

## Small Foot-print Pressure Sensor SIP

- **NEW!!! SMALLER PACKAGE PRESSURE SENSOR**
- **TRUE DIFFERENTIAL CONFIGURATION**
- **BARBED PORT FOR SECURE TUBING ATTACHMENT**
- **SAME PERFORMANCE CHARACTERISTICS AS THE SM5410 AND SM5450 PRODUCT INCLUDING UNIQUE 0.15 PSI FULL-SCALE FOR VERY LOW PRESSURES**

### DESCRIPTION

Silicon Microstructures, Inc. (SMI) introduces a small, Single-in-Line sensor package that provides for true differential applications where needed. The performance is identical to the SM5410 and SM5450 product but with a closed bridge (4-lead) configuration.

The small size provides for a small footprint on printed circuit boards. The barbed port allows for easy connection to plastic or silicone tubing.

The SM5415 is intended for pressure applications from 0 – 5 PSI to 0 - 100 PSI. The SM5415 comes in Gauge (G), single port configuration; Differential (D), dual-port configuration; and Absolute (A), single port configuration.

The SM5455 is intended for low-pressure measurements from 0 - 0.15 PSI to 0 - 3 PSI. The SM5455 comes in Gauge (G), single port configuration and Differential (D), dual-port configuration.

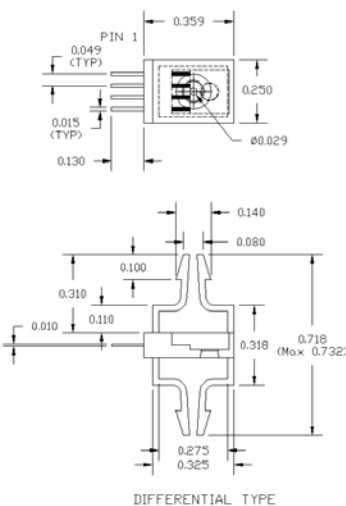


### FEATURES

- Full selection of pressure ranges (from 0-0.15 PSI FS to 0-100 PSI FS)
- Same specification as the existing SM5300 and 5400 series
- Easy to use 4-pin SIP
- High performance, stable packaged silicon chip
- Absolute, Gage and Differential pressure configurations

### APPLICATIONS

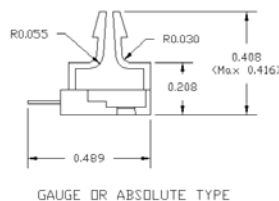
- Medical equipment
- Respiration
- HVAC
- Level detection
- Flow measurement
- Industrial control



#### Pin-Out

1. Gnd
2. Signal+
3. Vext
4. Signal-

Pin 1 as shown with lettering on top cap



# SM5415/SM5455

## CHARACTERISTICS FOR SM5415/SM5455 - SPECIFICATIONS

Test Conditions: Model SM5415/SM5455 w/excitation = 5.00Vdc @ 25 °C, unless otherwise specified.

### All Models

Parameter		Min.	Typ.	Max.	Units	Notes
Excitation Voltage		0	5.0	10.0	V	
Excitation Current		0	1.5	3.0	mA	
Offset	SM5415 SM5455	-50 -75	0 0	50 25	mV mV	
TC Span		-15	-19	-24	%FS/100°C	1
TC Resistance		33	28	25	%/100°C	1
Bridge Impedance		2.7	3.3	4.0	kΩ	
Operating Temp		-40		85	°C	
Storage Temp		-55		125	°C	

### SM5415 Standard Pressure Series Only

Span (FS Range)	Min.	Typ.	Max.	Units	Notes
5 PSI	75	100	125	mV	3
15 PSI	105	145	175	mV	3
30 PSI	115	165	195	mV	3
60 PSI	115	180	220	mV	3
100 PSI	115	200	250	mV	3
Linearity	-0.3	± 0.05	+0.3	%FS	4
TC Offset		± 7		%FS/100°C	1
Burst Pressure	5X			Rated FS Pressure	2

### SM5455 Low Pressure Series Only

Span (FS Range)	Min.	Typ.	Max.	Units	Notes
0.15 PSI	25	50	75	mV	3
0.3 PSI	25	50	75	mV	3
0.8 PSI	25	50	75	mV	3
1.5 PSI	25	50	75	mV	3
3.0 PSI	25	50	75	mV	3
Linearity	-0.3	± 0.1	+0.3	%FS	4
TC Offset		± 12		%FS/100°C	1
Burst Pressure	15X			Rated FS Pressure	2

#### Notes

1. Measured from 0 to 70°C
2. Sensor die will survive pressure specified for all ranges.  
Maximum package pressure is 225 PSI.
3. Measured at 5V, constant voltage excitation
4. Defined s best-fit straight line (BFSL); for 0.3 PSI full-scale, linearity is ±0.5%FS. For 0.15 PSI full-scale, linearity is ±2.5%FS.

#### Pressure Ranges

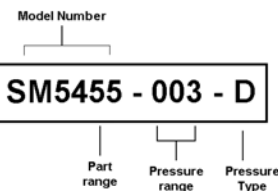
PSI	5415	PSI	5455
5	005	0.15	001
15	015	0.30	003
30	030	0.80	008
60	060	1.50	015
100	100	3.00	030

### Ordering Information:

**Part Range**  
1: Pressures from 5 to 100 PSI  
5: Pressures from 0.15 to 3.0 PSI  
(No Absolutes)

**Pressure Type**  
A: Absolute (1 Tube) (SM5415 only)  
D: Differential (2 Tubes)  
G: Gage (1 Tube)

Gage and Absolute configurations available only on large orders. Consult SMI for details.



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