

Solid State Pressure Sensor

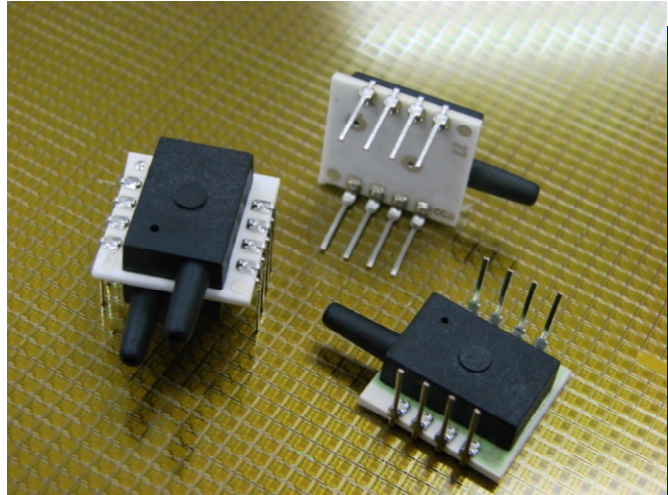
DIGITAL
OUTPUT



CCD Series – Model 54D Low Pressure

FEATURES

- Dual-in-line Package
- Calibrated Span and Offset
- Multi-order Temperature compensation
- Digital Output
- Supply Voltage 2.7-3.3V or 4.5-5.5V
- 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 54A.

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

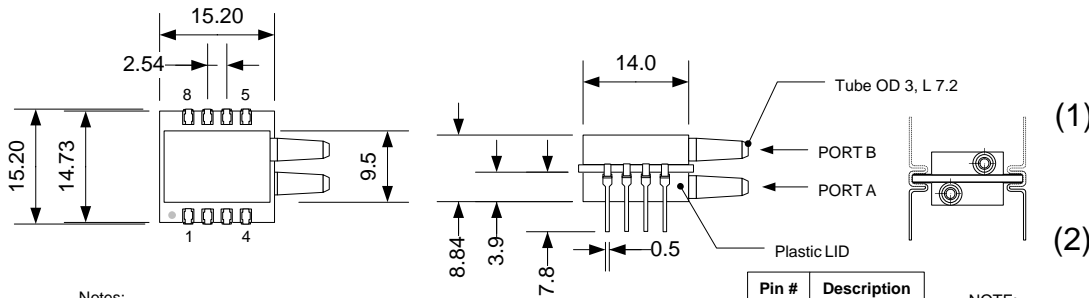
Unless otherwise specified, all parameters are measured at 5V, 25 °C and 60% RH

| Parameters | Min | Typ | Max | Unit |
|----------------------------------|------------|------|---------------|-------------|
| Supply Voltage ^{NOTE 1} | 2.7 to 3.3 | | 4.5 to 5.5 | Vdc |
| Supply Current | | | 2.5 | mA |
| Pressure range ^{Note 5} | 0.15 | | 3.00 | psi |
| Resolution | | 14 | | Bit |
| Accuracy ^{NOTE 3} | | ±2.2 | | %FS, +1 LSB |
| Zero Output | | 0666 | | Hex |
| Full Scale Output | | 3996 | | Hex |
| Warmup Time ^{NOTE 4} | | 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 ^{Note 6} | | | 3X or 2.5 psi | Rated FS |

Notes:

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

Dimensions:



Notes:

- Port B is used for positive differential
- Port A is used for absolute
- Port B is used for gage
- All dimensions are in mm
- Recommended tube OD 4 ID 2.5 Tygon tube
- Solder reflow max. 250 °C 5s

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

NOTE:

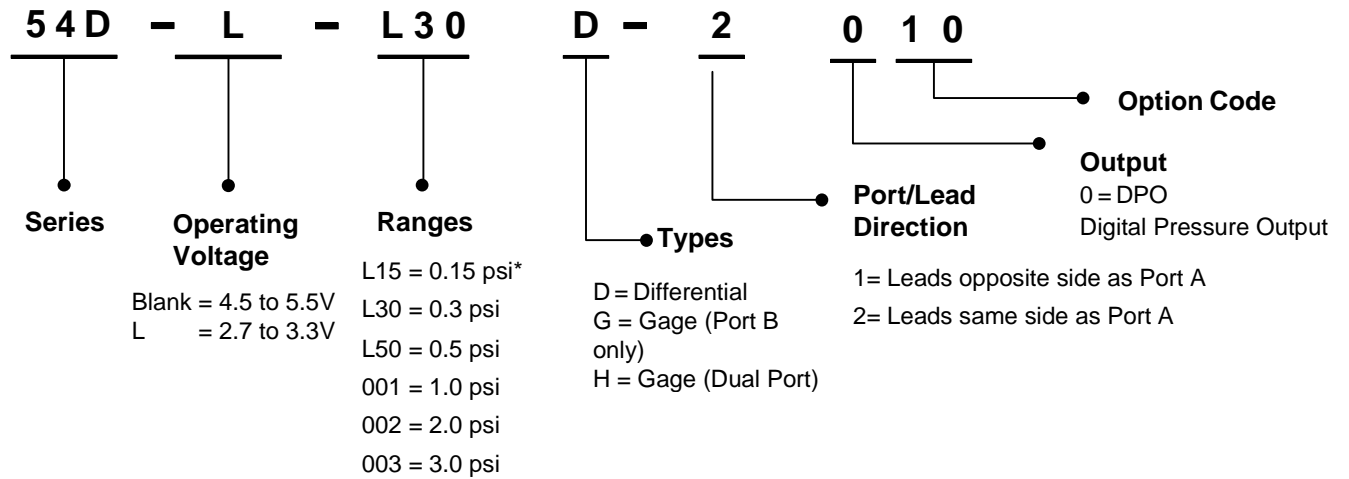
N.C. pins must be left floating
A 0.1 uF capacitor must be connected between Vss and Vdd

Delivery : 12 pcs per tube



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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)
- 3) Custom outputs and pressure ranges available. Please contact us with your request

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

Disclaimer/Warranty/Notice

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