

# XSU Series

## Miniature basic pressure sensors

### FEATURES

- 0 ... 1 to 0 ... 100 psi, absolute, differential or gage
- Wide operating temperature range from -40 ... 85 °C
- Miniature SMT housings
- Low cost

### MEDIA COMPATIBILITY

To be used with non-corrosive, non-ionic working fluids such as clean dry air, dry gases and the like.



### SPECIFICATIONS

#### Maximum ratings

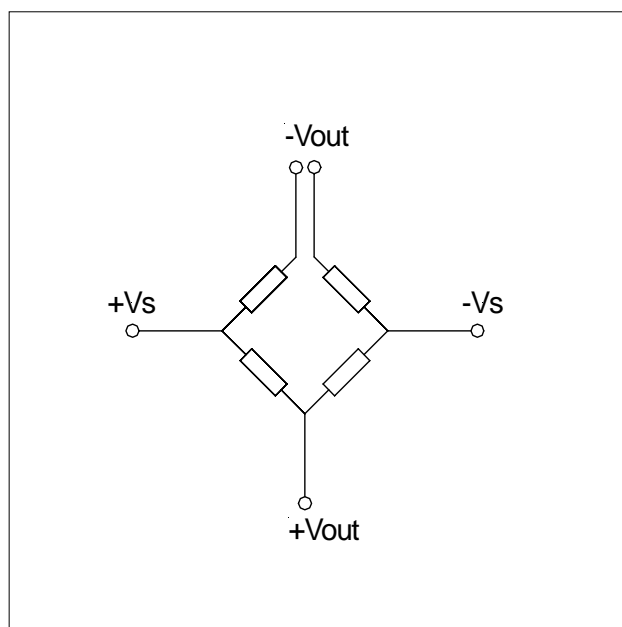
Supply voltage,  $V_s$  15 V<sub>DC</sub>  
Supply current,  $I_s$  3 mA

Temperature ranges  
Operating -40 ... +85°C  
Storage -40 ... +125°C

Humidity limits (non-condensing) 15 ... 85 %RH

Overpressure<sup>1</sup> 2 x rated pressure

### EQUIVALENT CIRCUIT



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### PRESSURE SENSOR CHARACTERISTICS

( $V_s = 5\text{ V}$ ,  $T_A = 25 \pm 3\text{ °C}$ , pressure applied to high pressure port)

Part number	Operating pressure	Full-scale span (typ.) <sup>2</sup>
XSUP001...	0...1 psi	30 mV $\pm$ 10 mV
XSUP006...	0...5.8 psi	75 mV $\pm$ 25 mV
XSUP015...	0...15 psi	100 mV $\pm$ 30 mV
XSUP030...	0...30 psi	110 mV $\pm$ 30 mV
XSUP100...	0...100 psi	120 mV $\pm$ 50 mV

### PERFORMANCE CHARACTERISTICS<sup>5</sup>

( $V_s = 5\text{ V}$ ,  $T_A = 25 \pm 3\text{ °C}$ , pressure applied to high pressure port)

Characteristics			Typ.	Unit
Zero pressure offset			$\pm$ 25	mV
Temperature effects (0...50 °C)	Offset	1 psi devices	$\pm$ 0.22	%FSS/°C
		all others	$\pm$ 0.08	
	Span <sup>3</sup>		-0.16 ... -0.26	
	Bridge impedance		0.2	%/°C
Non-linearity <sup>4</sup>	1 psi devices		$\pm$ 0.7	%FSS
	all others		$\pm$ 0.3	
Bridge resistance			5 $\pm$ 1	k $\Omega$

#### Specification notes:

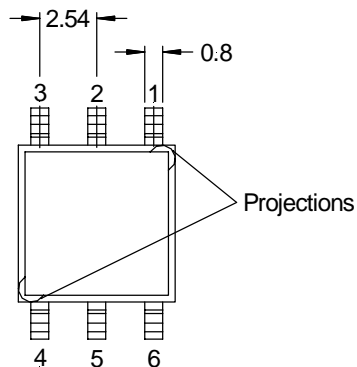
1. If the overpressure is exceeded, even momentarily, the package may leak or burst, or the pressure sensing die may fracture.
2. Span is the algebraic difference between the output voltage at full-scale pressure and the output at zero pressure.
3. For constant current excitation at 1 mA the temperature coefficient of span is typ.  $\pm$ 0.05 %FSS/°C
4. Non-linearity is the maximum deviation of measure output at constant temperature (25°C) from "Best Straight Line" determined by three points, offset, full scale pressure and half full scale pressure.
5. These values are only tested on a sample basis, therefore only typ. values can be given by Sensortronics.

# XSU Series

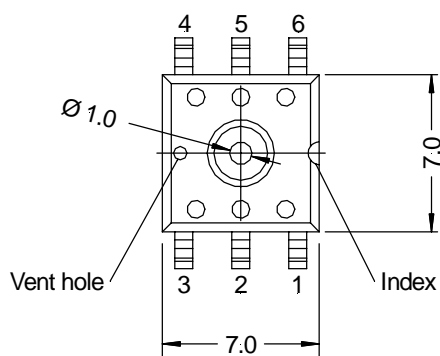
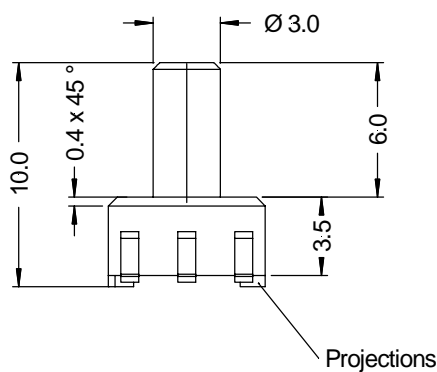
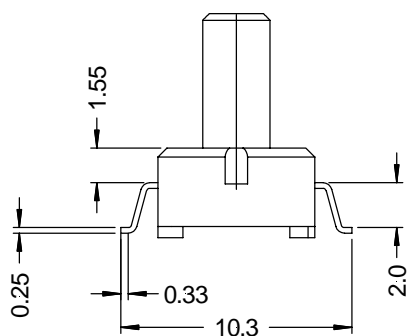
## Miniature basic pressure sensors

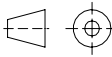
### PHYSICAL DIMENSIONS AND ELECTRICAL CONNECTIONS

#### XSU...GY



Pin	Connection
1	-Vout
2	+Vs
3	+Vout
4	N/C
5	-Vs
6	-Vout



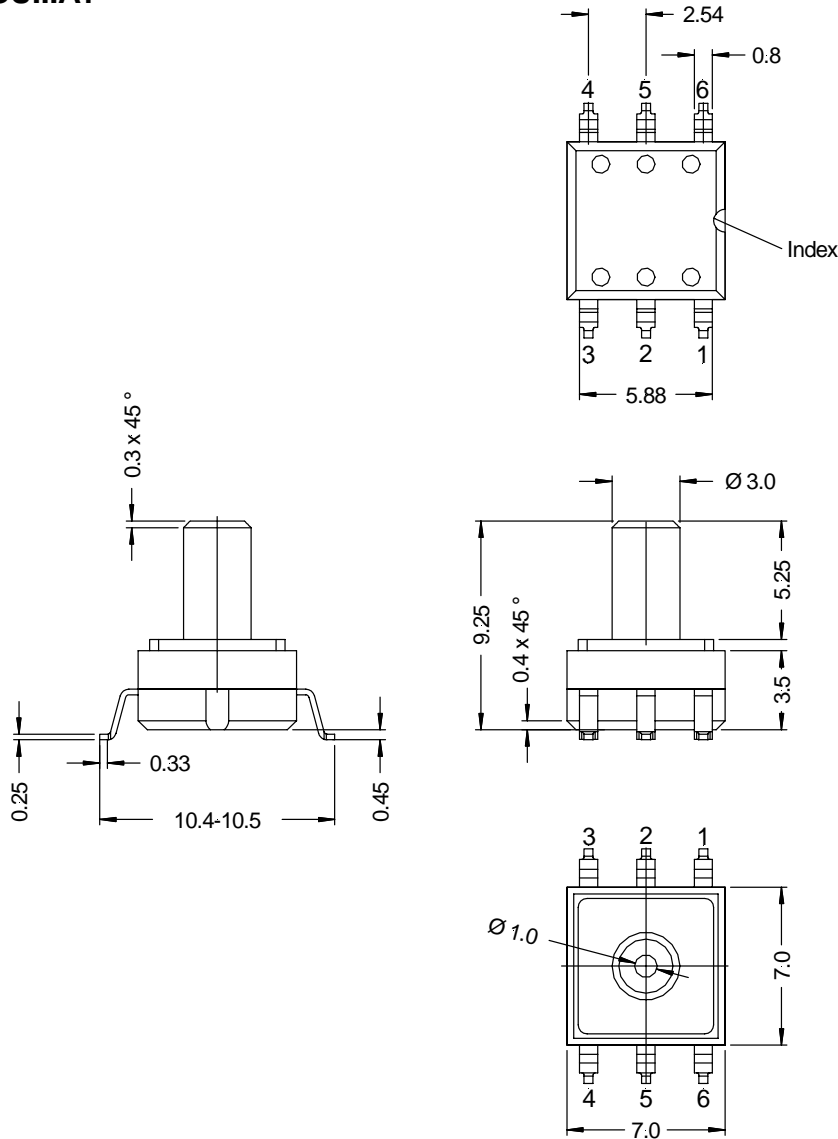
  
 first angle projection  
 dimensions in mm

# XSU Series

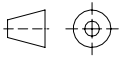
## Miniature basic pressure sensors

### PHYSICAL DIMENSIONS AND ELECTRICAL CONNECTIONS (cont.)

#### XSU...AY



Pin	Connection
1	-Vout
2	-Vs
3	+Vout
4	N/C
5	+Vs
6	-Vout

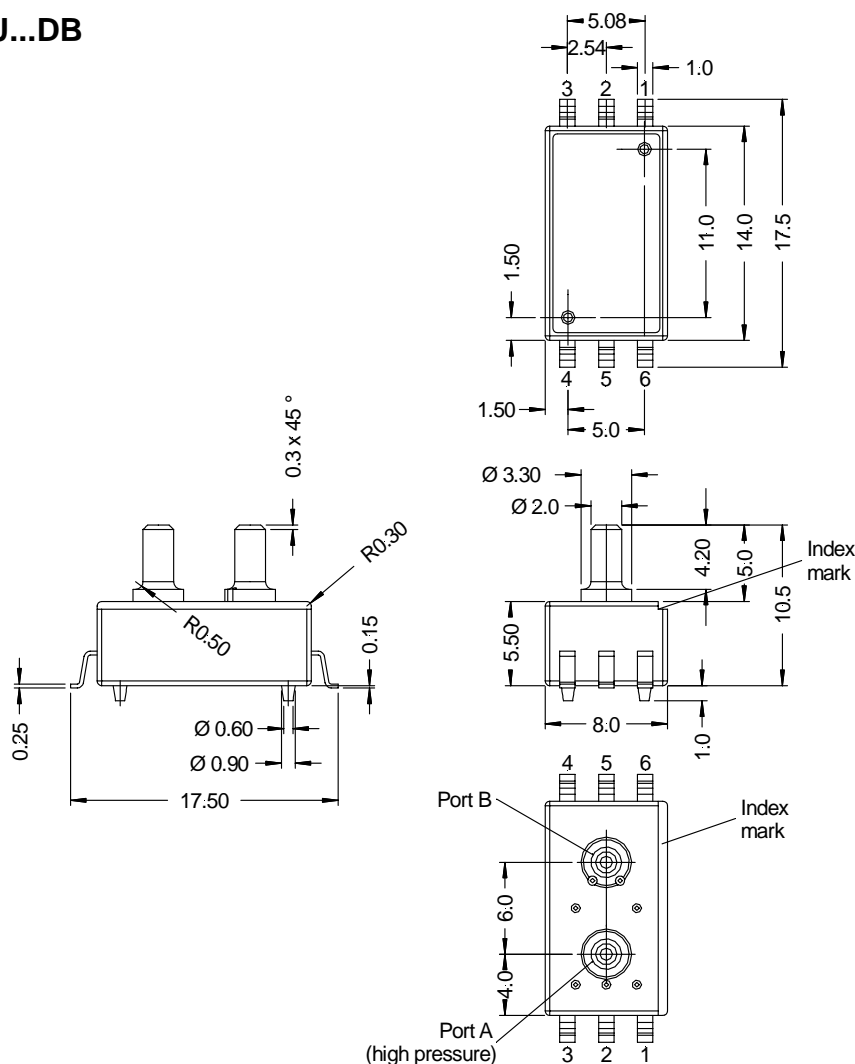
  
 first angle projection  
 dimensions in mm

# XSU Series

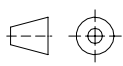
## Miniature basic pressure sensors

### PHYSICAL DIMENSIONS AND ELECTRICAL CONNECTIONS (cont.)

#### XSU...DB



Pin	Connection
1	-Vout
2	+Vs
3	+Vout
4	-Vs
5	N/C
6	-Vout

  
 first angle projection  
 dimensions in mm

### ORDERING INFORMATION

Pressure range	Absolute	Gage	Differential
0...1 psi	-	XSUP001GY	XSUP001DB
0...5.8 psi	-	XSUP006GY	XSUP006DB
0...15 psi	XSUP015AY	XSUP015GY	XSUP015DB
0...30 psi	XSUP030AY	XSUP030GY	XSUP030DB
0...100 psi	XSUP100AY	XSUP100GY	-

**Note:** Other options are available on request. Please contact Sensortronics.

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