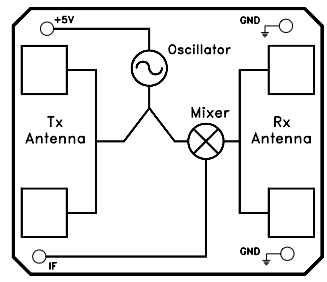
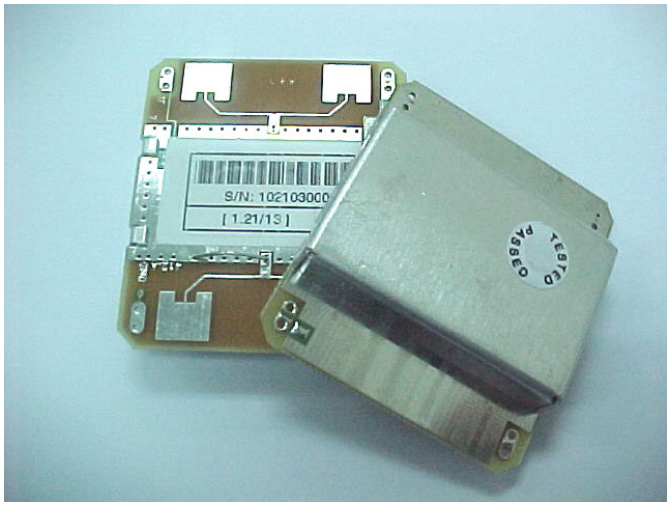
HB 100 Microwave Sensor Module

10.525GHz Microwave Motion Sensor Module



Block diagram and connection



Description

HB100 Miniature Microwave Motion Sensor is a 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.

This module is ideally suitable for false alarms reduction in intruder detectors when work together with Passive Infrared (PIR) sensor. It can also be used for auto-door opening and vehicle speed measurement.

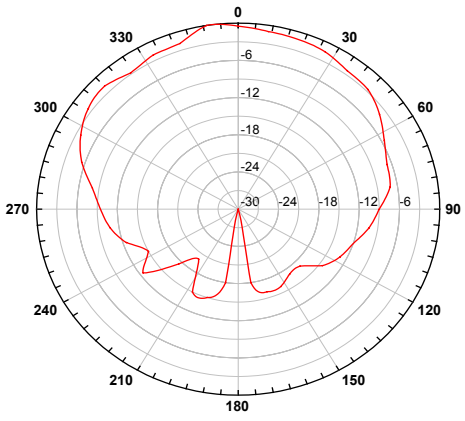
Features

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

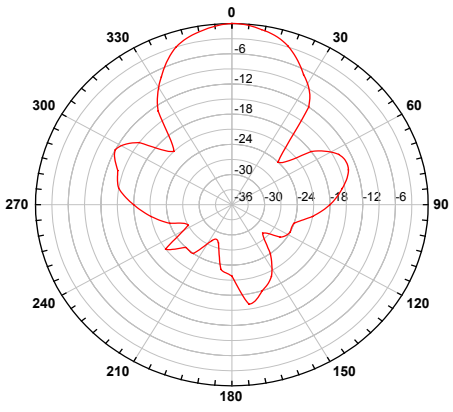
Applications

- Microwave-PIR motion detector
- Speed measurement
- Lighting control

Antenna Beam Pattern



Azimuth



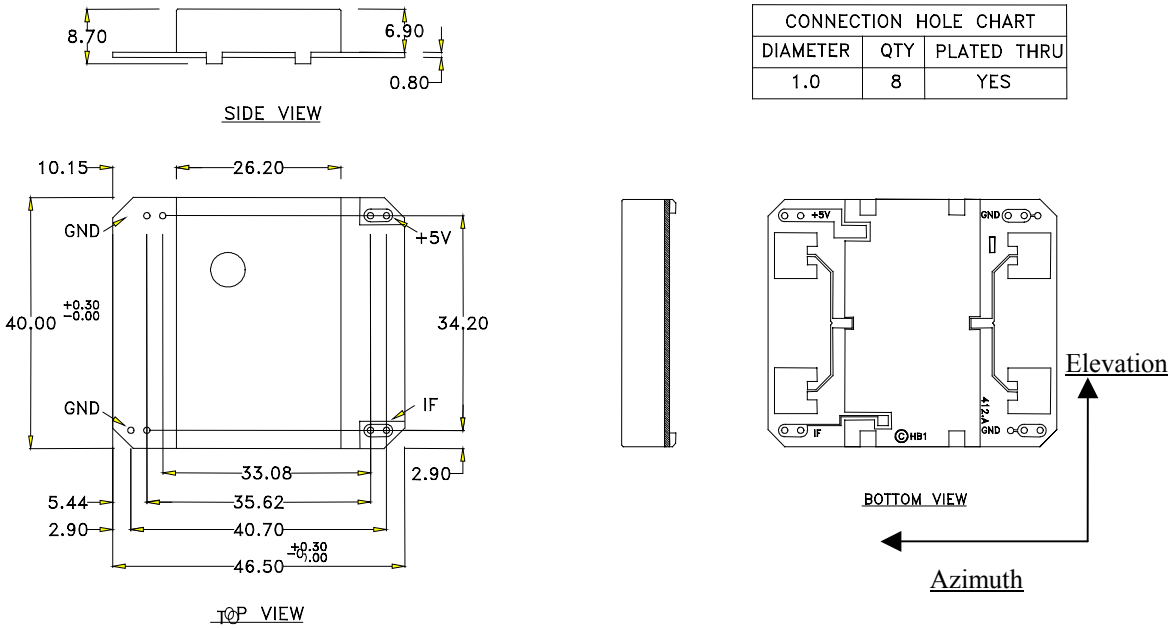
Elevation

CERT. NO. : 94-1-0033
SS ISO 9001 : 2000

AgilSense
Microwave Sensors From Agilis
www.agilsense.com

Technical Specifications

Outline diagram (All dimensions in mm)



CONNECTION HOLE CHART		
DIAMETER	QTY	PLATED THRU
1.0	8	YES

Unless noted otherwise, 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		°
Antenna Beam-width (3 dB) - Elevation			40		°
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

Note 1: 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)
Note 2: The Received Signal Strength (RSS) is measured at the total 2 ways path loss of 93dB.
Note 3: The noise voltages are measured from 10 Hz to 100 Hz at the output port, inside an Anechoic chamber.
Note 4: Pulse operation.
Note 5: The design, manufacturing process and specifications of this device are subjected to change without prior notice.
Note 6: **CAUTION: ELECTROSTATIC SENSITIVE DEVICE.** Observe precautions for handling and storage.

VER 1.02

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