

### Features

- Low Cost
- Compact Size
- Gold Plated Solder Pins
- Detects Direction of Motion
- Rugged Die cast Construction
- 10Hz - 5000Hz IF Bandwidth
- Lead Free (RoHS\* Compliant)

### Description and Applications

M/A-COM's MACS-007802-0M1RS0 is a RoHS Compliant K-Band Stereo Doppler transceiver consisting of a Gunn Diode oscillator and two Schottky Diode mixers assembled into a die cast waveguide package. These Transceivers are well suited for high volume applications where small size and reliability are required. Typical applications include automatic door openers, police radar and presence sensing applications, where Direction of motion is required.

### Product Specifications

Parameter	Test Conditions	Units	Min.	Typ.	Max.
Operating Frequency	+25 °C	GHz	24.100	24.125	24.150
Output Power	+25 °C	mW	5.0		
Operating Current	+25 °C	mA	60	85	100
Operating Voltage	+25 °C	VDC		5.0	
Schottky Diode Noise	+25 °C	micro-Volts		2.5	5.0
Transceiver Sensitivity	+25 °C	-dBc	-93	-103	
Mixer Phasing	+25 °C	Degrees	50		120

Operating temperature to full specification -30°C to +70°C

### Absolute Maximum Ratings<sup>1</sup>

Parameter	Maximum Ratings
Operating Temperature	-40 °C to +85 °C
Storage Temperature	-65 °C to +150 °C
Incident RF Input Power	+20 dBm
DC Input (Gunn Diode)	+5.5VDC
Soldering Temperature	+260 °C max.

1. Exceeding these limits may cause permanent damage.

**Note: Device is ESD Sensitive. Proper ESD Precautions should be used when handling this Device..**

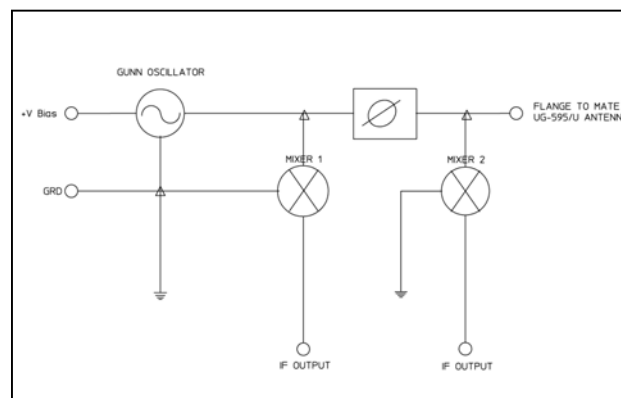
### Package Outline



### PIN Configuration

PIN	Function
1	DC Input
2	GND
3	IF Output (Mixer 1)
4	IF Output (Mixer 2)

### Functional Block Diagram



\*Restrictions on Hazardous Substances, European Union Directive 2002/95/EC.

• North America Tel: 800.366.2266 • Europe Tel: +353.21.244.6400  
 • India Tel: +91.80.43537383 • China Tel: +86.21.2407.1588  
 Visit [www.macomtech.com](http://www.macomtech.com) for additional data sheets and product information.

M/A-COM Technology Solutions Inc. and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice.

# MACS-007802-0M1RS0

## Stereo Doppler Transceiver 24.125 GHz

Rev. V4

