

RFDBL03A-10 is an active frequency doubler, designed for use in the LO Path after VCO to double up the LO frequency within the IC to feed in and drive the mixer. The design utilizes active balun in push configuration and balanced amplifier using 0.1um GaAs pHEMT with high pass matching to attain good fundamental suppression, conversion gain of 1.8 dB at 0 dBm input drive power and good input and output VSWRs. The technology used to design doubler is 0.1um GaAs pHEMT Process. Results are shown in datasheet with all parasitic & coupling effects at desired frequency.

Features:

- Output Frequency: 15.4 - 16.5 GHz
- Input Frequency: 7.75 - 8.25 GHz
- Input Drive Level: 0dBm(NOMINAL)
- Output Power: -24.15 dBm
- Conversion Gain: 1.8dB
- Fundamental suppression_dBc
- 3rd Harmonic suppression_dBc
- 0.1um GaAs pHEMT Technology.
- Die Size: 1.1 mm to 1.3mm.

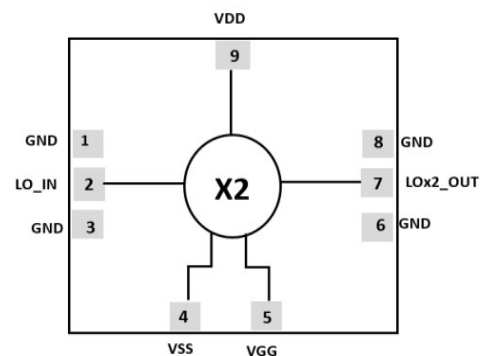
Application:

- 5G RF Transceiver.
- Satellite Communication.
- Point to point communication system.
- Backhaul application.
- SATCOM

Tech Specs:

- Part Number: RFDBL03A-10
- Provider: RFIC Solutions Inc.
- Foundry node: 0.1um GaAs pHEMT Win Semiconductors
- Porting: IP can be ported to 65nm Si / CMOS node

Functional Block Diagram:



Deliverables:

- Schematic and Netlist
- Abstract Model (.lib file)
- Layout View(Optional)
- Behavioral model (Circuit & EM simulation)
- Extracted View(Optional)
- GDSII
- DRC, LVS, Antenna report
- Test bench with configuration(Optional)
- Documentation

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