

X-Band Radar Front End

■ GENERAL DESCRIPTION

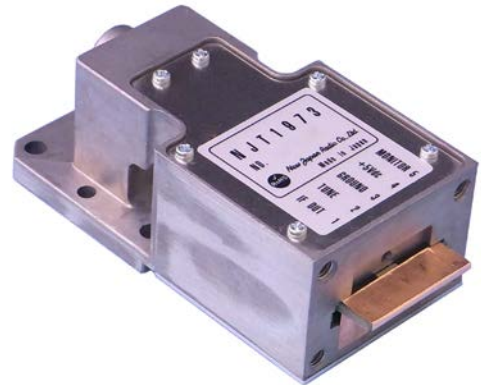
NJT1973 is designed for the front end of marine radar system.

It features a small size and a light weight operable at any frequency between 9.380GHz and 9.440GHz.

This front end module consists of HEMT low noise amplifier, Image rejection mixer, Local VCO with buffer amplifier.

A HEMT monitoring circuit is included in the design to monitor HEMT drain current.

The stability of the local VCO frequency by the input RF power is increased effectively by the buffer amplifier which is located between image rejection mixer and local VCO.



■ ELECTRICAL CHARACTERISTICS < at 25 °C >

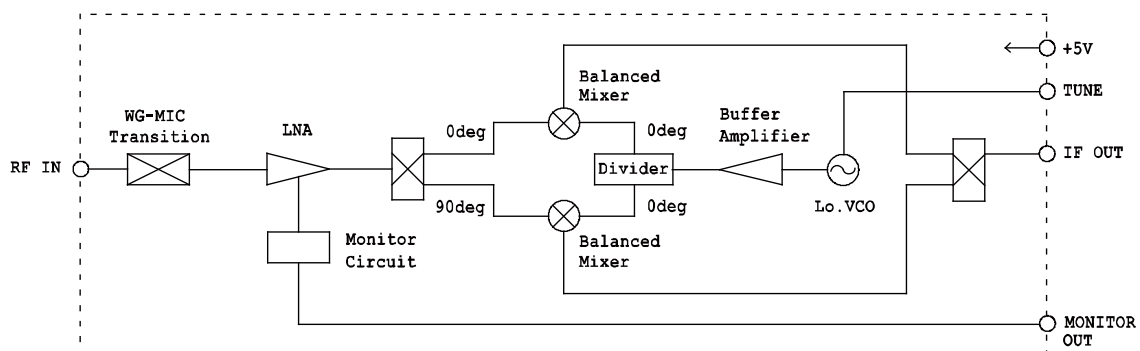
PARAMETERS	Min	Typical	Max	Units
Operating voltage	4.8	5.0	5.2	V
Operating current	-	50	80	mA
Tuning voltage (Note1)	10.5	12.0	13.5	V
Local frequency	VT= 4V	-	9.420	GHz
	VT=24V	9.520	-	GHz
Noise figure	-	2.0	2.8	dB
Conversion gain	4.0	6.0	-	dB
1dB Gain compression point (RF Port)	-5.0	-3.0	-	dBm
RF single pulse burnout (Note2)			600	mW
RF repetitive pulse burnout (Note3)	-	-	400	mW

Note1: fLO=9.470GHz

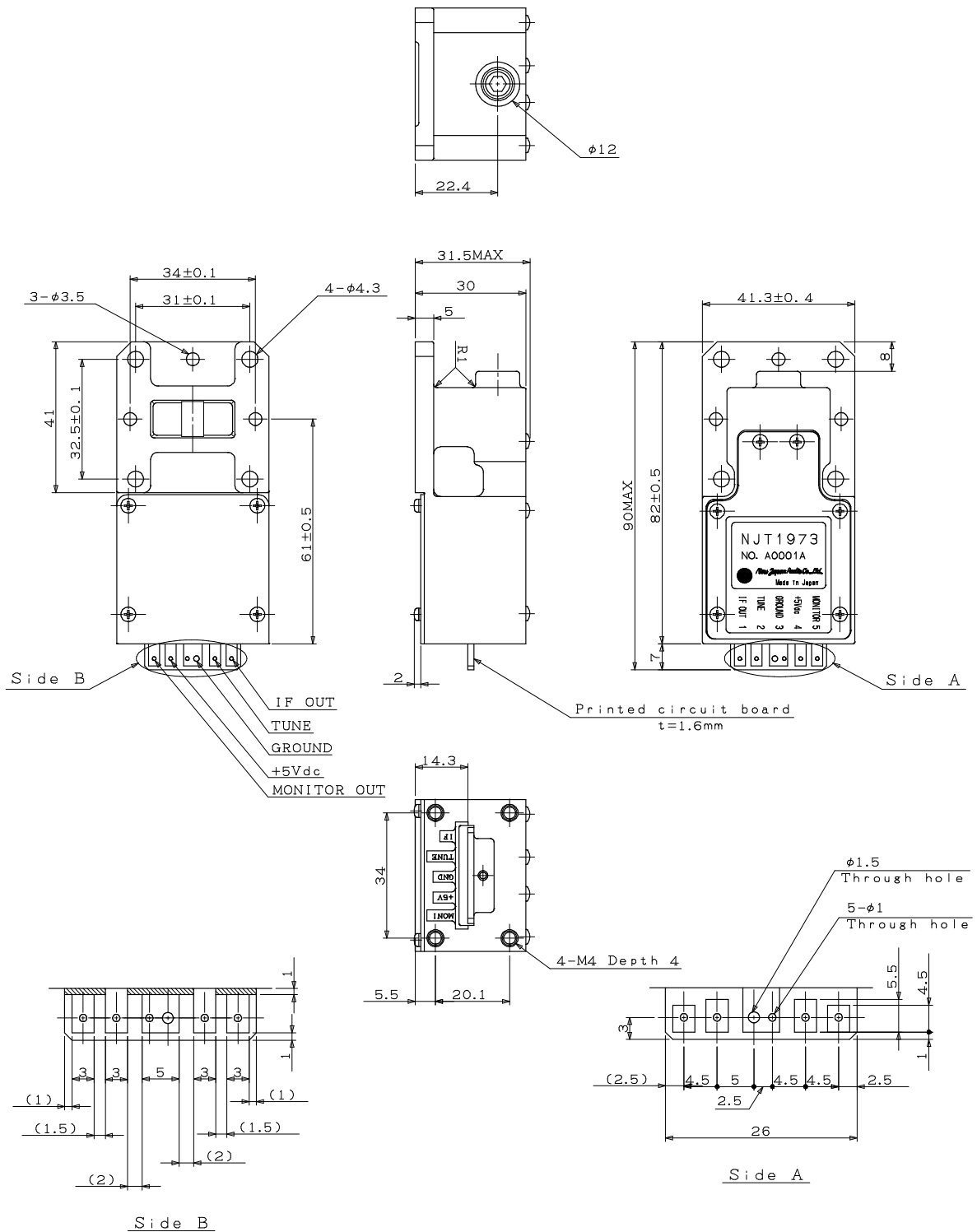
Note2: fRF=9.410GHz, Pd=10nsec

Note3: fRF=9.410GHz, Pd=1μsec, Duty=0.001

■ BLOCK DIAGRAM



■ OUTLINE



(Dimensions are expressed in "mm".)

*Note : The contents of this sheet are subject to change without notice.