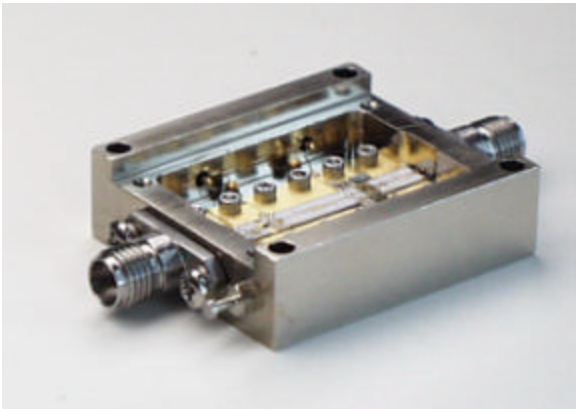
nextec-RF

NX00400

24-28 GHz Integrated Frequency Doubler

General Description

The NX00400 frequency doubler is a integrated microwave assembly that includes input buffer amplifier, balanced diode doubler, band-pass filter, output power amplifier and low-pass filter. The doubler is designed to provide high power, pure signal in 24 to 28 GHz frequency range. It operates at 0 to +10 dBm input power over -30 to +70 ^{0}C temperature range. The model incorporates voltage regulators and is available with field replaceable SMA / K connectors.



Performance at 25 ^{0}C, +2 dBm P_{in}

Parameter	Min.	Typ.	Max.	Units
Input Frequency	12		14	GHz
Output Frequency	24		28	GHz
Output Power	18	20		dBm
Output Power Flatness over Operating Frequency Range		± 1	±1.5	dB
Fundamental Signal Rejection	45	50		dBc
Third Harmonic Rejection	40	45		dBc
Input VSWR		1.9:1	2.4:1	
Output VSWR (P_{in} not applied)		2.0:1	2.4:1	
DC Supply Voltage (V+)	+11	+12	+15	V
DC Supply Voltage (V-)	-15	-5	-4	V
Current at +12 V		450	500	mA
Current at -5 V		6	8	mA

Customized Designs: For custom designs, including both electrical and mechanical, please contact us at sales@nextec-rf.com.

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April 9, 2003

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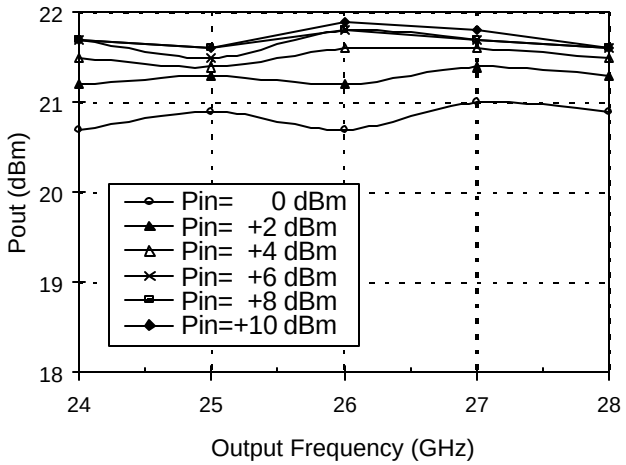
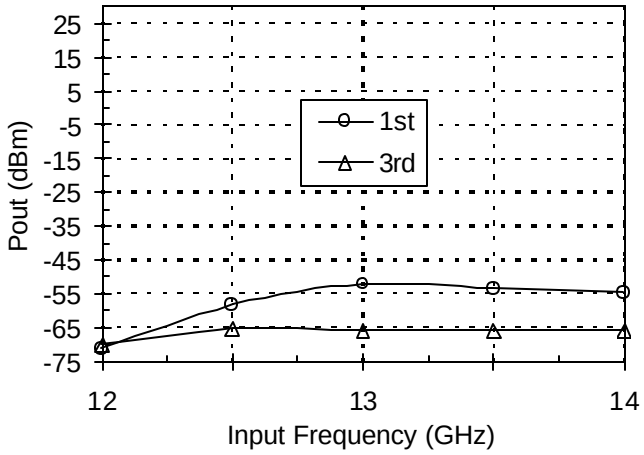
Typical Test Data at 25 ^{0}C

Output Power



Harmonics at +0 dBm P_{in}



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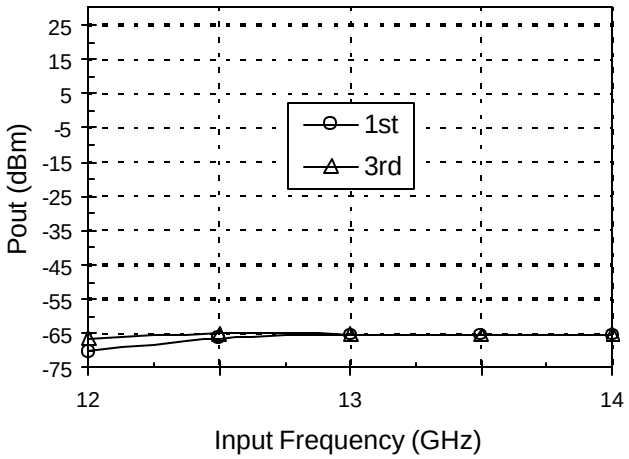
Harmonics at +10 dBm P_{in}



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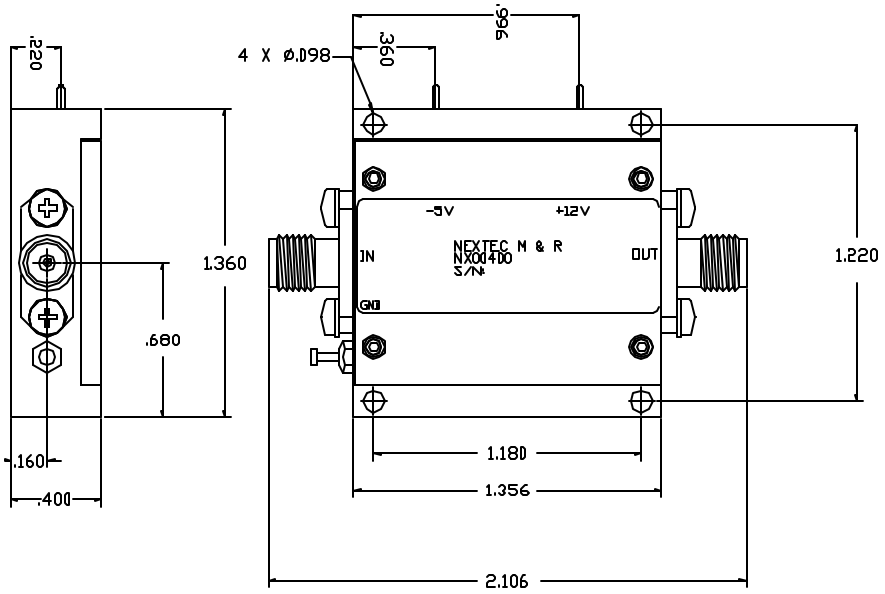
Outline Drawing



(unit: inch)

Biasing and Operation

1. Turn off RF input power. Operating baseplate temperature should not exceed +70 ^{0}C. Adequate heat sinking is required.
2. Connect ground terminal.
3. Apply negative supply voltage of -5 V as shown.
4. Apply positive supply voltage of +12 V.
5. Turn on RF power. The input RF power should not exceed +10 dBm, +2 dBm is recommended.

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