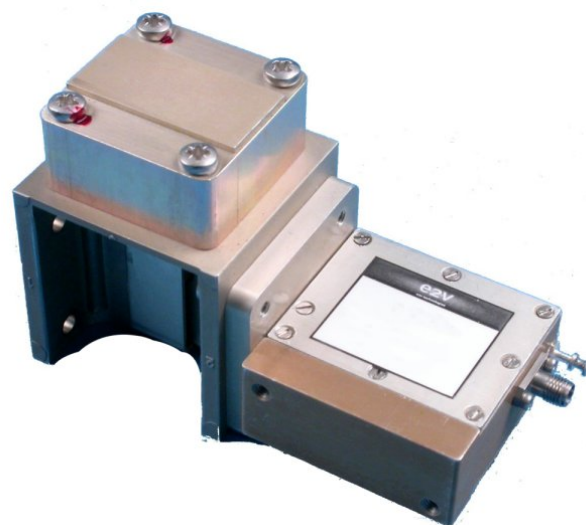


Product Overview

e2v technologies have developed a 200MHz bandwidth, Very Low-Noise X-band Noise Amplifier with an integral isolator, for Radar Receiver applications.

A novel in-line waveguide to microstrip transition is used to give an axial format to the input and output.

The amplifier chain utilises well-characterised and proven discrete semiconductor stages: the input amplifier stage is single-ended, and designed with low noise HEMT devices; the output stages utilize medium power GaAsFETs in a balanced stage.



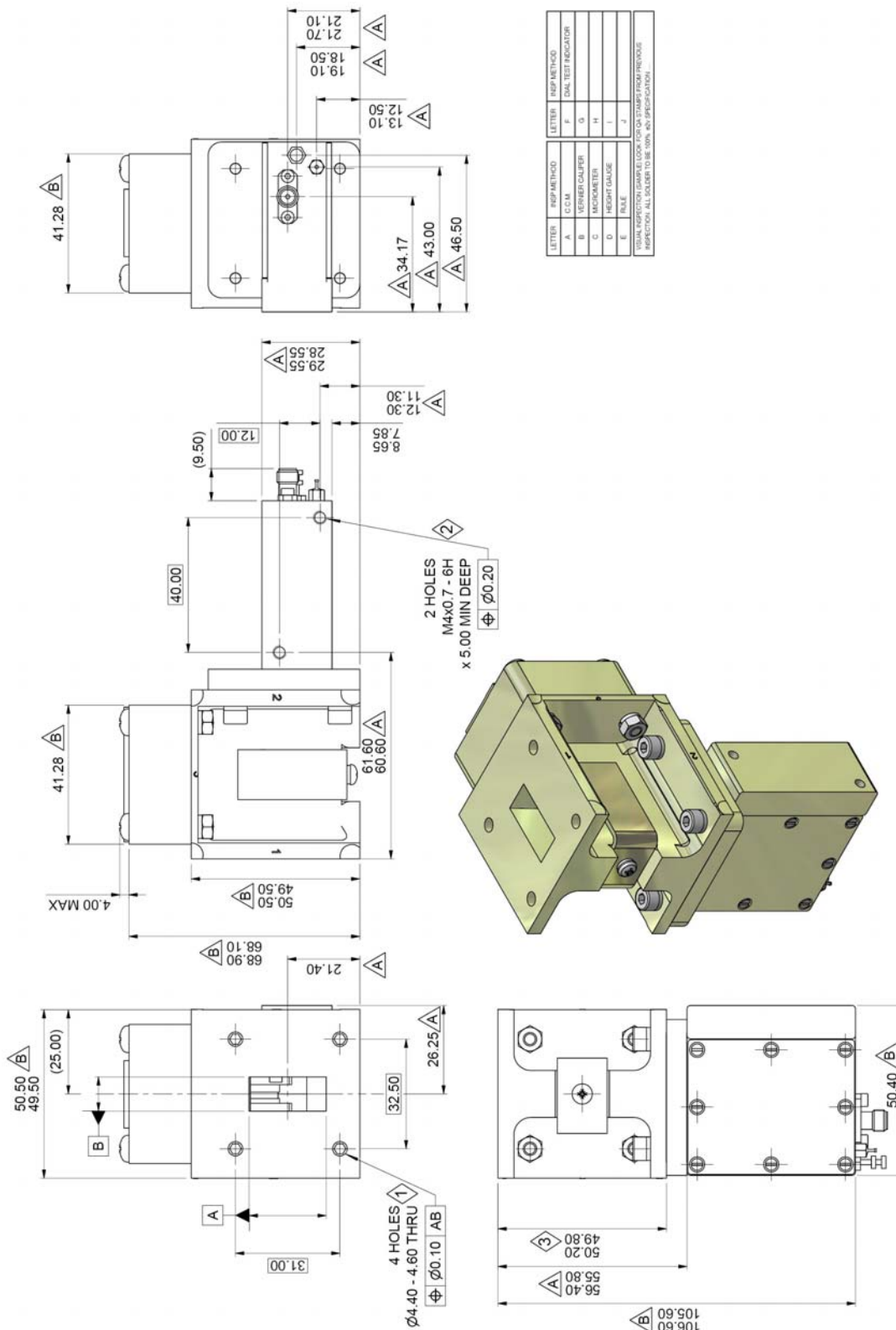
X-band Low-Noise Amplifier / Isolator Module

RF Performance and characteristics

Frequency	X-Band Bandwidth 200MHz
Gain	28dB \pm 0.5dB
Gain T _{case} -20°C to +70°C	28dB \pm 1.0dB
Gain Variation vs. Frequency at any T _{case} -20°C to +60°C	0.5 dB pk.-to-pk. max.
Noise Figure	Typ. 1.2dB, 1.25dB max.
Noise Figure T _{case} -20°C to +60°C	Typ. 1.4dB, 1.5dB max.
Output Power @ 1dB Point	10dBm min.
Third Order Intercept Point	22dBm min.
Third Order Intercept Point T _{case} -20°C to +70°C	22dBm min.
Input VSWR	1.5:1 max.
Output VSWR	1.5:1 max.
DC Supply Current +15V \pm 0.5V	Typ. 90mA, 200mA max.
Reverse Supply Polarity Protection	Protection to -17V
Weight	100 grammes max.

Summary of Design Benefits

- Very low-noise X-Band amplifier
- Waveguide input for direct connection to antenna components
- Input isolator to maintain constant noise power density at output
- Gain compensated for temperature variations
- Integral power supply conditioning
- Design can be customised over frequency ranges within X-Band



Physical outline of X-band Low-Noise Amplifier / Isolator Module (dimensions in millimetres)