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<th>Rev</th>
<th>Description</th>
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<td>Initial release per ECO 20066831</td>
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**PRODUCTION**

**TITLE:**
Product Specification, MACS-007802-0M1R1D

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<th>DWG. NO:</th>
<th>REV.</th>
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<tr>
<td>PS-MACS-007802-0M1R1D</td>
<td>SHEET 1 OF 2</td>
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The MACS-007802-0M1R1D is a RoHS Compliant K-Band Doppler Stereo Transceiver consisting of a Gunn Diode Oscillator and two Schottky barrier Diode mixers assembled into a diecast waveguide package, designed for commercial applications in directional motion sensing.

**ELECTRICAL SPECIFICATIONS**

- **Fo:** 24.145 GHz ± 4 MHz @+25°C
- **Frequency Stability:** 1 MHz/°C maximum
- **Output Power:** 4.0 mW minimum @ +25°C
- **Operating Voltage:** +5.0 VDC
- **Operating Current:**
  - 100 mA maximum @ +25°C
  - 110 mA maximum @ -30°C
- **Mixer Noise:** (3) 6 mV R.M.S. maximum
- **Transceiver Sensitivity:** (3) (4) 75 mV R.M.S. minimum
- **Mixer Phasing:**
  - (Phase difference of I.F. output signals) 50° - 120° (non-adjustable)
- **Mixer Load Resistor:** (not supplied) 1000 ohms is recommended
- **Temperature Range:** -30°C to +70°C

**MECHANICAL SPECIFICATIONS**

- **Outline Drawing:** Per MACS-007802-0M1R1D
- **D.C. Bias (Gunn):** Solder Pin
- **Mixer Output:** Solder Pin
- **R.F. Output:** WR-42 waveguide mates with UG 595/U flange

**NOTES:**

1. Maximum solder temperature to pins is 250°C max for a 5 second duration.
2. Units are extremely ESD sensitive. Parts should only be handled in an appropriate ESD protected manner. Failure to do so may void manufacturer warranty.
3. As measured at the output of a standard low noise amplifier with a 3 dB bandpass of 10 Hz to 750 Hz, an impedance of 10,000 ohms and a voltage gain of times 1000 (60 dB).
4. After applying a stimulus derived from a standard K-band test stand (M/A-COM). The minimum mixer diode signal output level of 75 mV is measured after carrier is attenuated 70 dB and returned to the transceiver.