

# NPA

## Surface-Mount Pressure Sensor Series



The NPA product series is provided in a miniature size as a cost effective solution for applications that require calibrated performance. Packaged in a SOIC14 pin surface mount, the NPA Series is available in Gauge, Absolute or Differential pressure ranges with either mV, amplified analog or digital outputs. The sensor is intended for printed circuit board mounting and delivered in tape and reel form to simplify manufacturing handling.

### Features

- Surface Mountable
- Differential, Gauge, Absolute & Low Pressure
- 10" H<sub>2</sub>O to 30 PSI Full Scale
- Output Options: Amplified Analog, Digital Serial (14bit), Digital I<sup>2</sup>C, Uncalibrated mV
- On chip temperature sensor in digital mode
- Operating temperature range of -40 to 125°C
- Total Error Band < ±1.5% FSO
- Up to 60 psi proof pressure

# General NPA Specifications

| Parameter                             | Value                             | Units | Notes         |
|---------------------------------------|-----------------------------------|-------|---------------|
| <b>Environmental</b>                  |                                   |       |               |
| <b>Temperature Range</b>              |                                   |       |               |
| Operating                             | -40 to +125                       | °C    | -40 to +257°F |
| Compensated                           | 0 to 60                           | °C    | +32 to +157°F |
| Storage                               | -40 to +125                       | °C    | -40 to +257°F |
| <b>Mechanical</b>                     |                                   |       |               |
| <b>Weight</b>                         | ~1                                | grams |               |
| <b>Media Compatibility</b>            |                                   |       |               |
| Positive differential and gauge ports | Compatible with exposed materials |       | 1             |
| Negative differential ports           | Dry gases only                    |       |               |

Notes: 1. Exposed materials are thermoset plastic, silicon, epoxy, RTV, pyrex and silicone

| Parameter                         | Units | Min    | Typ | Max   | Notes |
|-----------------------------------|-------|--------|-----|-------|-------|
| <b>Common Parameters</b>          |       |        |     |       |       |
| Accuracy (Total Error Band)       | %FSO  | -1.5   |     | 1.5   |       |
| Proof Pressure (10"H2O to 1 psi)  | psi   |        | 35  |       |       |
| Proof Pressure (>1 psi to 30 psi) | psi   |        | 60  |       |       |
| Maximum Package Pressure          |       |        | 60  |       |       |
| Pressure ranges                   |       | 10"H2O |     | 30psi |       |

| Series  | Excitation Voltage | Min/Max            | Notes                                       |
|---------|--------------------|--------------------|---------------------------------------------|
| NPA-100 | 1.5mA              |                    | NPA Uncompensated, mV                       |
| NPA-300 | 3.3V               | 3.135 V to 3.465 V | NPA Compensated, low power amplified analog |
| NPA-500 | 5.0V               | 4.75 V to 5.25 V   | NPA Compensated, amplified analog           |
| NPA-600 | 5.0V *             | 4.75 V to 5.25 V   | NPA Compensated, digital serial             |
| NPA-700 | 5.0V *             | 4.75 V to 5.25 V   | NPA Compensated, digital I <sup>2</sup> C   |

\* 3.3V optional, contact factory for more details