DATA SHEET

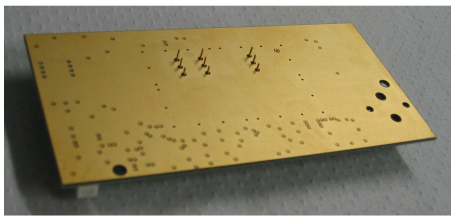
Product Family: customized K-Band Transceiver
Range of use: advanced door applications

Module Number: **ICP-705 /Artmotion**

Description:

Basic Features ICP-705 / Artmotion:

- radar-based customized motion detector working in the 24GHz ISM Band
- stereo (dual channel) operation for direction of motion identification
- integrated IF-amplifier
- split transmit and receive path for maximum gain
- by customer integrated signal processing



Environmental Tests and Handling Precautions:

- This InnoSenT sensor is sensitive to damage from ESD.
- Normal precautions as usually applied to CMOS devices are sufficient when handling the device.

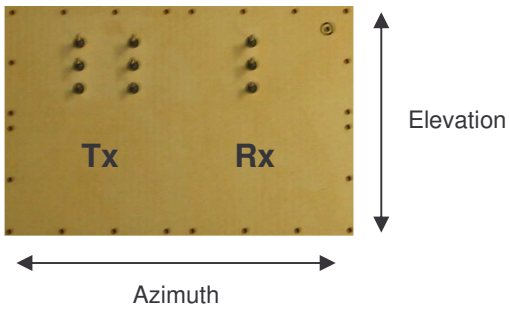
Electrical Characteristics HF-Part:

Parameter	Symbol	min.	typ.	max.	units	comment
transmit frequency	f	24.000	24.125	24.250	GHz	
output power (EIRP)	P_{out}			20	dBm	
temperature drift	Δf		-1.0		MHz/℃	
I/Q balance	amplitude	-3		+3	dB	
	phase	60	90	120	°	
IF-output	gain		20		dB	
	bandwidth	DC		1000	Hz	
	voltage offset		2.2		V	
supply voltage	V_{CC}		5		V	
supply current	I_{CC}		60	70	mA	
supply voltage NF	VCC		24		V	
supply current NF	ICC		65		mA	typ. 41mA standby
output signal 1		collector NPN				
output signal 2		emitter NPN				

Electrical Characteristics general:

Parameter	Symbol	min.	typ.	max.	units	comment
operating temperature	T_{OP}	-20		+60	℃	
outline dimensions	~ 90 x 45 x 11,4				mm	

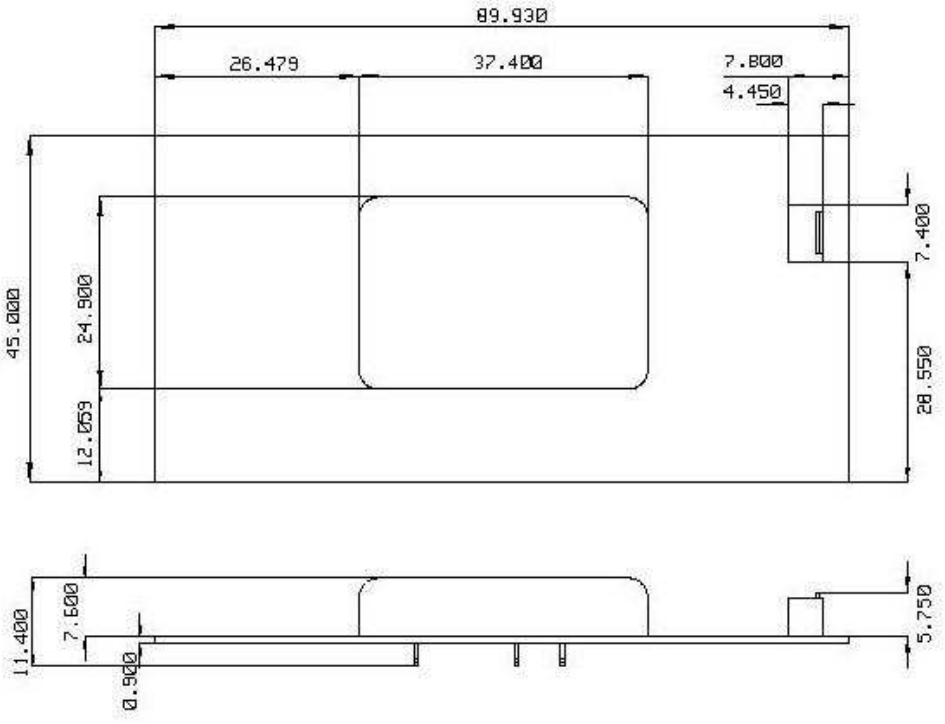
Antenna Characteristics:



Parameter	Symbol	min.	typ.	max.	units	comment
antenna pattern **Tx** (3dB)	horizontal		50		°	azimuth
	vertical		33		°	elevation
squinting angle **Tx**	vertical		65		°	elevation
side lobe suppression **Tx**	horizontal		10		dB	azimuth
	vertical		8		dB	elevation
antenna pattern **Rx** (3dB)	horizontal		85		°	azimuth *(determined by simulation)*
	vertical		35		°	elevation *(determined by simulation)*
squinting angle **Rx**	vertical		65		°	elevation *(determined by simulation)*
side lobe suppression **Rx**	horizontal		8		dB	azimuth *(determined by simulation)*
	vertical		8		dB	elevation *(determined by simulation)*

Mechanical Outlines:

all dimensions in Millimeter



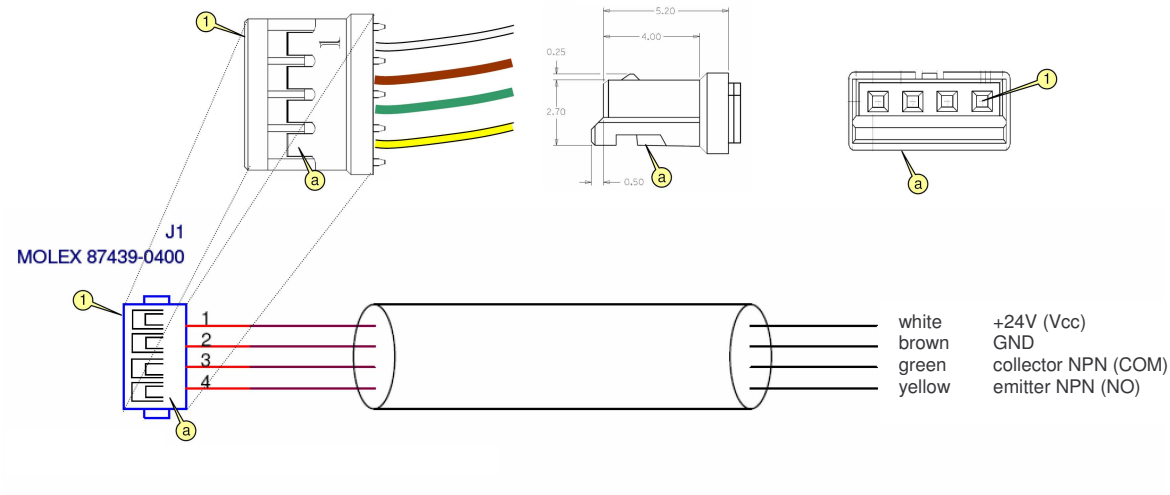
Interface:

The sensor provides a 1.5mm pitch 4pin connector (type: Molex P/N 87437-0473).

Pin #	Description	In/Out	Comment
1	VCC	input	+24V
2	GND	input	
3	Output signal 1	output	collector NPN
4	Output Signal 2	output	emitter NPN

mates with: Molex P/N 87439-0400

Description of Molex connector P/N 87439-0400



Current revision status:

HF-Part: 33-0823.51B
NF-Part: 705_2.2

FCC- / IC- approval

- This device complies with Part 15 of the FCC Rules and with RSS-210 of Industry Canada.

  Operation is subject to the following two conditions:
  (1) this device may not cause harmful interference, and
  (2) this device must accept any interference received, including interference that may cause undesired operation.

- Warning: Changes or modifications made to this equipment not expressly approved by InnoSenT GmbH may void the FCC authorization to operate this equipment.

- Manufacturers of mobile or fixed devices incorporating ICP-705 modules are authorized to use the FCC Grants and IC Certificates of the ICP-705 modules for their own final products according to the conditions referenced in these documents. In this case, the FCC label of the module shall be visible from the outside, or the host device shall bear a second label stating "Contains FCC ID: TBZ-ICP705F" and "Contains IC: 5904A-ICP705F".

Certification and environment protection:

InnoSenT GmbH has established and applies a quality system for:
Development, production and sales of radar sensors for commercial and industrial sensors

An audit was performed, Report No. 010350 Proof has been furnished that the requirements according to DIN EN ISO 9001:2000 are fulfilled.

This InnoSenT product is compliant to the restriction of hazardous substances (RoHs – European Union directive 2002/95/EG).

InnoSenT Approval

This data sheet contains the technical specifications of the described product.
The technical specifications of this data sheet are approved:

InnoSenT GmbH
Am Roedertor 30
97497 Donnersdorf
GERMANY

Contact Information:

InnoSenT GmbH
Am Roedertor 30
97499 Donnersdorf
Germany

Phone: +49 (0) 9528-9518-0
Fax: +49 (0) 9528-9518-99

E-Mail: info@InnoSenT.de
Web: www.InnoSenT.de