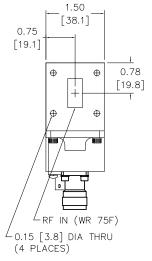
The TLNB-12000X band-switching Ku-Band Low Noise Block Converter is specially designed for satellite earth station and other telecommunications applications.

Utilizing state-of-the-art HEMT and GaAs FET technology, this block converter has been designed for both fixed and transportable applications. The TLNB-12000X has the quality, stability, and performance required for demanding receiver applications in today's diverse satellite communications systems.

FEATURES:

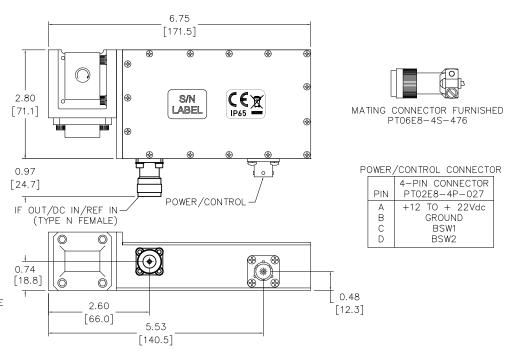
- Full Ku-Band coverage via band-switching architecture
- Low noise temperature
- High reliability HEMT design
- Phase-locked oscillator
- Reverse polarity protection
- Wide operating temperature range,
 -40 °C to +70 °C
- INTELSAT/EUTELSAT compliant phase noise

Outline Drawing



NOTES:

- 1. DIMENSIONS ARE IN INCHES AND [MM].
- 2. TOLERANCE $-\pm 0.02$ [0.5]
- 3. PAINT: COLOR TO BE COMMERCIAL WHITE



Outline 19967-6



TLNB12000X.0011 Specifications

Parameter	Notes	Specification
Input Frequency	Band 1 Band 2 Band 3	10.70 GHz min., 11.70 GHz max. 11.70 GHz min., 12.20 GHz max. 12.20 GHz min., 12.75 GHz max.
Output Frequency		950 to 1950 MHz
Output Spectrum		Non-Inverted
Local Oscillator Frequency (1)	Muted (BSW1=0, BSW2=0) Band 1 (BSW1=0, BSW2=1) Band 2 (BSW1=1, BSW2=0) Band 3 (BSW1=1, BSW2=1) 2.4 V < Logic 1 < 5 V, 0 V < Logic 0 < 0.4 V @ 30 μA, typ.	— 9.75 GHz typical 10.75 GHz typical 11.25 GHz typical
External Reference		10 MHz typical
LO Phase Noise	100 Hz 1 kHz 10 kHz 100 kHz 1 MHz	-60 dBc/Hz max. -70 dBc/Hz max. -80 dBc/Hz max. -90 dBc/Hz max. -100 dBc/Hz max.
Spurious	Signal related, IF Band Non-signal related, IF Band	-60 dBc max. -70 dBm max.
Gain (Nominal)		60 dB min., 63 dB typical
Gain Flatness		±1.0 dB max., over Full-band ±0.30 dB max., per 40 MHz
Gain Stability		±0.5 dB max., per week, constant temp. ±1 dB typical, versus temp.
Power Output at 1dB compression (P _{1 dB})		+10 dBm min., +13 dBm typical
3 rd Order Output Intercept Point (OIP ₃)		+20 dBm min., +23 dBm typical
Noise Temperature	At +23°C	65 K typical, 75 K max.
VSWR	Input (50 ohms) Output (50 ohms)	1.20:1 typical, 1.25:1 max. 1.35:1 typical, 1.50:1 max.
Connectors	RF Input IF Output/DC In/Ref. In Band Switch/DC In	WR75 Cover Flange Type N Female PT02E8-4P-027 (mate supplied)
Power Requirements	Voltage Current	+12 VDC min., +22 VDC max. 400 mA typical, 500 mA max.
Operating Temperature	Тамв	-40°C to +70°C
External Reference Requirement	ts	
Parameter	Notes	Specification
Frequency		10.00 MHz typical
Input Level		-5 dBm min., 0 dBm typical, +5 dBm max.,
Input Impedance		50 ohms typical

10 kHz -150 dBc/Hz 1 BSW1 (Pin C), BSW2 (Pin D) are pulled up to +3.3 Vdc, referenced to Pin B, through 100 k Ω resistors.

10 Hz

1 kHz

100 kHz

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.



Phase Noise at Offset

Frequency

SMP Division Satcom Products

tel: +1 (669) 275-2744

email: satcommarketing@cpii.com

web: www.cpii.com/satcom

For more detailed information, please refer to the corresponding CPI technical description if one has been published, or contact CPI. Specifications may change without notice as a result of additional data or product refinement. Please contact CPI before using this information for system design.

-105 dBc/Hz

-135 dBc/Hz

-145 dBc/Hz

© 2021 Communications & Power Industries LLC. Company proprietary: use and reproduction is strictly prohibited without written authorization from CPI.