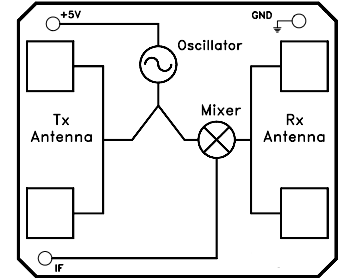


General Description

HB410 Miniature Microwave Motion Sensor is a X-Band Bi-Static Doppler transceiver module. It's built-in Dielectric Resonator Oscillator (DRO) and a pair of Microstrip patch antenna array, make it ideal for OEM use 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.

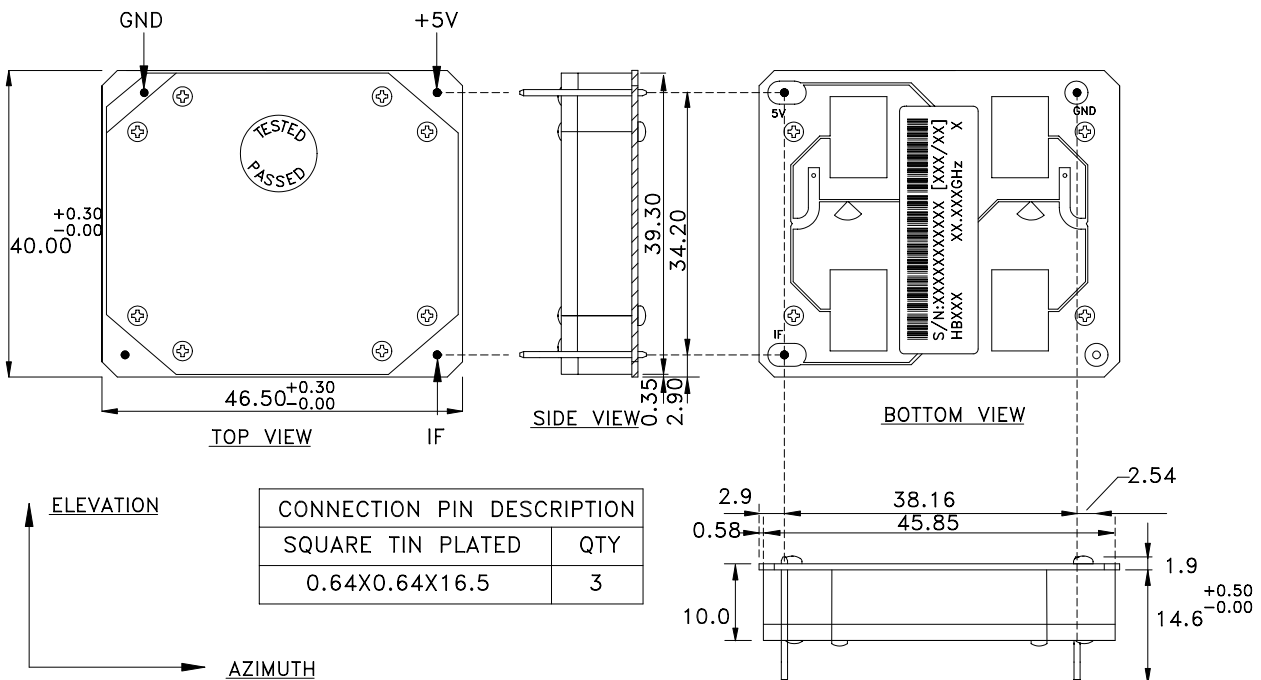


Block Diagram and Connections

Features & Applications

- * Low current consumption
- * CW or Pulse operation
- * Low harmonics emission
- * Flat profile
- * Microwave-PIR motion detector
- * Automatic door opener
- * Lighting control
- * Speed measurement

Outlines Diagram (dimensions in mm)



Characteristics

Unless noted otherwise, the specifications are measured with +5VDC, CW operation, 12 kΩ load and at ambient temperature +25°C.

Parameter	Notes	Min	Typ	Max	Units
Frequency Setting	1	9.345	9.350	9.355	GHz
Radiated Power (EIRP)	1	10	13	14	dBm
Spurious Emission	1			-30	dBm
Settling Time			3	6	μSec
Received Signal Strength	2	80		200	μVp-p
Noise	3		2	3	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			2	3	KHz
Pulse Width		10			μSec
Operating Temperature		-15		55	°C
Weight			17		gm

Note 1: The radiated emissions is designed to meet the requirements of ETS 300 440

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 a Anechoic chamber.

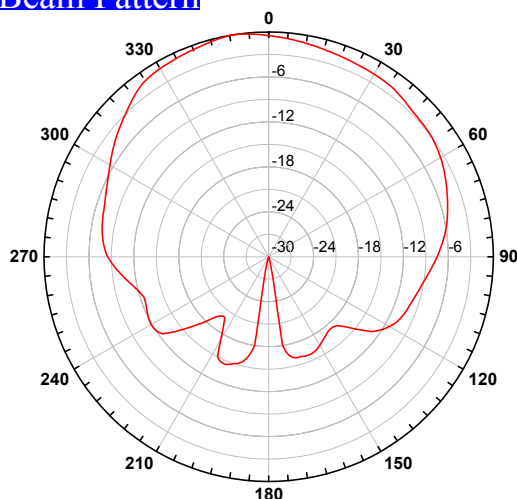
Note 4: Pulse operation.

Note 5: The design, manufacturing process and specifications of this device are subject to change without prior notice.

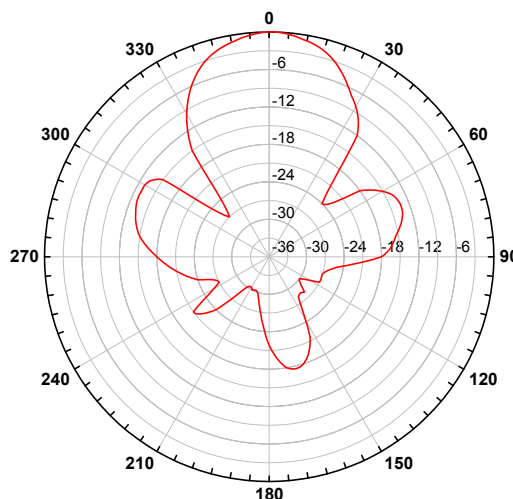
Note 6: CAUTION: ELECTROSTATIC SENSITIVE DEVICE. Observe precautions for handling and storage.

Note 7: Patent Pending .

Antenna Beam Pattern



Azimuth



Elevation