



# MLX90210

## Pressure Sensor IC

### Features and Benefits

- 0 -1.0 Bar Range
- Compact Design
- High Long Term Stability
- Low Cost

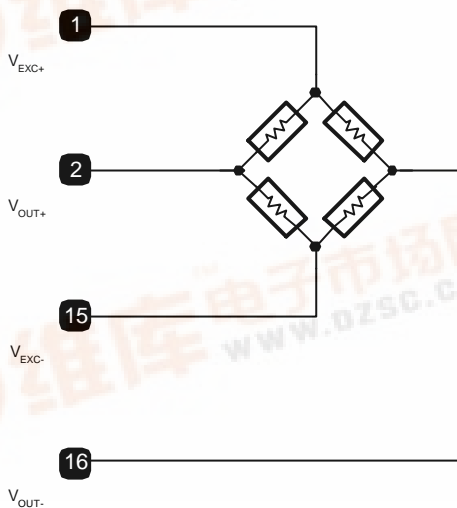
### Applications

- Medical Instrumentation (Blood Pressure)
- Consumer Appliances
- Sports Equipment
- Pressure Difference and Flow monitoring

### Ordering Information

Part No.	Temperature Suffix	Package	Temperature Range
MLX90210	C	CA	-0C to 70C Commercial
MLX90210	C	UD	-0C to 70C Commercial

### Functional Diagram



### Description

The MLX90210 is a discrete micromachined pressure sensor IC suitable for pressure ranges between 0 to 1.0 Bar. The pressure medium must be dry and non-corrosive, such as air.

The 90210 is packaged in a plastic/ceramic package, (CA) or can be ordered as unpackaged die (UD)

The principal of the circuit is a piezoresistive bridge which is realized in silicon through a special micromachine process. As pressure is applied to the bridge, a differential voltage change is seen across the  $V_{OUT}$  pins, while a bias voltage is applied to the  $V_{EXC}$  pins.

The MLX90210 is a versatile pressure sensor solution which can be directly interfaced with other Melexis ICs such as the MLX90308, which provides amplification, signal conditioning as well as the bias current to supply the sensor itself.

### MLX90210 Electrical Specifications

DC Operating Parameters  $T_A = 25^\circ\text{C}$ ,  $V_{DD} = 5\text{V}$  (note 3), Pressure = 1.0 Bar full scale.

Parameter		Min	Typ	Max	Units
Excitation voltage		0	5	12	V
Zero Pressure Offset	$V_{OFF}$	-30	0	+30	mV
Sensitivity	S	14	22	30	mV/V/bar
TC of the Sensitivity (1)	$TC_S$	-0.17	-0.001	-0.26	$^\circ\text{C}^{-1}$
Bridge Resistance	$R_{BR}$	12	14	16	kOhm
Burst pressure				2	Bar
Operating Temp		0		70	$^\circ\text{C}$
Storage Temp (2)		-55		150	$^\circ\text{C}$

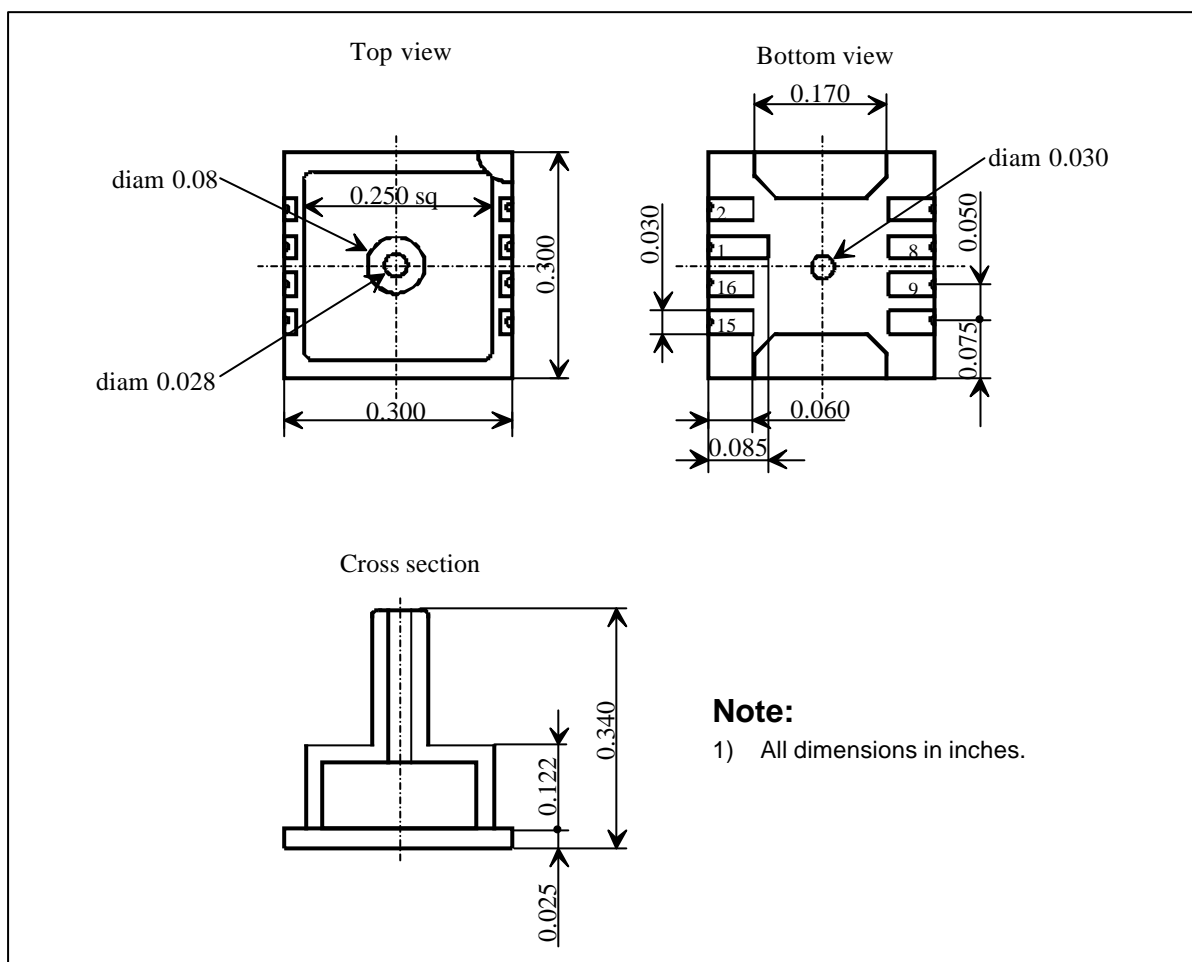
### MLX90210 Mechanical Dimensions (4)

Membrane Size	0.81mm X 0.81mm
Chip Thickness	0.61mm
Chip Size	1.90mm X 1.90mm

#### Notes:

- 1) Temperature range refers to operation and deposit in an inert environment
- 2) Temperature range refers to operation and deposit in an inert environment
- 3) To prevent measurement errors, measure above  $3V_{DD}$  in impulse mode
- 4) Tolerance of 10% unless otherwise specified.

### “CA” Package Dimensions



**Note:**

- 1) All dimensions in inches.

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