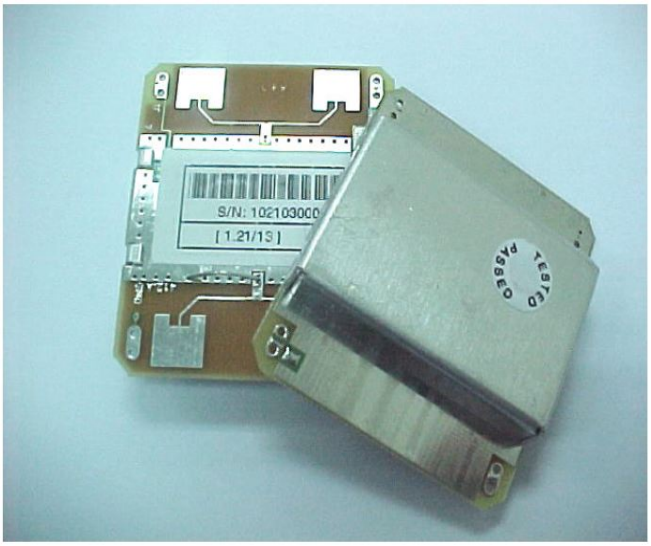
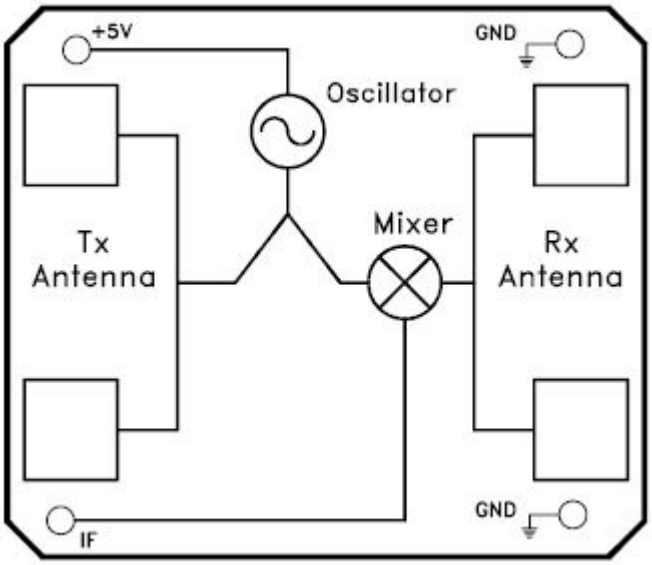
10.525GHz Microwave Motion Sensor





Block diagram and connection

Introduction

HB100 Miniature Microwave Motion Sensor is an X-Band Bi-Static Doppler transceiver module. Its built-in Dielectric Resonator Oscillator (DRO) and a pair of Microstrip patch antenna array, Make it ideal for OEM usage in motion detection equipment.

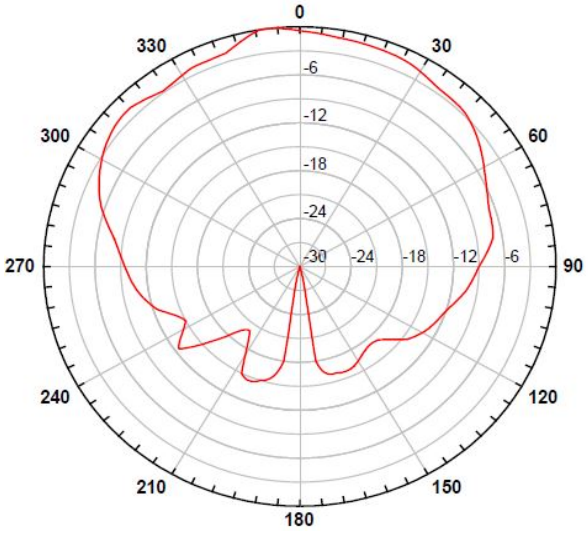
Features

- Low current consumption
- CW or Pulse operation
- Flat profile
- Long detection range

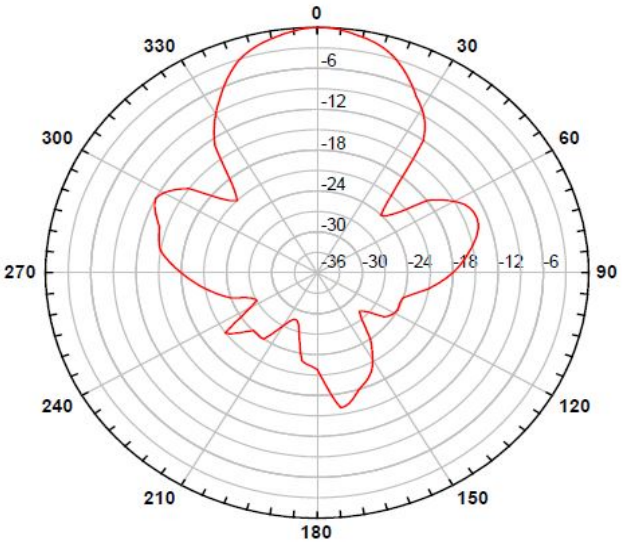
Applications

- Microwave-PIR motion detector
- Speed measurement
- Lighting control
- Auto –door opening and vehicle speed measurement

Antenna Beam Pattern

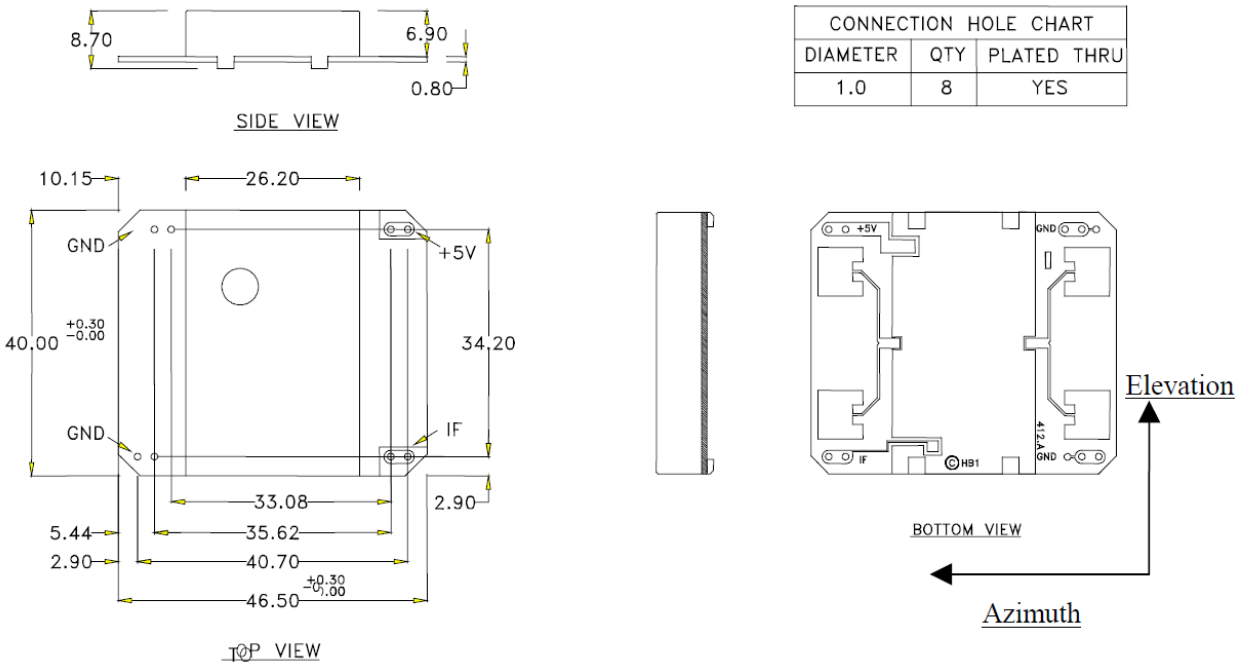


Azimuth



Elevation

Outline diagram (All dimensions in mm)



The specifications are measured with +5VDC, CW operation 12 kΩ load at ambient temperature of +25°C.

Parameter	Notes	Min	Typ.	Max	Units
Frequency Setting	1	10.520	10.525	10.530	GHZ
Radiated Power(EIRP)	1	12	15	20	dBm
Spurious Emission	1			-7.3	dBm
Settling Time			3	6	µSec
Received Signal Strength	2		200		µVp-p
Noise	3			5	µVrms
Antenna Beam-width (3 dB) - Azimuth			80		˚C
Antenna Beam-width (3 dB) - Elevation			40		˚C
Supply Voltage		4.75	5.00	5.25	VDC
Current Consumption			30	40	mA
Pulse Repetition Frequency	4		2		KHZ
Pulse Width	4	10			µSec
Operating Temperature		-15		55	˚C
Weight			8		gm

- The radiated emissions of HB100 is designed to meet the requirements of Federal Communications Commission (FCC) rules, Part 15, Section 15.245 (use within a building or to open building door).
- The Received Signal Strength (RSS) is measured at total 2 ways path loss of 93dB.
- The noise voltages are measured from 10 Hz to 100 Hz at the output port, inside an Anechoic chamber.
- Pulse operation.
- The design, manufacturing process and specifications of the device are subjected to change without prior notice.

Caution: ELECTROSTATIC SENSITIVE DEVICE Observe precautions for handling and storage.