Ku-Band Low Noise Block Converter

TLNB15000X.0001

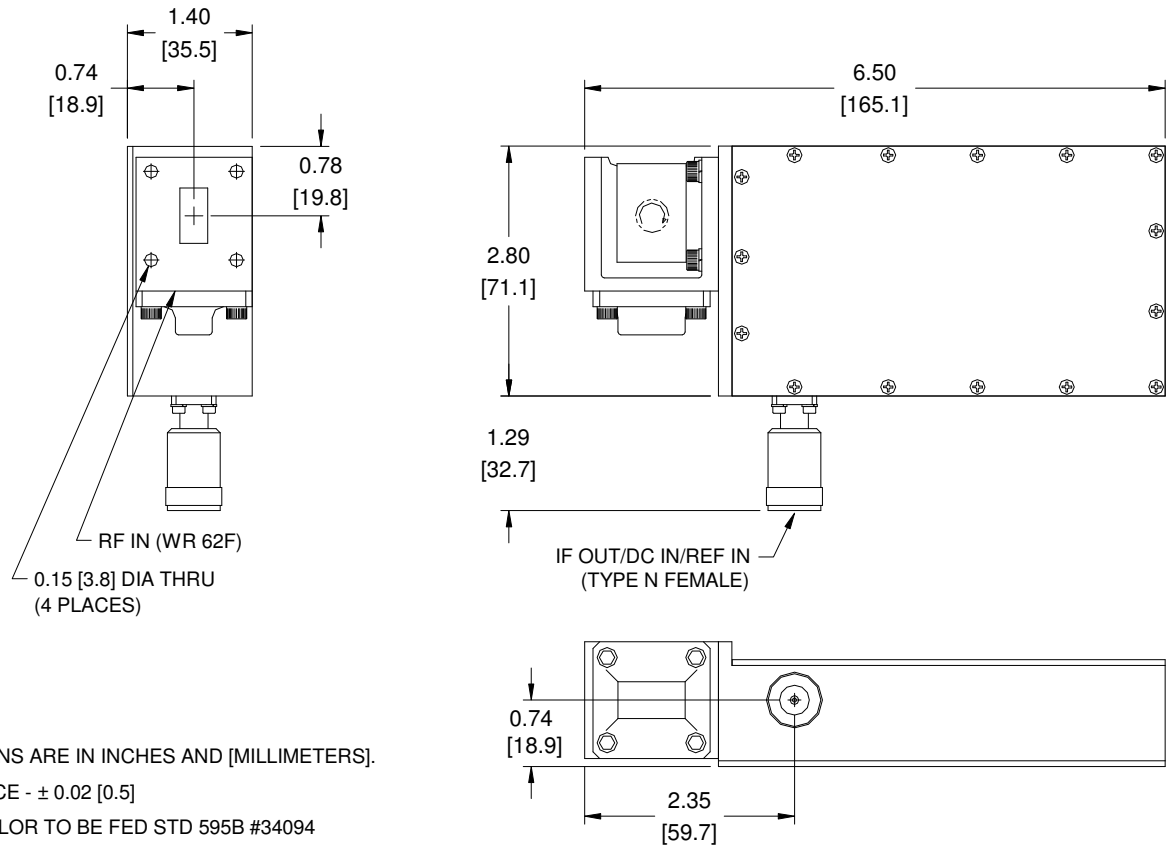
Introduction

The TLNB-15000X Ku-Band Low Noise Block Converter is specially designed for troposcatter applications. Utilizing state-of-the-art HEMT and GaAs FET technology, this block converter has been designed for both fixed and transportable applications. The TLNB-15000X has the quality, stability, and performance required for demanding receiver applications in today's troposcatter systems.

Features

- Low noise temperature
- High reliability HEMT design
- Phase-locked oscillator
- Excellent phase noise
- Reverse polarity protection
- Wide operating temperature range,-40 ℃ to +70 ℃

Outline Drawing



NOTES:

1. DIMENSIONS ARE IN INCHES AND [MILLIMETERS].
2. TOLERANCE - ± 0.02 [0.5]
3. PAINT: COLOR TO BE FED STD 595B #34094

Outline 21131-1

GENERAL DYNAMICS
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Specifications

Parameter	Notes	Min.	Nom./Typ.†	Max.	Units
Input Frequency		14.9		15.5	GHz
Output Frequency		1000		1600	MHz
Output Spectrum			Non-Inverted		
Local Oscillator Frequency			13.90		GHz
LO Phase Noise	10 Hz			-30	dBc/Hz
	100 Hz			-60	dBc/Hz
	1 kHz			-70	dBc/Hz
	10 kHz			-80	dBc/Hz
	100 kHz			-90	dBc/Hz
	1 MHz			-100	dBc/Hz
Spurious	Signal related; IF Band			-60	dBc
	Non-signal related; IF Band			-70	dBm
Gain (Nominal)		60	63		dB
Gain Flatness	Full-band			±1.0	dB
	Per 40 MHz			±0.30	dB
Gain Stability	Per week, constant temp			±0.5	dB
	vs. temp.		±1		dB
Power Output	At 1 dB compression	+10	+13		dBm
3rd Order Output Intercept Point		+20	+23		dBm
Noise Temperature	At +23 °C		85	90	K
VSWR	Input		1.20	1.25	:1
	Output		1.75	2.00	:1
Connectors	RF Input		WR62 Cover Flange		
	IF Output/DC In/Ref. In		Type N Female		
Power Requirements	Voltage	+12		+22	Vdc
	Current		400	500	mA
Operating Temperature	T_{AMB}	-40		+70	° C

External Reference Requirements:

Parameter	Notes	Min.	Nom.Typ.†	Max.	Units
Frequency			10.00		MHz
Input Level		-5	0	+5	dBm
Input Impedance			50		ohms
Phase Noise at Offset Frequency	10 Hz			-105	dBc/Hz
	100 Hz			-135	dBc/Hz
	1 kHz			-145	dBc/Hz
	10 kHz			-150	dBc/Hz

† When there is only one value on a line, the Nom./Typ. column is a nominal value; otherwise it is a typical value. Typical values are intended to illustrate typical performance, but are not guaranteed.

Caution: To prevent potential equipment damage from water intrusion, which will VOID the warranty, use waterproof cable and apply waterproof tape or heatshrink tubing to protect external connections.

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