



X-Band Radar Front End

NJT1946A

NJT1946A is designed for the front end of marine radar system.

It features a small size and a light weight operable at any frequency between 9.345GHz and 9.475GHz.

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 — < at 25 °C >

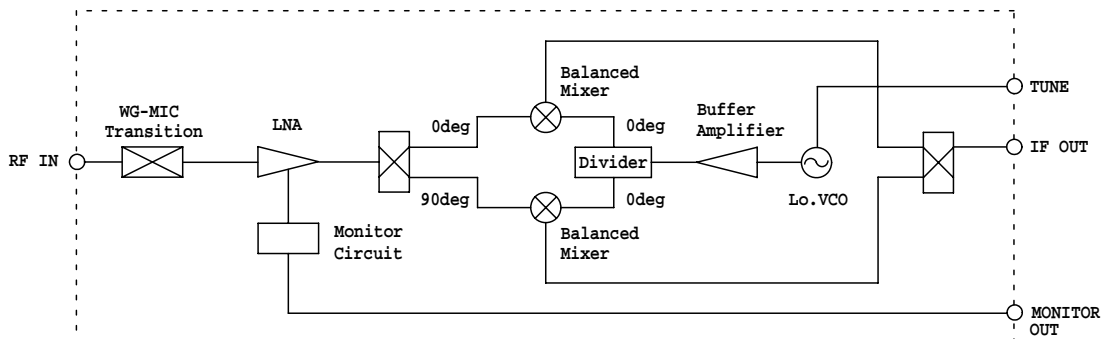
	Min	Typical	Max	Unit
Operating voltage	4.8	5.0	5.2	V
Operating current	—	70	90	mA
Tuning Voltage (Note1)	10.5	12.0	13.5	V
Local frequency	VT= 4V	—	9.380	GHz
	VT=24V	9.560	—	GHz
Noise figure	—	2.5	3.5	dB
Conversion gain	4.0	6.0	8.0	dB
1dB Gain compression point(RF Port)	-10.0	-8.0	—	dBm
RF single pulse 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 —



For further information on the use of the front end, please contact New JRC.

New JRC reserves the right to change the specification of goods without notice. 11.08

