

35.00 GHz Doppler Sensor Head, Dual Channel, Long Range

Description:

Model SSS-35310-29L-D1 is Ka Band, lens antenna-based Doppler sensor head that is designed and manufactured for **long range** measurements of a moving target's speed and direction. The sensor head has a center frequency of 35 GHz and takes a nominal bias of +5.0 VDC/250 mA. The sensor heads are configured with a lens corrected antenna, T/R diplexer, a dual channel (I/Q) receiver and a transmitter/receiver oscillator in an integrated package. Sensor heads with a single receiver are offered under model number **SSS-35310-29L-S1** and can only detect the speed of a moving target.



Features:

- 35.00 GHz Operation
- Low Flicker Noise and High Sensitivity
- Low Harmonic Emission

Applications:

- Traffic Management Systems
- Microwave Fence
- Military Surveillance Systems

Electrical Specifications:

| Parameter | Minimum | Typical | Maximum |
|---------------------------------|-----------------------|----------------------------|----------------------|
| Antenna 3 dB Beamwidth | | 5° | |
| Antenna Side Lobes | | -20 dB | |
| Antenna Gain | | 29 dBi | |
| Antenna Polarization | Right-Handed Circular | | |
| RF Frequency Range | 33.90 GHz | 35.00 GHz | 36.10 GHz |
| Transmitting Power | | +10 dBm | |
| Receiver I/Q Phase Δ | 80° | | 100° |
| Receiver I/Q Amplitude Δ | 0 dB | | 2 dB |
| IF Frequency Range | DC | | 100 MHz |
| IF Offset Voltage | | $\pm 0.1 V_{DC}$ | |
| Frequency Stability | | -0.3 MHz/°C | |
| Power Stability | | -0.03 dB/°C | |
| DC Supply Voltage | | +5 V _{DC} /250 mA | +5.5 V _{DC} |
| Specification Temperature | | +25°C | |
| Case Temperature | -40°C | | +85°C |



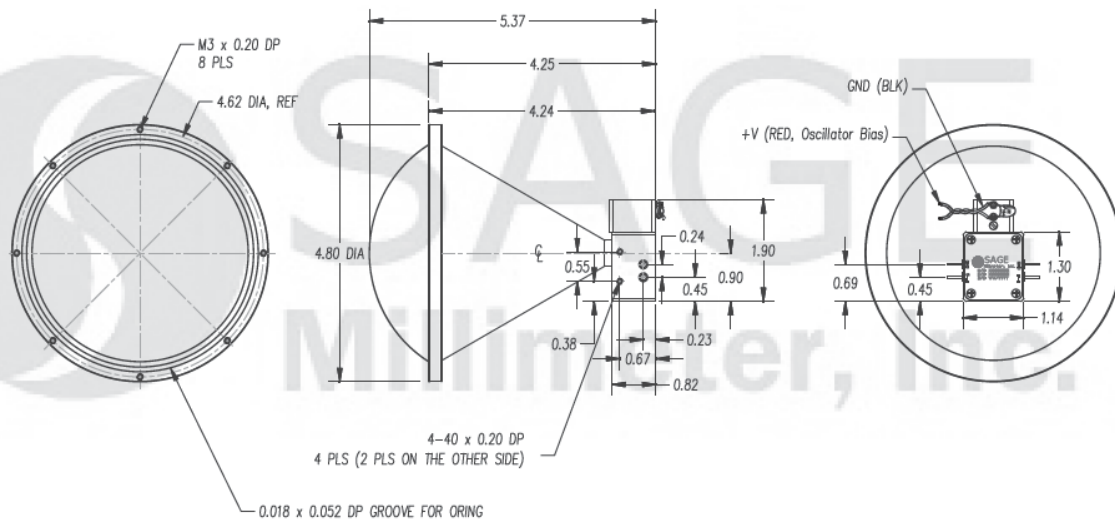


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Mechanical Specifications:

| Item | Specification |
|----------------------------|-----------------------|
| Gunn Oscillator Bias Port | Red Wire |
| Mixer IF _I Port | Solder Pin |
| Mixer IF _Q Port | Solder Pin |
| Mixer IF Ground | Solder Pin |
| Size | 4.80" (Ø) X 5.37" (L) |
| Material | Aluminum |
| Finish | Chem Film |
| Weight | 12.0 Oz |
| Outline | SS-LA-GD |

Mechanical Outline: (Unless otherwise specified, all dimensions are in inches)



Note:

- SAGE Millimeter, Inc. reserves the right to change the information presented without notice.

Caution:

- The device is static sensitive. Always follow ESD rules when working with the device.
- Wrong bias or reverse bias on the sensor will damage the device.
- Exceeding absolute maximum ratings shown will damage the device. Use additional heatsink or fan if necessary.

