

DATA SHEET

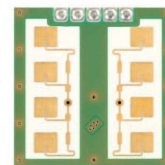
Product Family: Low Cost K-Band Transceiver

Range of use: Security- / Door- applications

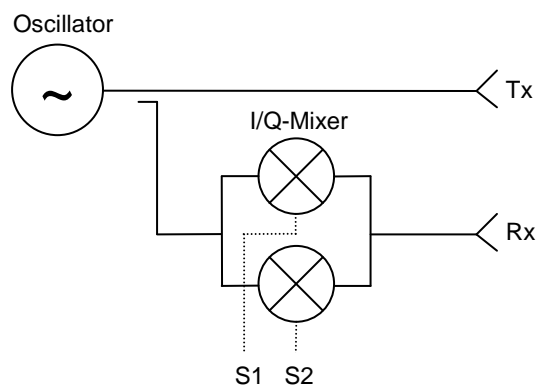
Module Number: **IPS-265 (and Variants IPS-265_F and IPS-265_UK)**

Description:

- ◆ radar-based motion detector
- ◆ available in different frequency ranges: Standard; _F and _UK variants
- ◆ advanced PHEMT-oscillator with low current consumption
- ◆ split transmit and receive path for maximum gain
- ◆ **dual** (stereo channel) operation
- ◆ very small outline dimensions



Block Diagram:



Environmental Tests and Handling Precautions:

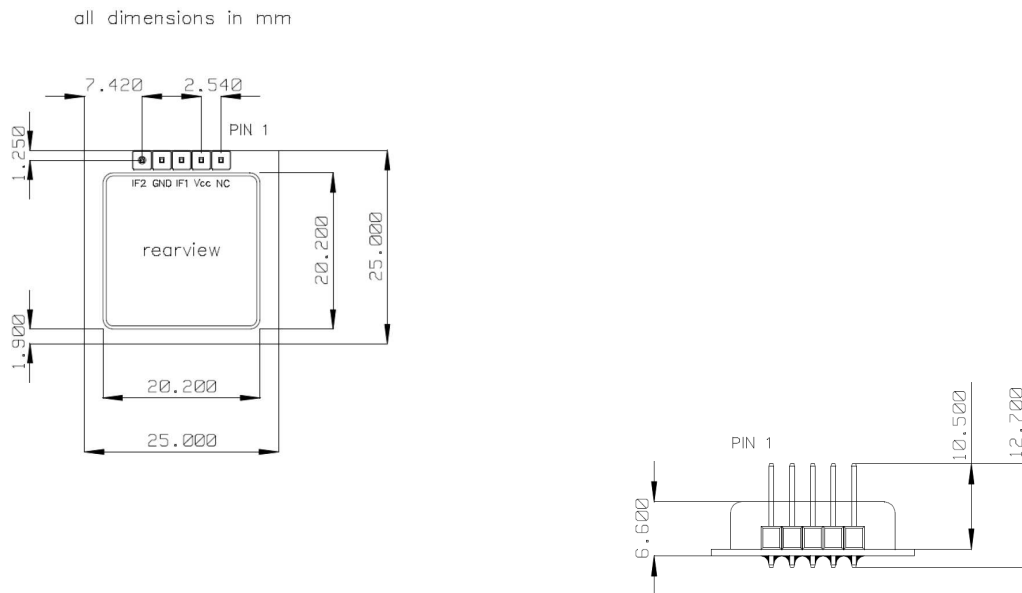
- ◆ This InnoSenT sensor is sensitive to damage from ESD.
- ◆ Normal precautions as usually applied to CMOS devices are sufficient when handling the device. Touching the signal output pins has to be avoided at any time before soldering or plugging the device into a motherboard
- ◆ Applying multimeters e.g. for resistance measurement between any of the connector pins may cause damage to the module.



Electrical Characteristics:

| Parameter | Symbol | min. | typ. | max. | units | comment |
|-----------------------------|-------------------------|----------------------|------|--------|--------|----------------------------|
| Transmitter | | | | | | |
| transmit frequency | f_{Standard} | 24.050 | | 24.250 | GHz | |
| | $f_{\text{IPS-265 F}}$ | 24.075 | | 24.175 | GHz | France – US frequency band |
| | $f_{\text{IPS-265 UK}}$ | 24.150 | | 24.250 | GHz | UK frequency band |
| temperature drift frequency | Δf | | -1 | | MHz/°C | |
| output power | P_{out} | | 16 | | dBm | |
| positive supply voltage | V_{cc} | | 5 | | V | |
| positive supply current | I_{cc} | | 30 | 40 | mA | |
| Receiver | | | | | | |
| I/Q-balance | amplitude | | | 6 | db | |
| | phase | 60 | 90 | 120 | ° | |
| IF-output | voltage offset | -300 | | 300 | mV | |
| Environment | | | | | | |
| operating temperature | T_{OP} | -20 | | 60 | °C | |
| outline dimensions | | ~ 25 x 25 x 7 (12.7) | | | mm | compare drawing |
| Antenna | | | | | | |
| antenna pattern (-3 dB) | horizontal | | 80 | | ° | azimuth |
| | vertical | | 32 | | ° | elevation |
| side lobe suppression | horizontal | | 13 | | dB | azimuth |
| | vertical | | 13 | | dB | elevation |

Mechanical Outlines:



Interface:

The sensor provides a 2.54 mm grid, single row pin header (square pin \square 0.635 mm).

| Pin | Function | Description |
|-----|----------|-------------------|
| 1 | NC | not connected |
| 2 | VCC | supply voltage 5V |
| 3 | IF1 | signal 1 output |
| 4 | GND | GND |
| 5 | IF2 | signal 2 output |

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).



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