

## SM5320

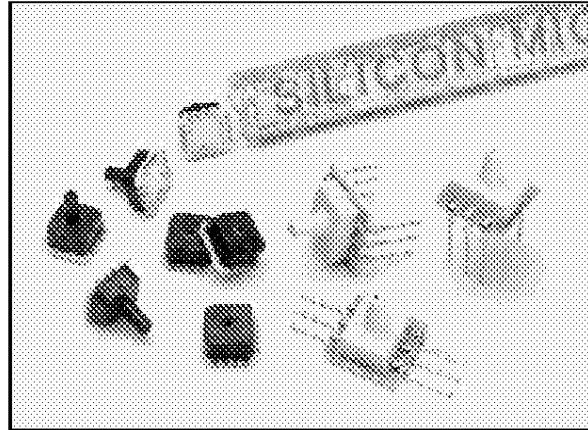
### Surface Mountable Pressure Sensor

#### Description

The SM5320 Pressure Sensor is the latest addition to the SM5300 Series of pressure sensors in surface mountable packages. This product is similar to the SM5310 pressure sensor except that a silicon constraint is used in the chip instead of a Pyrex glass constraint. The silicon constraint is fusion bonded to the sensor wafer during chip manufacturing.

The silicon constraint is used primarily in a specialized application of telephone cable pressure monitoring. In some underground telephone cables, sensors monitor the pressure level to detect a leak in the cable. If the pressure drops, a leak is detected. In some cases, helium is used in the pressurization gas. Helium can diffuse through standard glass constraints, causing the output to change. The use of a silicon constraint prevents this problem.

Like the SM5310, the SM5320 is designed to be mounted to a printed circuit board or hybrid ceramic substrate by reflow or hand soldering. The SM5320 has solder coated pads on the bottom of the substrate that, when heated, reflow to make electrical connections and mechanical connection to the circuit board.



#### Features

- Silicon constraint for helium compatibility
- Small, low profile package for miniaturization
- Surface mount package for convenient PC board mounting

#### Applications

- Telephone cable pressure monitoring for helium compatibility

## Key Characteristics

All parameters measured at 5 volts excitation at 25°C, unless otherwise specified.

Parameter	Min.	Typ.	Max.	Units	Notes
Excitation Voltage	0	5.0	10.0	Volts	
Excitation Current	0	1.5	3.0	mA	
Offset	-50	0	50	mV	
TC Span		-22±5		%FS/100°C	1
TC Resistance		28±5		%FS/100°C	
Bridge Impedance	2.7	3.3	4.0	kΩ	
Proof Pressure			3X	Rated FS	2
Operating Temperature	-40		85	C	
Storage Temperature	-55		125	C	
Span					3
5 psi	75	100	125		
15 psi	105	145	175		
30 psi	115	165	195		
60 psi	115	180	220		
100 psi	115	200	250		
Linearity	-0.3		0.3	%FS	4
TC Offset		7		%FS/100°C	1

## Notes

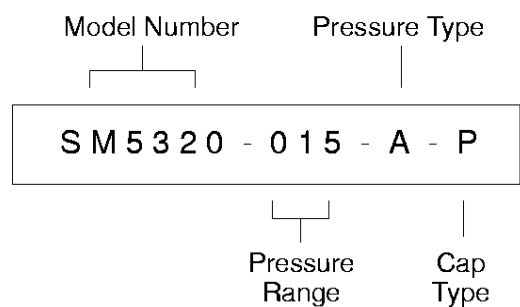
1. Measured from 0–70°C.
2. 3X or 225 psi, whichever is less.
3. Measured at 5.0 V, constant voltage excitation.
4. Best Fit Straight Line (BFSL) linearity.

## Connections/Dimensions

See SM-5310/SM-5350/SM-5410/SM-5450 Datasheet

## Ordering Information

Pressure Range	Pressure Type
005: 5 PSI	A: Absolute
015: 15 PSI	B: Gage
030: 30 PSI	Cap Type
060: 60 PSI	P: Port (tube)
100: 100 PSI	H: Hole



48720 Kato Road  
 Fremont, CA 94538 USA  
 TEL: 510-668-7000  
 FAX: 510-668-7025

### Additional Products

- Accelerometers
- OEM Pressure Transducers
- Custom Designed Products
- Surface Mount Pressure Sensors