

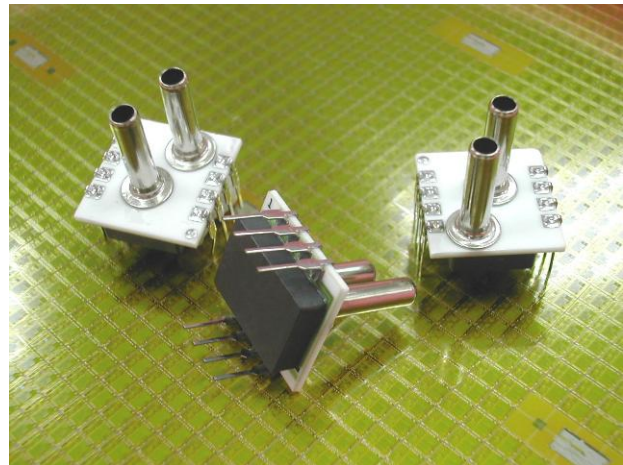
# Solid State Pressure Sensor

ANALOG  
OUTPUT

## CCD Series – Model 53A Low Pressure

### FEATURES

- Dual-in-line Package
- Calibrated Span and Offset
- Multi-order Temperature Compensation
- Rigid Ceramic Package
- 0.15 PSI to 150 PSI
- Custom Configuration Upon Request



### DESCRIPTION

The CCD 53A Series is a smart pressure sensor with a calibrated and amplified analog output. Compensation of sensor offset, sensitivity, temperature drift and nonlinearity is accomplished in the factory via the latest ASIC technology with calibration coefficients stored in an on-chip EEPROM.

A variety of output configurations, including response time and voltage levels are available to provide a simple and ready-to-use solution for a wide range of applications. The low voltage version operates from 2.7 to 3.3V while the regular version operates from 4.5 to 5.5V.

The CCD Series including Models 53 and 54, are available for pressure ranges from 0.15 psi to 150 psi. Custom ranges and calibrations are available. Please contact the factory for details.



Sensormate Enterprise Co., Ltd. reserves the right to change specifications without prior notice

10, Industries E. Rd. III, Lukang,  
Chang Hua, Taiwan 50544  
Tel: +8864 7811839 Fax: +8864 7811837  
www.smate.com.tw

Sold in North America By:  
Servoflo Corporation  
75 Allen Street  
Lexington, MA 02421  
Tel: 781-862-9572

[www.servoflo.com](http://www.servoflo.com) / [info@servoflo.com](mailto:info@servoflo.com)

# Characteristics

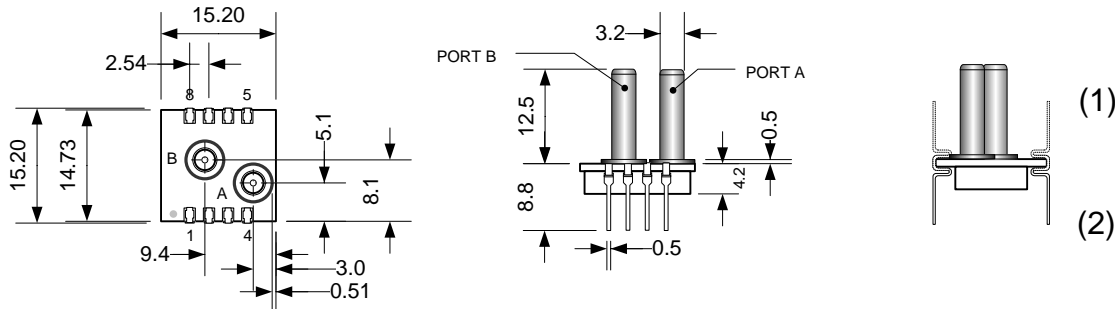
Unless otherwise specified, all parameters are measured at 5V excitation, 25 °C and 60% RH

Parameters	Min	Typ	Max	Unit
Supply Voltage <sup>Note 3</sup>	2.7 to 3.3		4.5 to 5.5	V
Supply Current			2.5	mA
Pressure Range <sup>Note 4</sup>	0.15		3.0	psi
Zero Output (Offset)	0.412	0.500	0.588	V
Full Scale Output	4.412	4.500	4.588	V
Accuracy <sup>NOTE 1</sup>			2.2	%FS
Response Time		1	2	ms
Linearity	-0.5		+0.5	%FS
Thermal Hysteresis	-0.15		+0.15	%FS
Over Pressure <sup>Note 5</sup>			3X or 2.5 psi	Rated Pressure
Temp - Compensated	0		+50	°C
Temp - Operating	-20		+85	°C
Temp - Storage	-40		+125	°C

**Notes:**

- Accuracy includes non-linearity, hysteresis, TCS and TCO inside the compensated temperature range, best fit straight line definition
- Wetted material contains Nickel, RTV, glass silicon and ceramic (Port A & B) and Au (Port A)
- Specify desired operating voltage range when ordering. Output is Ratiometric to Supply Voltage
- See ordering guide for list of available pressure ranges
- Which ever is higher

## Dimensions:



Pin #	Description
1	N.C.
2	VSS
3	OUT
4	Vdd
5	N.C.
6	N.C.
7	N.C.
8	N.C.

NOTE:  
 N.C. pins should be left floating  
 A 0.1 uF capacitor must be connected between Vss and Vdd

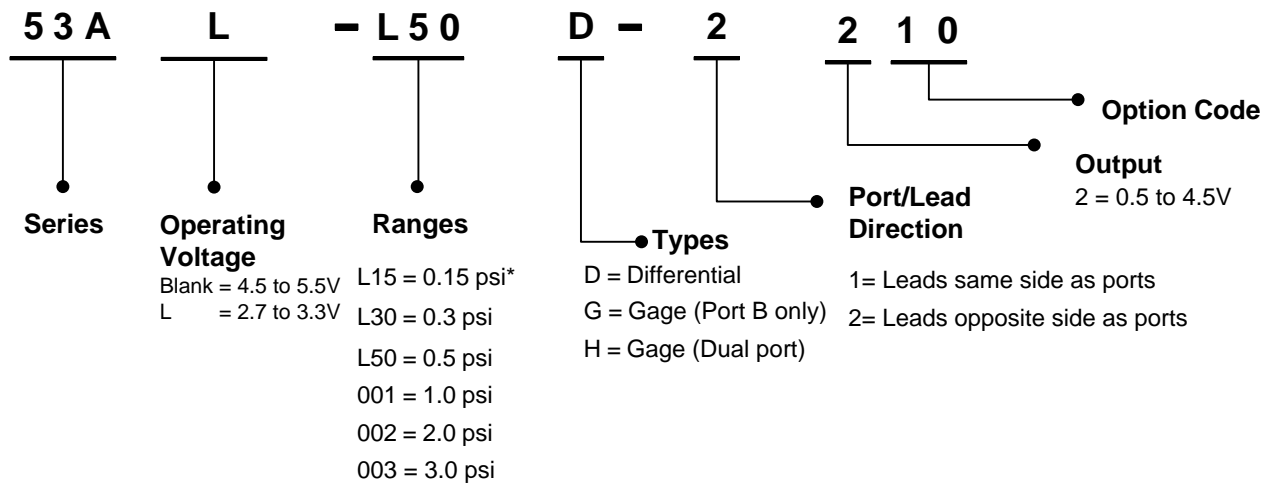
- Port B is used for positive differential
- Port A is used for absolute
- Port B is used for gage
- All dimensions are in mm
- Solder reflow max. 250 °C 5s

Delivery : 17 pcs per tube



10, Industries E. Rd. III, Lukang,  
 Chang Hua, Taiwan 50544  
 Tel: +8864 7811839 Fax: +8864 7811837  
 www.smate.com.tw

## Ordering Information



**Note:**

- 1) To specify differential single ended pressure (one side is always more +ve than the other) specify gage pressure with Dual port configuration. The device can be used for differential pressure by simply connecting the reference port (Port A) to the reference pressure instead of atmosphere.
- 2) Specifying Differential pressure means a +/- pressure range.
- 3) Custom outputs and pressure ranges available. Please contact us with your request.

**Example:**

Part number 53A L30 D 22 20 corresponds to an output of 2.5V (@ 0 psi) +/- 2V (@ +/- 0.3 psi)

Part number 53A L30 G 22 20 corresponds to an output of 0.5V (@ 0 psi) to 4.5V (@ 0.3 psi) for gage applications only

Part number 53A L30 H 22 20 corresponds to an output of 0.5V (@0 psi) to 4.5V (@ 0.3 psi) for gage or differential applications.

\*For pressure range L15 (0.15 psi) the accuracy is 2.7% FS

**Disclaimer/Warranty/Notice**

Sensormate Enterprise Co. Ltd products are not authorized for use in applications where failure could result in loss of life or injury. While Sensormate provides application assistance personally, through our literature and website, it is the responsibility of the customer to determine the suitability of the product for the intended application.

All information provided is believed to be accurate at the time of publishing however Sensormate Enterprise Co. Ltd reserves the right to make changes without prior notice.

Sensormate Enterprise Co. Ltd warrants its products to be free of manufacturing defects for a period of 12 months from the date of purchase. The maximum liability, expressed or implied shall be limited to a direct replacement of those products Sensormate finds defective. The foregoing is the Buyers Sole remedy in lieu of all other warranties, expressed or implied including those of merchantability and fitness for a particular purpose.

**Sold in North America By:**

**Servoflo Corporation**

**75 Allen Street**

**Lexington, MA 02421**

**Tel: 781-862-9572**

[www.servoflo.com](http://www.servoflo.com) / [info@servoflo.com](mailto:info@servoflo.com)



10, Industries E. Rd. III, Lukang,  
Chang Hua, Taiwan 50544  
Tel: +8864 7811839 Fax: +8864 7811837  
[www.smate.com.tw](http://www.smate.com.tw)

Ver 1.9 26-Dec-16