

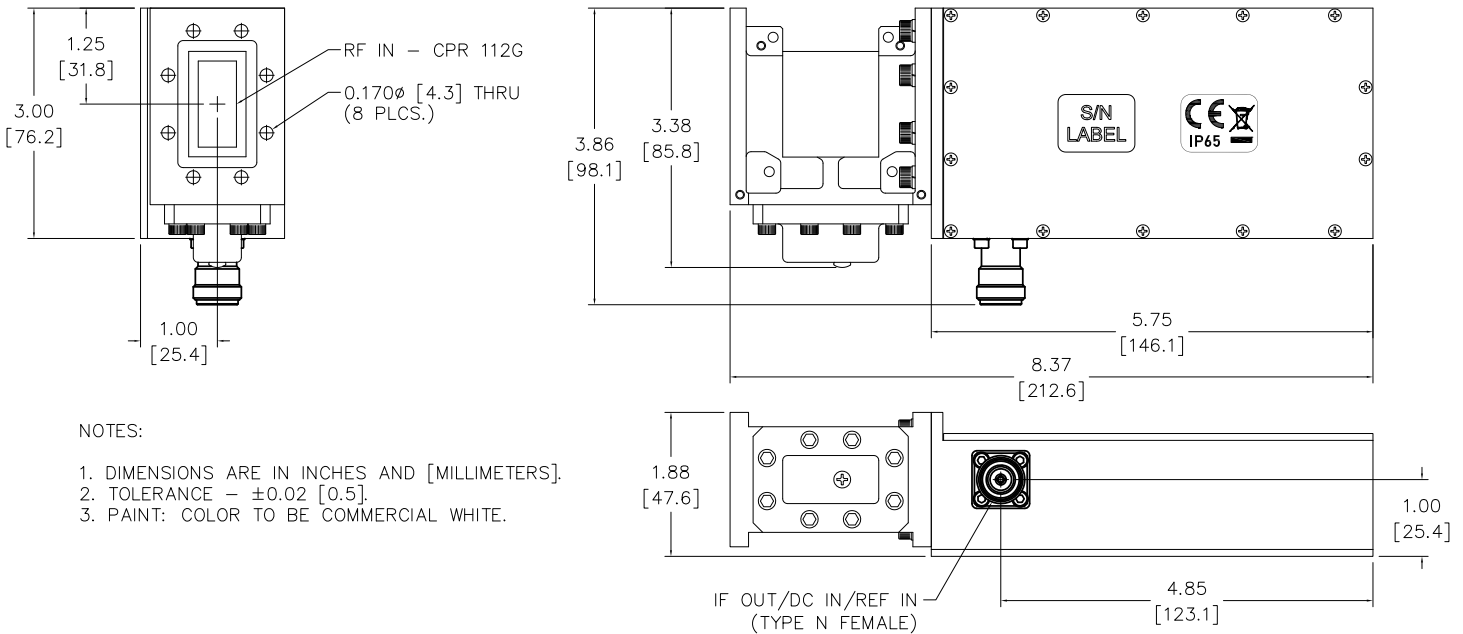
# The TLNB-7500X X-Band Low Noise Block Converter is specially designed for SATCOM applications.

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

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 (P <sub>1 dB</sub> )		+15 dBm min., +18 dBm typical
3 <sup>rd</sup> Order Output Intercept Point (OIP <sub>3</sub> )		+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	T <sub>AMB</sub>	-40°C to +70°C
<b>External Reference Requirements</b>		
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
<b>Caution:</b> 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.		