

DESCRIPTION

The B3RX1656 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 9160 to 9300 MHz
I.F. output frequency 60 MHz
Noise figure 1.5 dB

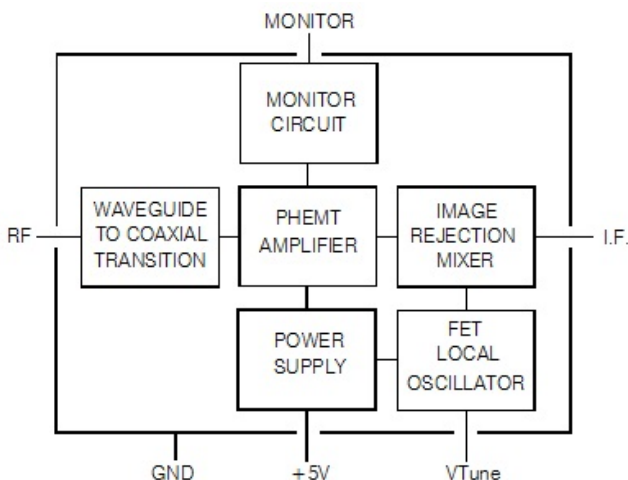
GENERAL DATA

Operating voltage 5 V d.c.
Operating current 50 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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e2v technologies (uk) limited, Waterhouse Lane, Chelmsford, Essex CM1 2QU United Kingdom Holding Company: e2v technologies plc
Telephone: +44 (0)1245 493493 Facsimile: +44 (0)1245 492492
Contact e2v by e-mail: enquiries@e2v.com or visit www.e2v.com for global sales and operations centres.

TYPICAL OPERATION

Operating Conditions

Operating voltage 5.0 +/- 0.2V
Signal frequency 9230 +/- 70MHz
Local Oscillator frequency
tuning voltage 4V 9200 MHz max
tuning voltage 24V 9380 MHz min

TYPICAL Performance (at 25 °C)

	Min	Typ	Max	
Operating current	-	50	80	mA
Noise figure	-	1.5	2.0	dB
Conversion gain	4.0	6.0	-	dB(*)
Image rejection ratio	15	20	-	dB
Frequency pulling	-	0.2	0.6	MHz
(See note 2)				
Input power at 1dB compression	-5	-3	-	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	18	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)

