

DESCRIPTION

The B3RX1627 is a low noise front end for X-band marine radar receiver. It comprises a low noise amplifier with monitor circuit, an image rejection mixer and an electronically tuned local oscillator.

Frequency range 9115 to 9215 MHz
I.F. output frequency 60 MHz
Noise figure 2.5 dB

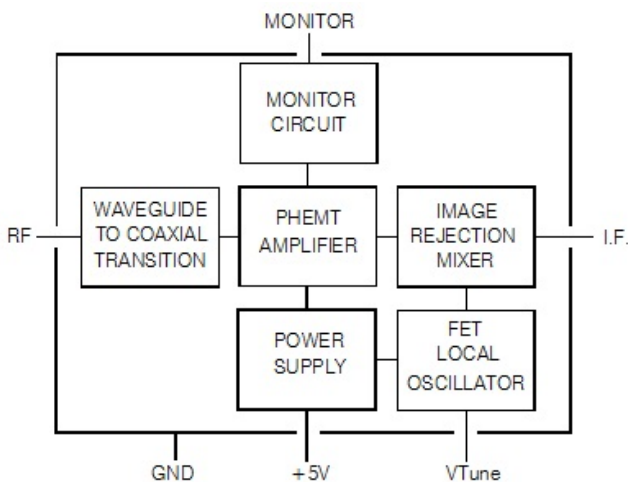
GENERAL DATA

Operating voltage 5 V d.c.
Operating current 60 mA
Overall dimensions 88 x 31 x 42 mm max
Net weight 100 g approx
Waveguide size WR90 (WG16)

MAXIMUM AND MINIMUM RATINGS

	MIN	MAX	
Operating voltage (see note 1).	-	+6	V
Tuning voltage	0	45	V
R.F. input (1uS,1kHz, repetitive)	-	500	mW
Body temperature:			
Operating	-30	+85	°C
Storage	-55	+125	°C
Vibration (50Hz)	-	20	g
Shock (11ms, half sine)	-	25	g

BLOCK DIAGRAM



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TYPICAL OPERATION

Operating Conditions

Operating voltage 5.0 +/- 0.2V
Signal frequency 9165 +/- 50 MHz
Local Oscillator frequency
tuning voltage 4V 9175 MHz max
tuning voltage 24V 9275 MHz min

TYPICAL Performance (at 25 °C)

	Min	Typ	Max	
Operating current	-	55	100	mA
Noise figure	-	2.5	3.5	dB
Conversion gain	2.5	5.0	-	dB
Image rejection ratio	15	20	-	dB
Frequency pulling	-	0.2	0.6	MHz
(See note 2)				
Input power at 1dB compression	-10	-	-	dBm
Saturated I.F. output	0.8	1.0	-	V
Local Oscillator Switch on drift (3min to 40min)	-	-	4	MHz
Local Oscillator temperature drift	0	-200	-350	kHz/°C
Tune rate	8	12	16	MHz/V
I.F. frequency (3dB B.W.)	50	60	70	MHz
I.F. output impedance	-	50	-	Ω
Tune I/P impedance	1	-	-	MΩ
Monitor voltage	30	50	70	mV

NOTES

1. Positive only; negative voltage must not be applied.
2. Input power 10 dBm.
3. External voltages must not be applied to the I.F. or monitor terminals.

OUTLINE (All dimensions in mm; dimensions without limits are nominal)

