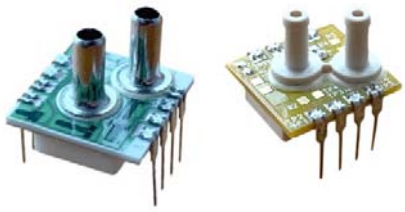
SA12 Series
Dual In Line Package
mV Output, Temperature Compensated
Current Supply



DESCRIPTION

Sensorall International SA12 Series is a temperature compensated, mV output, ceramic mounted pressure sensor packaged in a rugged Dual In Line package. SA12 uses a silicon MEMS pressure sensor bonded to a ceramic substrate containing thick film resistors that are uniquely laser trimmed for each sensor.

Incorporating a flexible design, the SA12 Series is available with no, short or long tubes and can be mounted pin up or pins down to allow OEMs to optimize their board design. The SA12 series is powered using constant current and when configured as in the application note, the integrated gain set resistor will ensure sensor field interchangeability.

The SA12 series superior die performance, coupled with rugged ceramic substrate ensures long term stability with superior temperature performance over wide operating range.

APPLICATIONS

- Pneumatic controls
- Automotive diagnostics
- Medical equipment/instrumentation
- Air Speed and Altitude
- Environmental controls
- Barometric pressure measurement
- Factory Automation
- Process Controls

FEATURES

- 100% Field Interchangeability
- Constant Voltage
- Wide selection of port
- Absolute, Differential or Gage pressures
- Temperature Compensated
- 0.5% Pressure Non Linearity

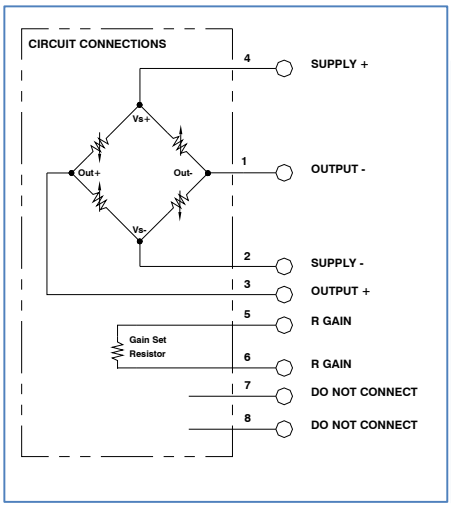
SPECIFICATIONS	Symbol	Min	Typical	Max	Unit	Note
Performance Characteristics						
Supply Voltage		0.5	1.5	2.0	mA	
Bridge Resistance, Input & Output		2500		6100	Ω	
Zero Pressure Offset		-2.0	±0.1	+2.0	mV	
Pressure Non Linearity		-0.5		+0.5	%FSS	2
Hysteresis & Repeatability			0.05		%FSS	
Full Scale Span	FSS	25	100	150	mV	3
Temperature Hysteresis, Offset & Span		-0.20		+0.20	%FSS	4
Thermal Error of Span		-0.5		+0.5	%FSS	
Thermal Error of Offset		-0.5		+0.5	%FSS	
Response Time			100		µS	
Insulation Resistance		50			M Ω	
Long Term Stability, Offset & Span			±0.4		%FSS	5
Weight				0.3	grams	
Compensated Temperature		0 to 50			°C	
Operating Temperatures		-40 to 125			°C	

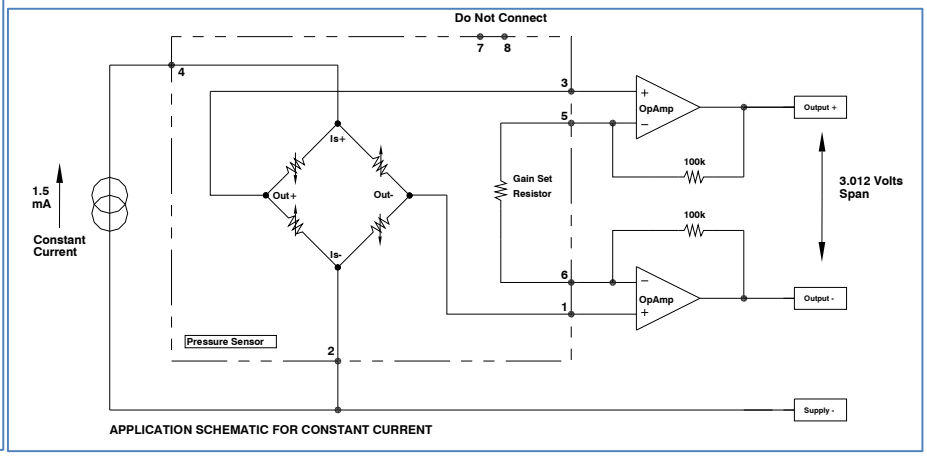
SPECIFICATIONS	Symbol	Min	Typical	Max	Unit	Note
Absolute Maximum Conditions						6
Supply Voltage				3	mA	
Storage Temperature		-50		150	°C	
Overage Pressure						
Burst, Differential Pressure				3x	Range	
Burst, Gauge & Absolute Pressure				10x	Range	
Media Compatibility		CDA, Non Ionic, Non Corrosive Gases				
Wetted Materials		Ceramic, Epoxy, RTV, Silicon, Gold, Aluminum, Palladium Silver				

Reference Conditions: Vsupply: 1.500mA, Ta=25°C.
1. All specification at reference conditions unless otherwise noted. Output is ratio metric to supply voltage.
2. ½ Terminal Base Non Linearity (Measured at 0, 50% and 100% FS).
3. Full Scale Span output with sensor only. Field Interchangeability of 1% is guaranteed with use of Application Note. Span is 75mV for products over 15psi pressure range.

4. Deviation between 50°C and 0°C expressed as percentage of reading at 25°C.
5. Deviation after 1 year period measured at reference conditions.
6. Exceeding Absolute Maximum Specification may damage the device. Extended exposure beyond the operating conditions may affect device reliability.

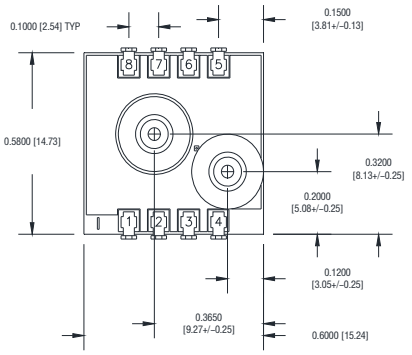
EQUIVALENT CIRCUIT APPLICATION CIRCUIT

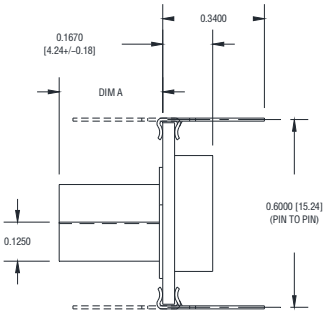




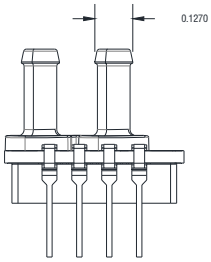
MECHANICAL DIMENSIONS in [mm]

Type A: Metal Tube/Ceramic Lid/Ceramic Substrate

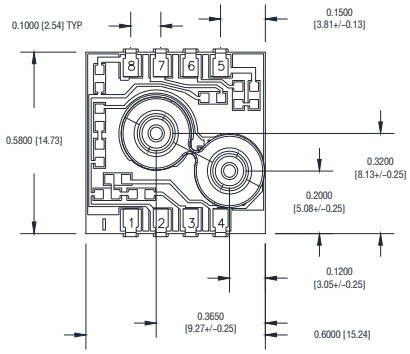


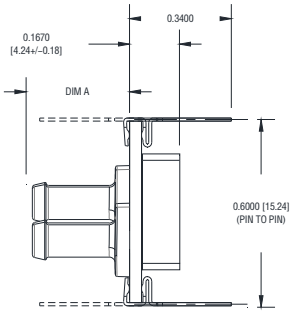


VENT TUBE DIMENSIONS		
MODEL	DIM A	
1N/3N	N/A	
1L/3L	.490+/-.005	[12.45+/-0.13]
1S/3S	.325+/-.005	[8.26+/-0.13]

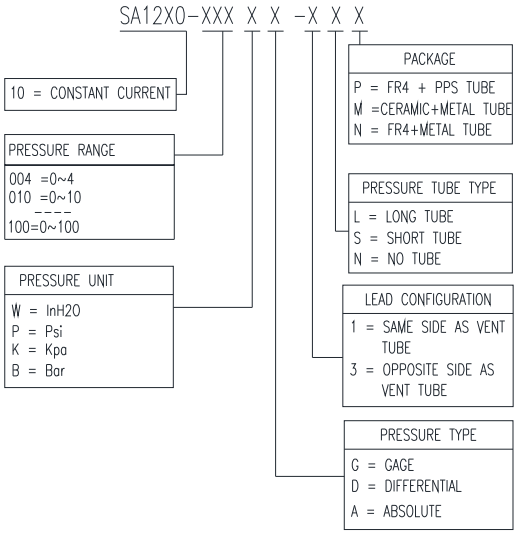


Type B: Plastic Tube/Plastic Lid/ High Temp Substrate





PART NUMBERING FOR ORDERS



Part Number Example: SA1210-005WD-3SM 0~5 InH2O Differential, Short Metal Tube, Pins Down, SA12 Product

WARRANTY

Pressure sensors have a limited one-year warranty to the original purchaser. Sensorall International will repair or replace, at its option, without charge those items it finds defective. This is the buyer s sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Sensorall International be liable for consequential, special, or indirect damages. This warranty does not apply to units that have been modified, misused, neglected or installed where the application exceeds published ratings. Specifications may change without notice. The information supplied is believed to be accurate and reliable as of this printing, however, we assume no responsibility for its use.