

MACS-007802-0M1R1V

Stereo Voltage Controlled Doppler Transceiver 24.125 GHz

Rev. V1

Features

- Low Cost
- 8.0mW Output Power
- Detects Direction of Motion
- 300MHz of Electronic Tuning
- Rugged Die cast Construction
- 10Hz - 5000Hz IF Bandwidth
- Lead Free (RoHS* Compliant)

Description and Applications

M/A-COM's MACS-007802-0M1R1V is a RoHS Compliant K-Band Stereo Doppler Transceiver consisting of a Gunn Diode oscillator, two Schottky Diode mixers and a Varactor Diode assembled into a diecast waveguide package. These Transceivers are well suited for high volume applications where small size and reliability are required.

Product Specifications

Parameter	Test Conditions	Units	Min.	Typ.	Max.
Operating Frequency	+25 °C	GHz	24.10	24.125	24.15
Output Power	+25 °C	mW	8.0		
Operating Current	+25 °C	mA	140	175	200
Operating Voltage	+25 °C	VDC		5	
Schottky Diode Noise	+25 °C	microVolts		2.5	5
Transceiver Sensitivity	+25 °C	-dBc	-93	-103	
Mixer Phasing	+25 °C	Degrees	50		120
Electronic Tuning	+25 °C	MHz	300		
Electronic Tuning Voltage	+25 °C	VDC	0.5		10

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

Absolute Maximum Ratings¹

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..

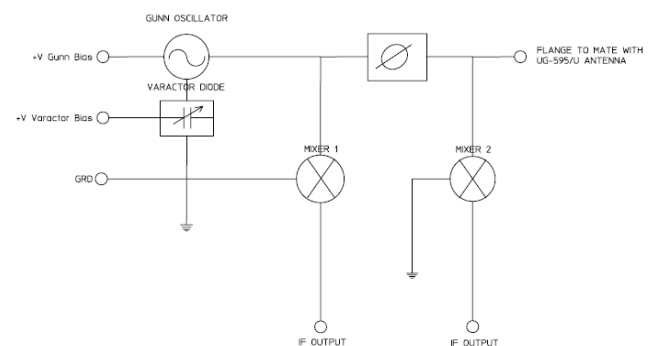
Package Outline



PIN Configuration

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

Functional Block Diagram



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

ADVANCED: Data Sheets contain information regarding a product M/A-COM Technology Solutions is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed.

PRELIMINARY: Data Sheets contain information regarding a product M/A-COM Technology Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available. Commitment to produce in volume is not guaranteed.

• **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 for additional data sheets and product information.

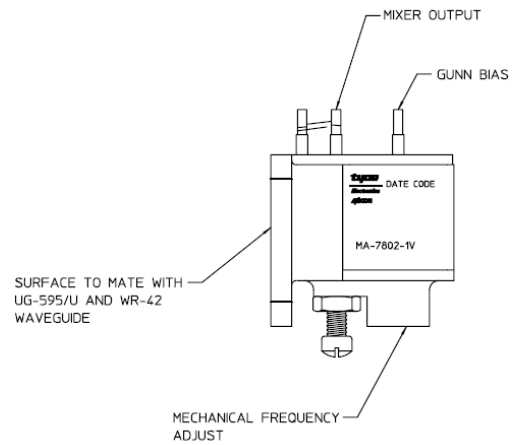
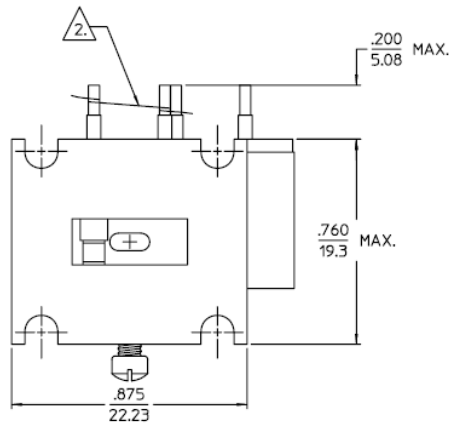
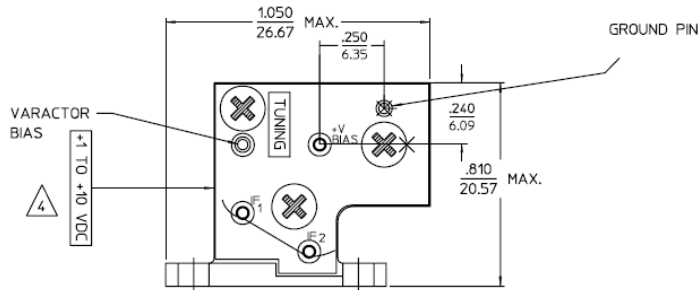
M/A-COM Technology Solutions and its affiliates reserve the right to make changes to the products and information contained herein without notice.

MACS-007802-0M1R1V



Stereo Voltage Controlled Doppler Transceiver 24.125 GHz

Rev. V1



ADVANCED: Data Sheets contain information regarding a product M/A-COM Technology Solutions is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed.

PRELIMINARY: Data Sheets contain information regarding a product M/A-COM Technology Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available. Commitment to produce in volume is not guaranteed.

• **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 for additional data sheets and product information.

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