

# Solid State Pressure Sensor

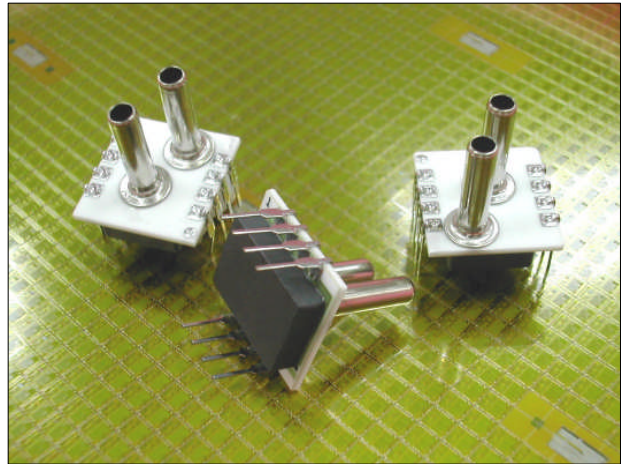
DIGITAL  
OUTPUT



## CCD Series – Model 53D

### FEATURES

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



### DESCRIPTION

The CCD 54D Series is a smart pressure sensor with digital output via 1-wire serial Interface. Digital compensation of sensor offset, sensitivity, temperature drift and nonlinearity is accomplished in factory via the latest ASIC technology with calibration coefficients stored in on-chip EEPROM. The equivalent analog version is the Series 53A.

A variety of output configurations, including resolution, sampling rate, output interfaces 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 is available for pressure ranges from 0.15 psi up to 150 psi. Custom ranges and calibrations are available. Please contact the factory for details.



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# Characteristics

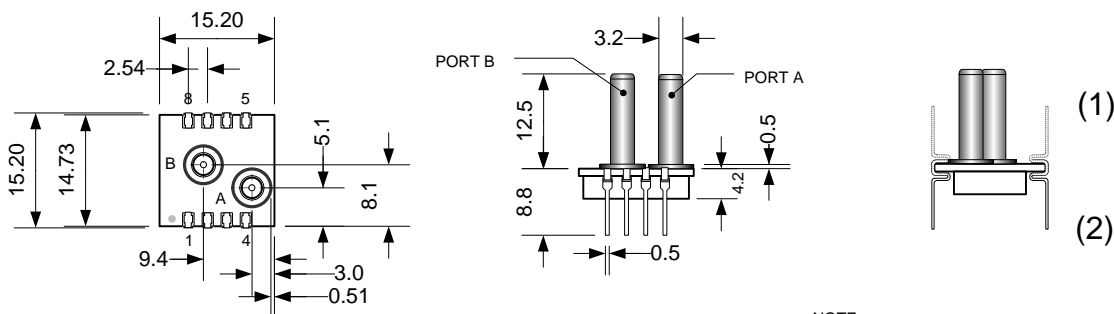
Unless otherwise specified, all parameters are measured at 5Vdc excitation, 25 °C and 60% RH

Parameters	Min	Typ	Max	Unit
Supply Voltage <sup>NOTE 1</sup>	2.7 to 3.3		4.5 to 5.5	Vdc
Supply Current			2.5	mA
Pressure range <sup>Note 5</sup>	5		150	psi
Resolution		14		Bit
Accuracy <sup>NOTE 3</sup>		±1.8		%FS, +1 LSB
Zero Output		0666		Hex
Full Scale Output		3996		Hex
Warmup Time <sup>NOTE 4</sup>		1	2	sec
Start-Up Time			10	ms
Sampling Rate		1000		Hz
Temp - Compensated	0		50	°C
Temp - Operating	-20		+85	°C
Temp - Storage	-40		+125	°C
Over Pressure			2X	Rated FS

Notes:

1. Specify desired operating voltage range when ordering. Output is ratiometric to supply voltage
2. Wetted materials consist of Ni, RTV, glass, silicon and ceramic (Port A & B) and Au (Port A)
3. Accuracy includes non-linearity, hysteresis, TCS and TCO inside the compensated temperature range, best fit straight line definition
4. Zero fluctuation below 0.15%
5. See ordering guide for list of available pressure ranges

## 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 must be left floating  
 A 0.1 uF capacitor must be connected between Vss and Vdd

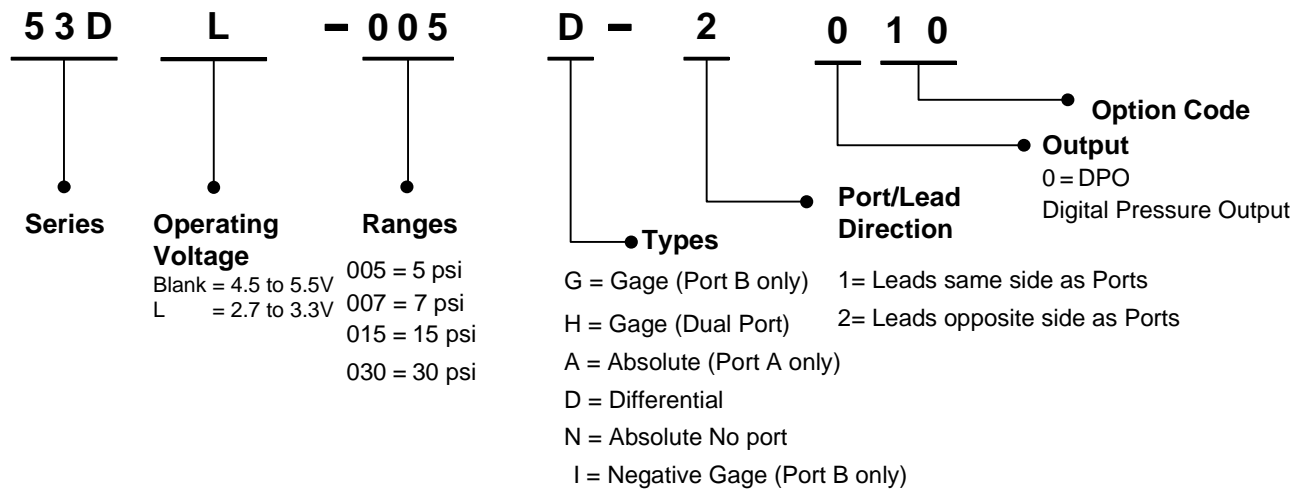
Delivery : 17 pcs per tube

- NOTE:
1. Port B is used for positive differential
  2. Port A is used for Absolute
  3. Port B is used for Gage
  4. All dimensions are in mm
  5. Solder reflow max. 250 °C 5s



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## Ordering Information



**Note:**

- 1) To specify differential single ended pressure (one side is always more +ve than the other or 0 to xx psi) 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 (-xx to + xx psi). Maximum pressure is +/- 30 psi
- 3) Custom outputs and pressure ranges available. Please contact us with your request
- 4) Negative gage pressure has the offset @ 0 psi and the full-scale @ -xx psi. Maximum pressure is -15 psi.
- 5) Minimum absolute pressure that can be specified is 15 psi

**Disclaimer/Warranty/Notice**

Senphire Ltd products are not authorized for use in applications where failure could result in loss of life or injury. While Senphire 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 Senphire Ltd reserves the right to make changes without prior notice.

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