

## S-Band Radar Front End

### ■ GENERAL DESCRIPTION

NJS4310D is designed for the front end of marine radar system.

It features a small size and a light weight operable at any frequency between 3.02GHz and 3.08GHz.

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

FET monitoring circuit is included in the design to monitor FET 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 >

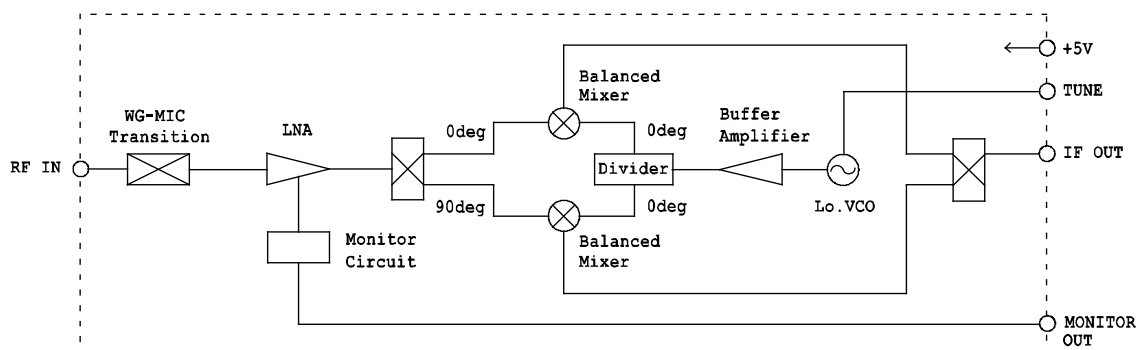
PARAMETERS	Min	Typical	Max	Units
Operating voltage	11.8	12.0	12.2	V
Operating current	-	75	100	mA
Local frequency	VT= 4V	-	3.05	GHz
	VT=24V	3.17	-	GHz
Noise figure (Note3)	-	-	3.0	dB
Conversion gain (Note3)	6.0	8.0	-	dB
1dB Gain compression point (IF Port)	-5.0	-	-	dBm
Monitor voltage	-	50	-	mV
RF single pulse burnout (Note1)	-	-	600	mW
RF repetitive pulse burnout (Note2)	-	-	400	mW

Note1: f=3.05GHz, Pd=10nsec

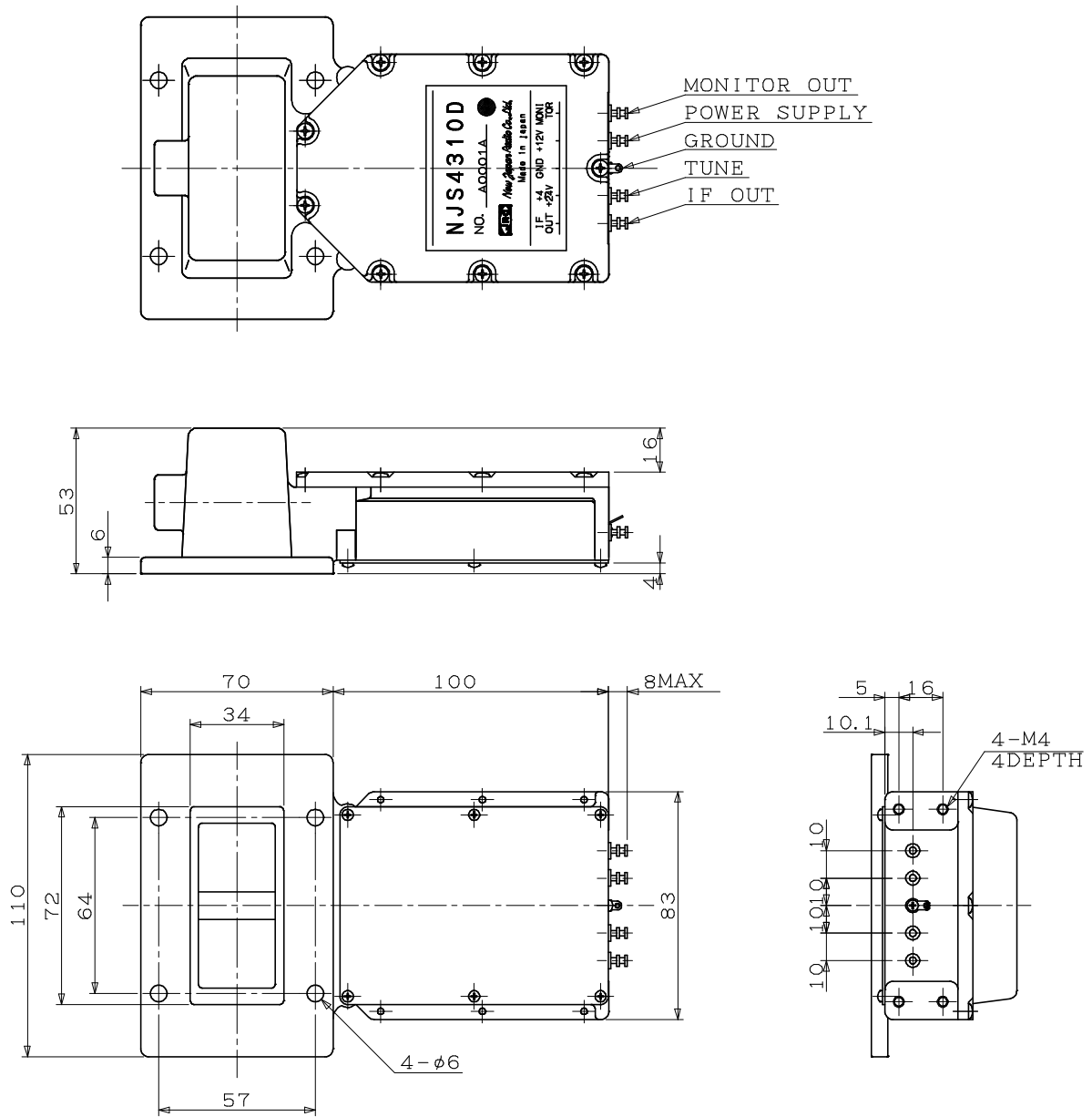
Note2: f=3.05GHz, Pd=1μs, Duty=0.001

Note3: Temperature Range Ta=-25deg. ~ +75deg.

### ■ BLOCK DIAGRAM



## ■ OUTLINE



(Dimensions are expressed in "mm".)

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