

Pressure Sensors

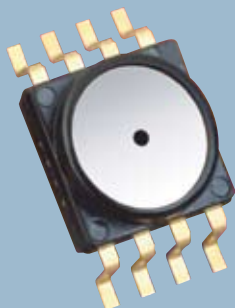
Overview

Since 1980, Freescale Semiconductor's* micro-electromechanical systems (MEMS)-based sensors have been changing the world. Today, our piezoresistive pressure transducers are engineered to sense absolute or differential air pressure. And our capacitive digital complementary metal-oxide semiconductor (CMOS) pressure transducers are designed to sense absolute air pressure in tire pressure monitoring (TPM) systems. They make technology step into what was previously immeasurable—or untouchable. They help you sense the world.

MPXH Series—SSOP Package



MPXV and MPXA Series—SOP Package



MPXH Series—SSOP Package

Features

- Pressure ranges up to 300 kPa
- Temperature compensated from -40°C to +125°C
- Amplified analog output
- Ideally suited for microcontroller interfacing
- Small rugged polyphenylene-sulfide (PPS) surface mount package
- High accuracy in the 0°C to +85°C range
- Available with axial and side port

Typical Applications

- Barometric absolute pressure (BAP)
- Manifold absolute pressure (MAP)
- Barometric and altimetric measurements
- Industrial control
- Water-level measurement for washing machines and dishwashers

Benefits

- User friendly
- Small form factor
- Reliable
- Cost effective

Device	Pressure Range (kPa)	Full Scale Span (Typ. V)	Sensitivity (mV/kPa)
MPXH6101A	102	4.6	54
MPXH6115A	115	4.6	46
MPXH6300A	300	4.7	16

MPXV and MPXA Series—SOP Package

MPX5000 Series

MPXA(z)4000 Series

Features

- Pressure ranges up to 250 kPa
- Temperature compensated from -40°C to +125°C
- Amplified analog output
- Ideally suited for microcontroller interfacing
- Rugged PPS surface mount small outline package (SOP)
- Available with axial and side port

Typical Applications

- BAP
- MAP
- Process control
- Barometric and altimetric measurements
- Industrial control
- Water-level measurement for washing machines and dishwashers

Benefits

- Flexible mounting
- High temperature and chemical resistance
- Enhanced media protection
- Suited for system modules

*The Semiconductor Products Sector of Motorola, Inc. became Freescale Semiconductor, Inc. in 2004.

MPXM Series—MPAK Package**Features**

- Pressure ranges up to 200 kPa
- Temperature compensated from 0°C to +85°C
- 40 mV typical full scale span
- Ratiometric to supply voltage
- Unique silicon shear strain gauge
- Available in both gauge and absolute (ported and non-ported) options

Benefits

- User friendly
- Very small form factor
- Reliable
- Cost effective
- Easy-to-use tape and reel

Typical Applications

- Barometric measurements
- Vacuum cleaners
- Water-level measurement for washing machines and dishwashers
- Sports diagnostic systems
- Medical equipment
- Altimeters
- Remote monitoring devices
- Weather forecasting stations
- Barometric measurements
- Vacuum cleaners
- Water-level measurement for washing machines and dishwashers
- Sports diagnostic systems
- Health care equipment

Device	Pressure Range (kPa)	Full Scale Span (Typ. mV)	Offset (mV)	Sensitivity (mV/kPa)
MPXM2010	10	25	±1.0	2.5
MPXM2053	50	40	±1.0	0.8
MPXM2102	100	40	±1.0	0.4
MPXM2202	200	40	±1.0	0.2

Medical Series—Chip Pak Package**Features**

- Pressure ranges up to 300 mm Hg
- Polysulfone case material (medical, Class VI approved)
- Temperature compensation and calibration, all integrated on a single, monolithic sensor die

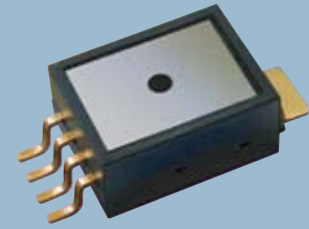
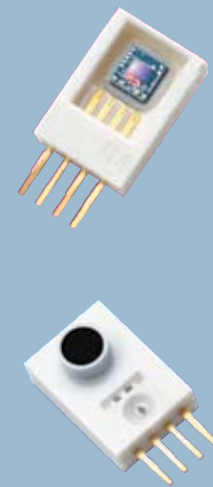
Benefits

- No gel, partial gel and full gel options
- Provided in easy-to-use tape and reel
- Small package
- Cost effective

Typical Applications

- Non-invasive and invasive blood pressure monitoring
- Hospital and critical care beds
- Patient monitoring systems
- Spirometer and respiratory therapy devices
- Physical therapy equipment
- Dialysis systems
- Drug delivery

Device	Pressure Range (kPa)	Pressure Range (mm Hg)	Gel Option
MPXC2011DT1	10	75	Reduced gel
MPXC2012DT1	10	75	No gel
MPX2300DT1	40	300	Gel filled
MPX2301DT1	40	300	Reduced gel

MPXM Series—MPAK Package**MEDICAL Series—Chip PAK Package****Learn More:**

For current information about Freescale products and documentation, please visit www.freescale.com/sensors.