ACD2400-052
10.525 GHz MICROWAVE MOTION SENSOR

General Description

ACD2400-052 microwave motion sensor is a X-Band doppler module. The low current consumption, high sensitivity and flat profile features make it ideal for use in low cost motion detection equipment. Fundamental oscillation is generated by GaAs FET Dielectric Resonator Oscillator (DRO) to eliminate non-harmonic spurious emission. By using flat profile microstrip patch antennas, the module can be integratd to other circuitry easily.

The sensor is built with Surface Mounted Technologies (SMT) to achieve minimisation and high reliability.

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

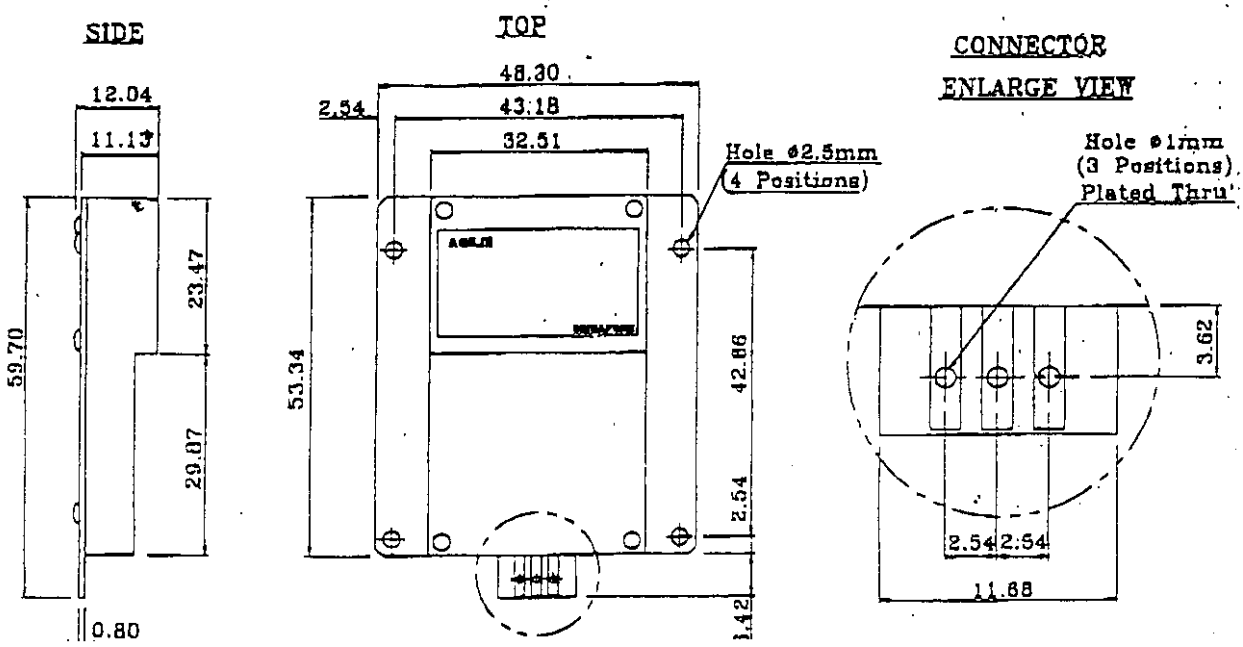
* Low current consumption 35mA
* CW or Pulse operation
* Long detection range > 15 m
* Wide detection coverage
* Flat profile
* FCC conformance

Applications

* Microwave-PIR motion detector
* Automatic door opener
* Lighting control
* Speed measurment

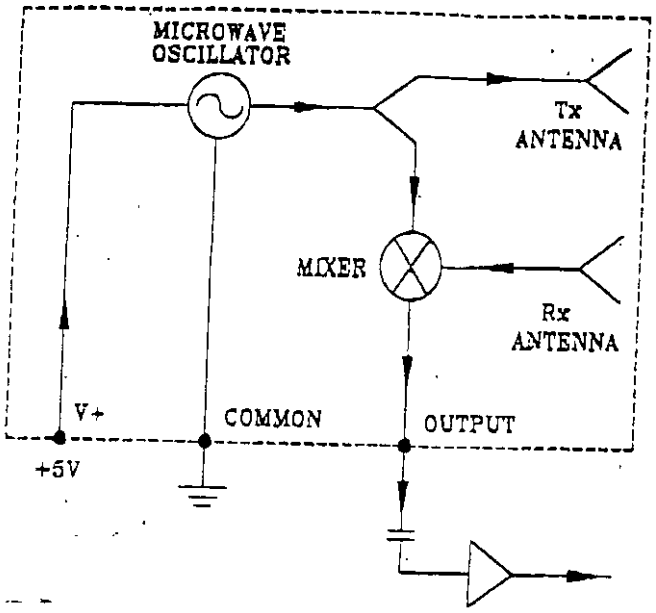
OUTLINE DRAWING

(Dimension in millimeters)

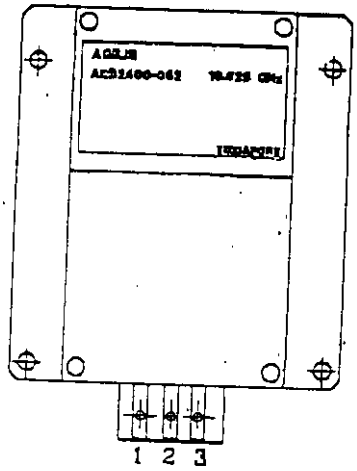


FCC ID:HNA2YUATL

BLOCK DIAGRAM



ELECTRICAL CONNECTION



1. V+
2. COMMON
3. OUTPUT

Characteristics

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

Parameter	Notes	Min	Typ	Max	Units
Frequency	1	10.520	10.525	10.530	GHz
Radiated Power (EIRP)	1		15	25	dBm
Spurious Emission @ 1 m	1			98	µV/m
Settling Time			3	6	µSec
Received Signal Strength	2	30		100	µV
Noise	3			10	µV
Beam Width (3 dB)			36X72		°
Supply Voltage		4.75	5.00	5.25	VDC
Current Consumption			35	50	mA
Operating Temperature		-10		55	°C
Weight			15	20	gm

Note 1: The radiated emissions of ACD2400-052 is designed to meet the requirements of Federal Communications Commission (FCC) rules, Part 15, Section 15.245.

Note 2: The Received Signal Strength (RSS) is measured at the total 2 ways path loss of 90dB.

Note 3: The noise voltages are measured from 10 Hz to 100 Hz at the output port.

Note 4: The design, manufacturing process and specifications of this device are subject to change without notice.

Note 5: CAUTION: ELECTROSTATIC SENSITIVE DEVICE. Observe precautions for handling and storage.