

Stereo Doppler Transceiver 24.125 GHz

Rev. V1

Features

- Low Cost
- 8.0mW Output Power
- 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-007802-0M1R10 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	8.0		
Operating Current	+25 °C	mA	140	175	200
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 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..

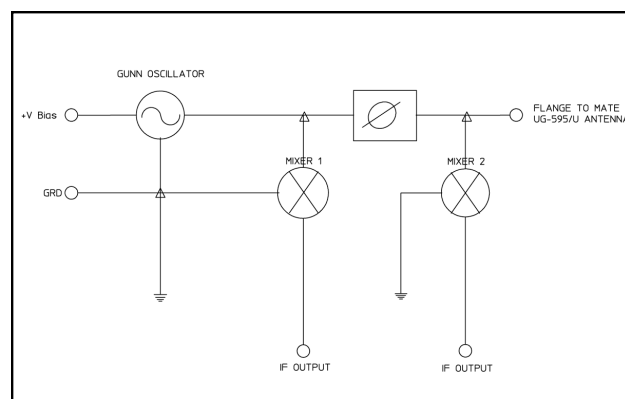
Package Outline



PIN Configuration

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

Functional Block Diagram



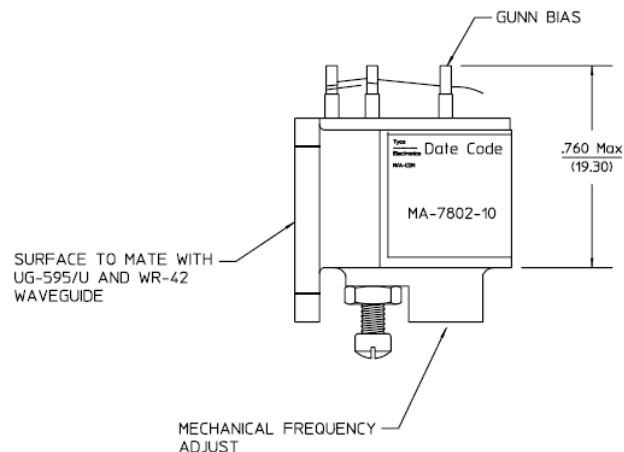
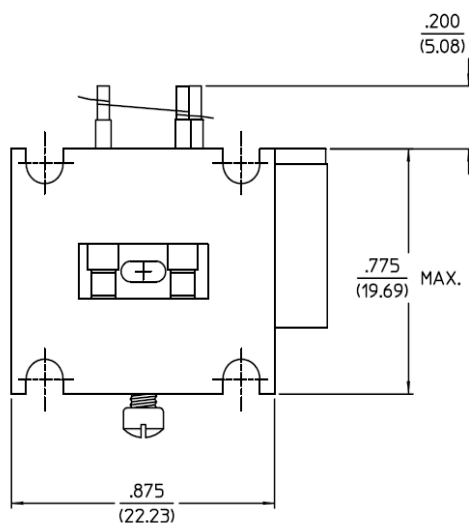
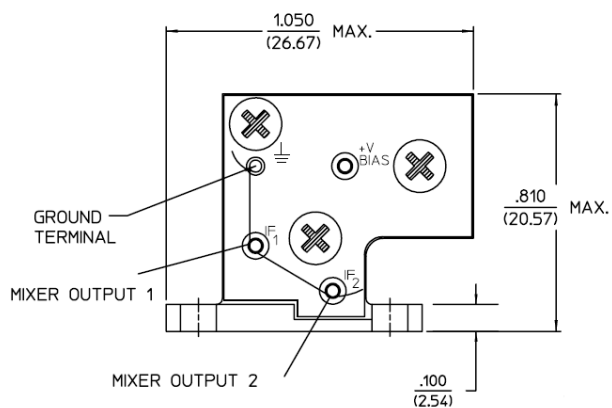
*Restrictions on Hazardous Substances, European Union Directive 2002/95/EC.

MACS-007802-0M1R10



Stereo Doppler Transceiver 24.125 GHz

Rev. V1



M/A-COM Technology Solutions Inc. All rights reserved.

Information in this document is provided in connection with M/A-COM Technology Solutions Inc ("MACOM") products. These materials are provided by MACOM as a service to its customers and may be used for informational purposes only. Except as provided in MACOM's Terms and Conditions of Sale for such products or in any separate agreement related to this document, MACOM assumes no liability whatsoever. MACOM assumes no responsibility for errors or omissions in these materials. MACOM may make changes to specifications and product descriptions at any time, without notice. MACOM makes no commitment to update the information and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to its specifications and product descriptions. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document.

THESE MATERIALS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, RELATING TO SALE AND/OR USE OF MACOM PRODUCTS INCLUDING LIABILITY OR WARRANTIES RELATING TO FITNESS FOR A PARTICULAR PURPOSE, CONSEQUENTIAL OR INCIDENTAL DAMAGES, MERCHANTABILITY, OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT. MACOM FURTHER DOES NOT WARRANT THE ACCURACY OR COMPLETENESS OF THE INFORMATION, TEXT, GRAPHICS OR OTHER ITEMS CONTAINED WITHIN THESE MATERIALS. MACOM SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOST REVENUES OR LOST PROFITS, WHICH MAY RESULT FROM THE USE OF THESE MATERIALS.

MACOM products are not intended for use in medical, lifesaving or life sustaining applications. MACOM customers using or selling MACOM products for use in such applications do so at their own risk and agree to fully indemnify MACOM for any damages resulting from such improper use or sale.