



MS5525DSO

(Digital Small Outline)

SPECIFICATIONS

- **Integrated Digital Pressure Sensor (24-bit $\Delta\Sigma$ ADC)**
- **Fast Conversion Down to 1 ms**
- **Low Power, 1 μA (standby < 0.15 μA)**
- **Supply Voltage: 1.8 to 3.6V**
- **Pressure Range: 1 to 30 PSI**
- **I²C and SPI Interface**

FEATURES

- Small Outline IC Package
- Barbed Pressure Ports
- Low Power, High Resolution ADC
- Digital Pressure and Temperature Outputs

APPLICATIONS

- Factory Automation
- Altitude and Airspeed Measurements
- Medical Instruments
- Leak Detection

The MS5525DSO is a new generation of Digital Small Outline pressure sensors from MEAS with SPI and I²C bus interface designed for high volume OEM users. The sensor module includes a pressure sensor and an ultra-low power 24-bit $\Delta\Sigma$ ADC with internal factory calibrated coefficients. It provides a 24-bit digital pressure and temperature value and different operation modes that allow the user to optimize for conversion speed and current consumption. The MS5525DSO can be interfaced to virtually any microcontroller. The communication protocol is simple, without the need of programming internal registers in the device.

This new sensor module generation is based on leading MEMS technology and latest benefits from TE proven experience and know-how in high volume manufacturing of pressure modules, which have been widely used for over a decade.

The rugged engineered thermoplastic transducer is available in single and dual port configurations, and can measure absolute, gauge, compound, and differential pressure from 1 to 30psi.

STANDARD RANGES (PSI)

FS Pressure	Absolute	Gauge	Differential
001			DB, SB,ST, DH
002		DB, SB, ST, DH,FT	DB, SB,ST, DH
005		DB, SB, ST, DH,FT	DB, SB,ST ,DH
015	DB, FB, DH, FT	DB, SB, ST, DH,FT	DB, DH
030	DB, FB, DH, FT	DB, SB, ST, DH,FT	DB, DH

See Package Configurations: DB= Dual Barb, DH= Dual Hole, SB=Single Barb, ST=Single Tube, FT=Front Side Tube, FB=Front Single Barb

ABSOLUTE MAXIMUM RATING

Parameter	Conditions	Min	Max	Unit	Symbol/Notes
Supply Voltage	T _A = 25°C	-0.3	3.6	V	V _{DD}
Storage Temperature		-40	125	°C	
Overpressure	T _A = 25 °C, both Ports		60	psi	
Burst Pressure	T _A = 25 °C, Port 1			psi	See Table 1
ESD	HBM	-4	+4	kV	EN 61000-4-2
Solder Temperature		250°C, 5 sec max.			

Table 1- BURST PRESSURE BY RANGE AND PORT DESIGNATION.

Range	Port 1	Port 2	Unit
001	10	10	psi
002	20	20	psi
005	50	15	psi
015	120	60	psi
030	120	120	psi

ENVIRONMENTAL SPECIFICATIONS

Parameter	Conditions
Mechanical Shock	Mil Spec 202F, Method 213B, Condition C, 3 Drops
Mechanical Vibration	Mil Spec 202F, Method 214A, Condition 1E, 1Hr Each Axis
Thermal Shock	100 Cycles over Storage Temperature, 30 minute dwell
Life	1 Million FS Cycles
MTTF	>10Yrs, 70 °C, 10 Million Pressure Cycles, 120%FS Pressure
MSL	Moisture Sensitivity Level is 3