MLX90210

Pressure Sensor /C

Features and Benefits

- 0 – 1.0 Bar Range
- Differential pressure sensor
- Compact Design
- High Long Term Stability
- Low Cost

Application Examples

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

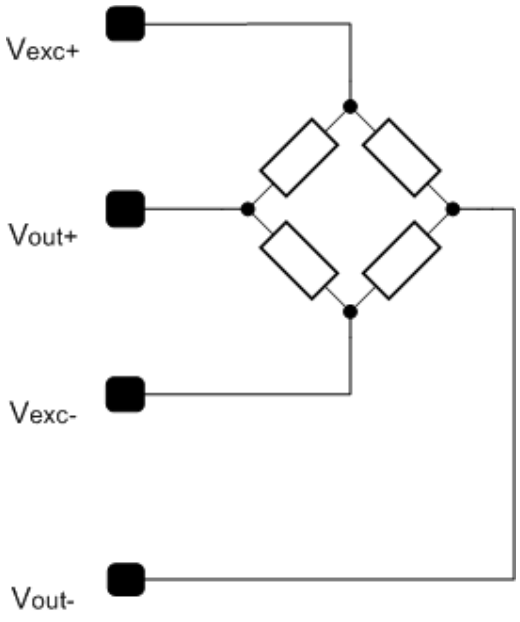
Ordering Code:

Product code	Temperature Code	Package Code	Option Code	Packing form code
MLX90210	C	UF	AAA-000	WB

Legend:

Temperature code:	C for Temperature code 0°C to 70 °C
Package code:	UF for Die on Foil
Option code:	xxx-000: standard version
Packing form code:	WB for waferbox
Ordering example:	MLX90210CUF-AAA-000-WB

Functional Diagram



General 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 circuit is a piezoresistive bridge which is realized in silicon through a special micromachining 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 = 2SC, V_{DD} = SV (note 3), Pressure = 1.0 Bar full scale.

Parameter	Symbol		Min	Typ	Max	Units
Excitation vo tage			0	5	12	V
Zero Pressure Offset	V_{OFF}		-20	0	+20	mV
Sensitivity	S		15	30	45	mV/V/bar
TC of the Sensitivity	TC_S		-0.17	-0.21	-0.26	%/℃
Bridge Resistance	R_{BR}		360	400	450	Ohm
Burst Pressure					2	Bar
Operating Temp			0		70	℃
Storage Temp (2)			-55		150	℃

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
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3) To prevent measurement errors, measure above 3V V_{DD} in impulse mode
4) Tolerance of 10% unless otherwise specified.

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