



Planar Monolithics Industries, Inc.

RF & Microwave Components and Modules to 40GHz

ISO9001:2008 Certified

May 21, 2014

9380 to 9440MHz Down Converter for Doppler Radar Applications

PMI Model No. PIFA-9D4G-1D8G-1



PMI Model No. PIFA-9D4G-1D8G-1 is an integrated frequency down converter used within Doppler Radar Systems. The RF Input is 9.4GHz +/- 30Mhz with an input dynamic range of 100 to 0dBm. The LO Input is 2.803GHz +/- 15Mhz with a power level of +5 to +7dBm. The resulting IF Output Frequency is 1.8GHz +/- 10MHz. The RF to IF gain is 10dB to 13dB. This module incorporates internal RF, IF and LO filtering and amplification for optimum out of band rejection and superior electrical performance. The group delay ripple from RF to IF Output is less than 0.1ns over a 20MHz bandwidth. The OIP3 is greater than 25dBm. The module operates on single supply of +12 volts and is supplied with SMA female connectors in a package measuring 1.8" x 1.15" x 0.4".

RX Frequency Range (J1)	9.41GHz +/- 30MHz
RX Power Range (J1)	-100dBm to 0dBm
RX High Pass Filter (J1)	8.0GHz Corner Frequency nom
LO Input Frequency (J2)	3.803GHz +/- 15MHz
LO Input Power (J2)	+5dBm to +7dBm
LO Band Pass Filter (J2)	7.2 to 8.5GHz (-3dB IL Nom)
LO Frequency to Mixer (J2)	7.610GHz +/- 30MHz
IF Output Power (J3)	13dBm max
IF Frequency (J3)	1.8GHz +/-10MHz
IF Bandpass Filter (J3)	75MHz Passband (-3dB nom)
VSWR	1.5:1 max (1.3:1 Preferred)
Noise Figure at Input (J1)	8dB max
Gain (J1 to J3)	10dB min, 13dB max
Group Delay Ripple (J1 to J3)	-0.1nsec/ 20MHz
OP3 (Output)	>25 dBm (>28dBm Preferred)
OP2 (Output)	>15dBm (>18dBm Preferred)
Output Signal Distortion	The module must be unconditionally stable when terminated at J1, J2 and J3 with a short circuit in all phases
Stability	Now apparent droop or distortion with a pulse width of 500 to 1000 nsec at 500 to 2000 pps.
Power Supply	+12V @ 1A max
Power Supply Rejection	0.1dB/Volt max
RF Connectors	SMA Jacks
Size	1.8" x 1.15" x 0.4"

PLANAR MONOLITHICS INDUSTRIES, INC.

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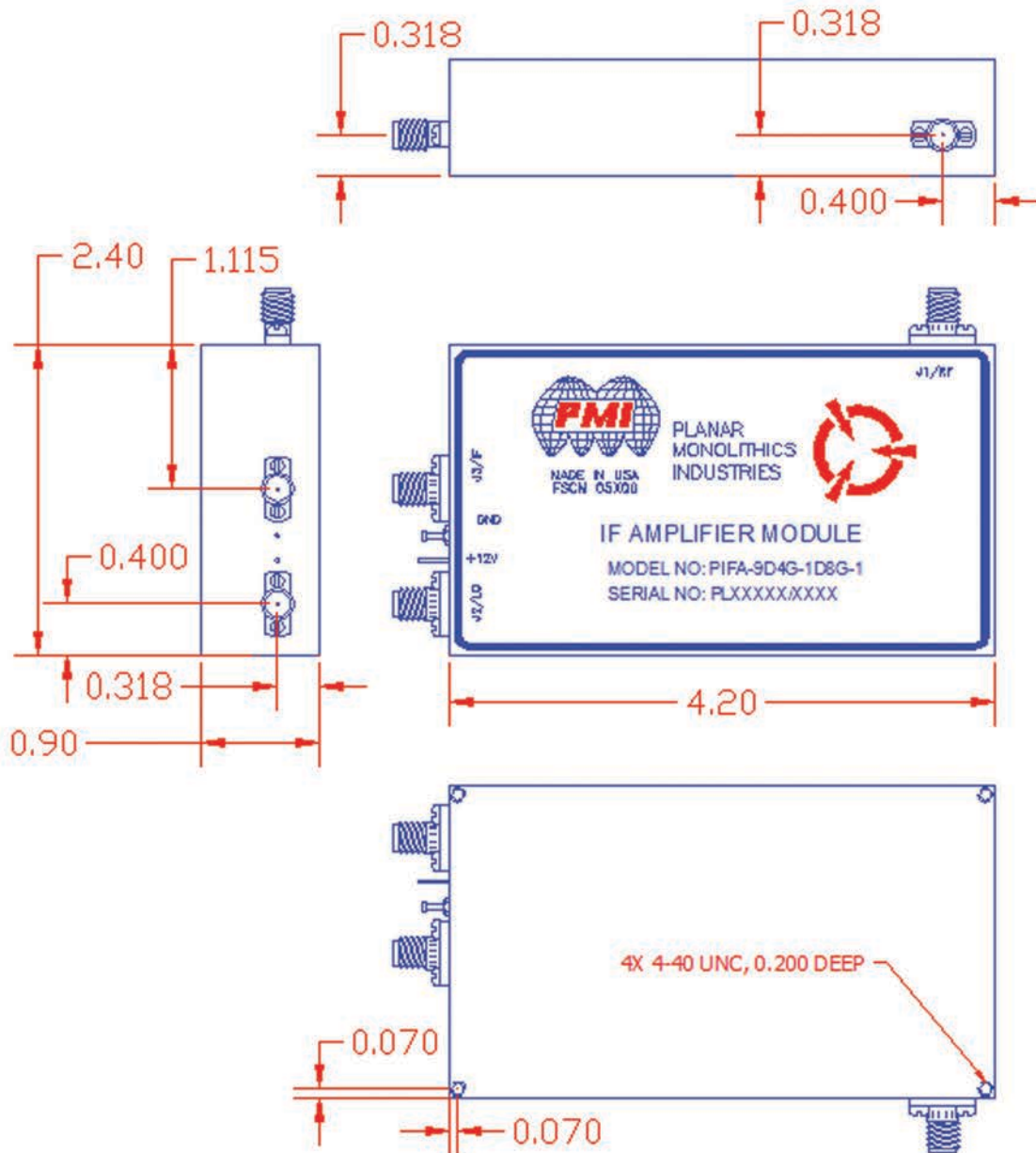
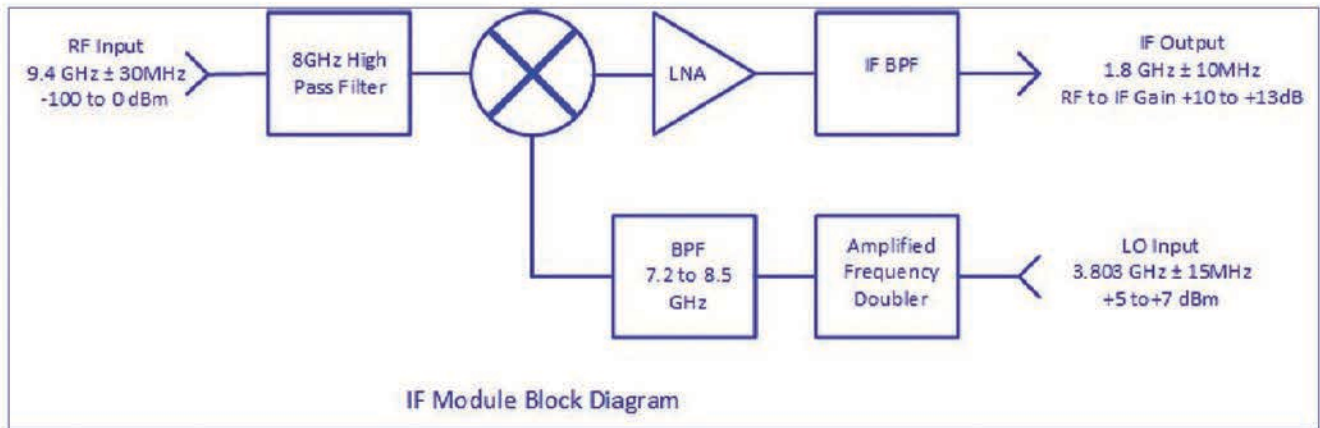
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