TLNB7500X.0005

X-Band Low Noise Block Converter

The TLNB-7500X X-Band Low Noise Block Converter is specially designed for SATCOM 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-7500X has the quality, stability, and performance required for demanding receiver applications in today's SATCOM systems.

FEATURES:

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

Outline Drawing



Outline 22077-5



Quality Management System – ISO 9001:2015

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Parameter	Notes	Specification
Input Frequency		7.25 GHz min., 7.75 GHz max.
Output Frequency		950 to 1450 MHz
Output Spectrum		Non-Inverted
Local Oscillator Frequency		6.30 GHz typical
LO Phase Noise	10 Hz 100 Hz 1 kHz 10 kHz 100 kHz 1 MHz	-32 dBc/Hz max. -62 dBc/Hz max. -72 dBc/Hz max. -82 dBc/Hz max. -92 dBc/Hz max. -102 dBc/Hz max.
Spurious	Signal related, IF Band Non-signal related, IF Band	-60 dBc max. -60 dBm max.
Gain (Nominal)		60 dB min., 63 dB typical, 66 dB max.
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. ±2 dB typical, versus temp.
Power Output at 1dB compression (P1 dB)		+15 dBm min., +18 dBm typical
3 rd Order Output Intercept Point (OIP ₃)		+25 dBm min., +28 dBm typical
Noise Temperature	At +23°C	45 K typical, 50 K max.
VSWR	Input Output	1.20:1 typical, 1.25:1 max. 1.50:1 typical, 1.80:1 max.
Connectors	RF Input IF Output/DC In/Ref. In	CPR112G Flange Type N Female
Power Requirements	Voltage Current	+12 VDC min., +22 VDC max. 400 mA typical, 450 mA max.
Operating Temperature	Тамв	-40°C to +70°C
External Reference Requiremen	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
Phase Noise at Offset Frequency	10 Hz 100 kHz 1 kHz 10 kHz	-105 dBc/Hz -135 dBc/Hz -145 dBc/Hz -150 dBc/Hz

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.



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.

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