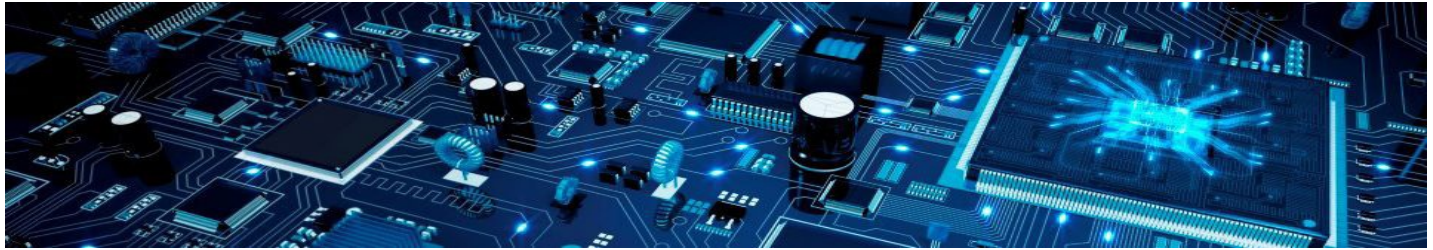


TDLNA1013

X-Band 8.0-12.0 GHz Low Noise Amplifier for Space Applications



Functional Overview

The Teledyne e2v TDLNA001013 is a three-stage, ultra-low-noise amplifier that operates from 8.0-12.0 GHz.

The LNA features 26 dB gain and has a typical mid-band noise figure of 1.35 dB. The LNA has nominal input/output return losses of 10 dB. The nominal P1dB is 12 dBm. Self-bias technique has been employed to facilitate single-supply operation. Circuit ground is provided through vias to backside metallization.

The TDLNA001013 performs well as a low noise amplifier in receive applications and as a driver or buffer amplifier where high gain, excellent linearity and low power consumption are important.

The TDLNA001013 will be available as flight qualified die per MIL-PRF-38534 Class-K element evaluation, and in a ceramic hermetically sealed 6mm x 6mm CQFN package¹

Die samples are available now for evaluation!

1. Packaged devices available March 2022

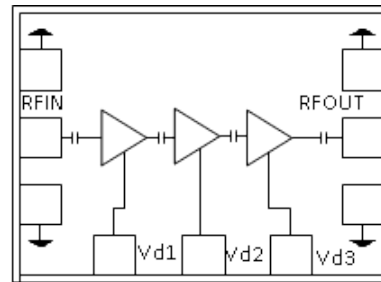
Features

- Frequency Range : 8.0-12.0 GHz
- Low Noise Figure < 1.7 dB
- 26 dB nominal gain
- 12 dBm P1dB
- High IP3
- Input Return Loss > 10 dB
- Output Return Loss > 10 dB
- DC decoupled input and output
- 0.15 μm InGaAs pHEMT Technology
- Chip dimension: 3.0 x 3.0 x 0.1 mm
- 36 Lead 6.0 mm x 6.0 mm x TBD QFN Package

Orderable Detail

Orderable	Description	Package	Package
TDLNA001013-01	TDLNA001013 Engineering samples	36-lead QFN	Tray
TDLNA001013-11	TDLNA001013 Flight units	36-lead QFN	Tray
TDLNA001013-98	TDLNA001013 FM / Flight die	Bare Die	Waffle Pack
TDLNA001013-99	TDLNA001013 EM / Evaluation die	Bare Die	Waffle Pack
TDLNA001013-00	TDLNA001013 Evaluation kit	Evaluation kit	One per box

Functional Block Diagram



Typical Performance

