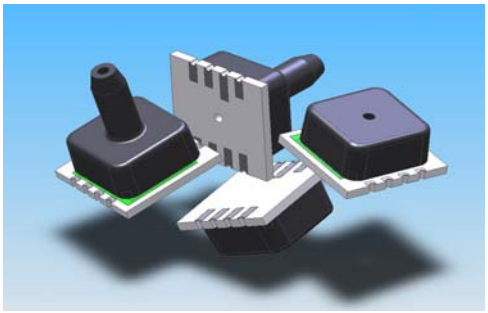
Surface Mount Basic Pressure Sensors



Features

- 10 inH2O Full Sacale to 100 psi Full ScalePressures
- 0.5 % linearity
- Small LCC Footprint
- ROHS Compliant

Applications

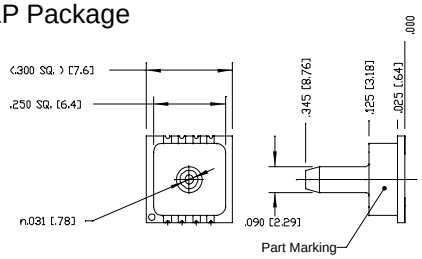
- Medical Instrumentation
- Environmental Controls
- HVAC

General Description

The BASIC Serices of pressure sensors use a silicon micromachined (MEMS) pressure sensor in the most basic configuration. The package is a ceramic surface mount configuration to provide the smallest footprint possible.
Best temperature compensation is realized when the sensor has a constant current excitation.
This series is intended for use with non-corrosive, non-ionic working fluids such as air, dry gases and the like.
Specifications are written for constant voltage of 3.0 volts.
The output of the device is ratiometric to the supply voltage.

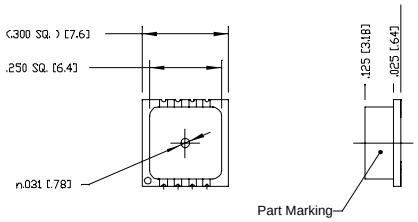
Physical Dimensions

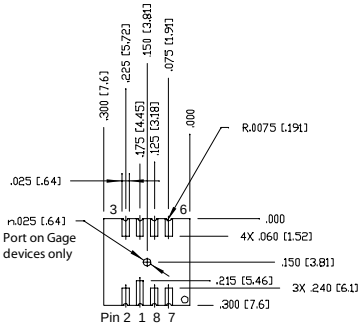
LP Package



LF Package

Dimensions: inch [mm]



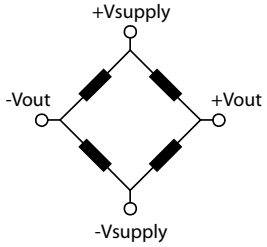


Back Side (Common to LP and LF Packages)

PART MARKING

L10G - 10 inH2O
001G - 1 PSIG
005G - 5 PSIG
015G - 15 PSIG
015A - 15 PSIA
030G - 30 PSIG
060G - 60 PSIG
100G - 100 PSIG

Equivalent Circuit



PINOUT

Pin 1: +Vsupply
Pin 2: +Vout
Pin 3: N.C. Reserved
Pin 4: N.C. Reserved
Pin 5: N.C. Reserved
Pin 6: N.C. Reserved
Pin 7: -Vout
Pin 8: -Vsupply

Approvals

MKT DATE	MFG DATE	ENG DATE	QA DATE
☐ As Is ☐ With Change	☐ As Is ☐ With Change	☐ As Is ☐ With Change	☐ As Is ☐ With Change

ALL SENSORS
A 16035 Vineyard Blvd Morgan Hill, CA 95037 P 408 225 4314 F 408 225 2079 E www.allsensors.com

Pressure Sensor Characteristics Maximum Ratings

Supply Voltage VS	6 Vdc
Lead Temperature (soldering 2-4 sec.)	270°C

Environmental Specifications

Temperature Ranges	
Operating	-25 to 85° C
Storage	-40 to 125° C
Humidity Limits	0 to 95% RH (non condensing)

Standard Pressure Ranges

Ported Part Number	Non-ported Part Number	Operating Pressure	Sensitivity [1] Nominal	Sensitivity [1] Std Dev.	Sensitivity [1] Units	Proof Pressure
BST-L10G-LP	BST-L10G-LF	0 - 10 inH2O	2.0	±0.24	mV/inH2O	3 PSI
BSM-001G-LP	BSM-001G-LF	0 - 1 PSI	21.0	±2.50	mV/PSI	5 PSI
BSM-005G-LP	BSM-005G-LF	0 - 5 PSI	10.5	±1.30	mV/PSI	15 PSI
BSM-015G-LP	BSM-015G-LF	0 - 15 PSI	5.3	±0.64	mV/PSI	45 PSI
BSM-015A-LP	BSM-015A-LF	0 - 15 PSIA	5.3	±0.64	mV/PSI	30 PSI
BSM-030G-LP	BSM-030G-LF	0 - 30 PSI	2.6	±0.30	mV/PSI	100 PSI
BSM-100G-LP	BSM-100G-LF	0 - 100 PSI	1.1	±0.13	mV/PSI	200 PSI

Common Performance Characteristic

Parameter [1]	Minimum	Nominal	Maximum	Units
Offset Voltage	--	±5	±25	mv
Temperature Effect on Offset [2]	--	±3	--	uV/V/°C
Temperature Effect on Resistance [2,6]	2300	2600	3300	ppm/°C
Temperature Effect on Span [2,6]	-1700	-2200	-2700	ppm/°C
Linearity error [4,6]	--	±0.2	±0.5	% FSS
Hysteresis error [6]	--	±0.01	±0.05	% FSS
Position Sensitivity (BST-L10G-xx) [6]	--	±0.01	±0.03	% FSS
Input Resistance [6]	2.7	3.3	4.0	kohms
Output Resistance [6]	2.7	3.3	4.0	kohms
Long term stability of span [3]	--	0.1	--	% FSS

Specification Notes

NOTE 1: ALL PARAMETERS ARE MEASURED AT 3.0 VOLT EXCITATION, FOR THE NOMINAL FULL SCALE PRESSURE AND ROOM TEMPERATURE UNLESS OTHERWISE SPECIFIED. PRESSURE MEASUREMENTS ARE WITH POSITIVE PRESSURE TO THE SINGLE PORT CONFIGURATION.

NOTE 2: SHIFT IS RELATIVE TO 25°C.

NOTE 3: SHIFT IS WITHIN THE FIRST YEAR OF OPERATION.

NOTE 4: MEASURED AT ONE-HALF FULL SCALE RATED PRESSURE USING BEST STRAIGHT LINE CURVE FIT.

NOTE 5: THE VOLTAGE ADDED TO THE OFFSET VOLTAGE AT FULL SCALE PRESSURE.

NOTE 6: PARAMETER IS CHARACTERIZED AND NOT 100% TESTED. MINIMUM AND MAXIMUM VALUES INDICATED AS A DESIGN REFERENCE.