

The Ka-Band Block Downconverter utilizes a phase-locked local oscillator to block downconvert RF signals from Ka-Band to L-Band (1000-2000 MHz). The high stability and low noise operation of the L.O. assure sufficient signal purity for demanding applications. The PLB has an internal OCXO which will sync to an external reference if one is present. An input isolator and bandpass filter prior to downconversion ensure that only the frequency range of interest is converted. It is packaged in a rugged, EMI protective enclosure.

ELECTRICAL SPECIFICATIONS

Input Characteristics

Frequency Range	20.2-21.2 GHz
VSWR (in band)	1.5:1 max (50 ohm)
Connector	SMA-female
LO Leakage (19.2 GHz)	-60 dBm max

Output Characteristics

Frequency Range	1000-2000 MHz
1 dB Compression	+15 dBm min
Harmonics	-35 dBc max at 0 dBm output
VSWR (in band)	2.0:1 max (50 ohm)
Connector	N-female

Transfer Characteristics

Frequency Sense	Non-Inverting
Gain @ 25 C	35 dB typical
Gain Flatness	+/- .5 dB/100 MHz
Noise Figure	15 dB typ, 20 dB max
Image Rejection	60 dB min (image band 17.2-18.2 GHz)
Spurious (in band)	-70 dBm max (non signal dependent)
	-65 dBc max at 0 dBm output

ELECTRICAL SPECIFICATIONS

Local Oscillator

Type	Phase Locked
LO Frequency	19.2 GHz
Internal Reference Stability	1 ppm
External Reference	10 MHz +/- 0.5 ppm
External Reference Power	0 dBm min
External Reference Connector	SMA-Female
Internal/External Switching	Auto, Switches to internal when the external Level < -10 dBm

LO Phase Noise (typ)

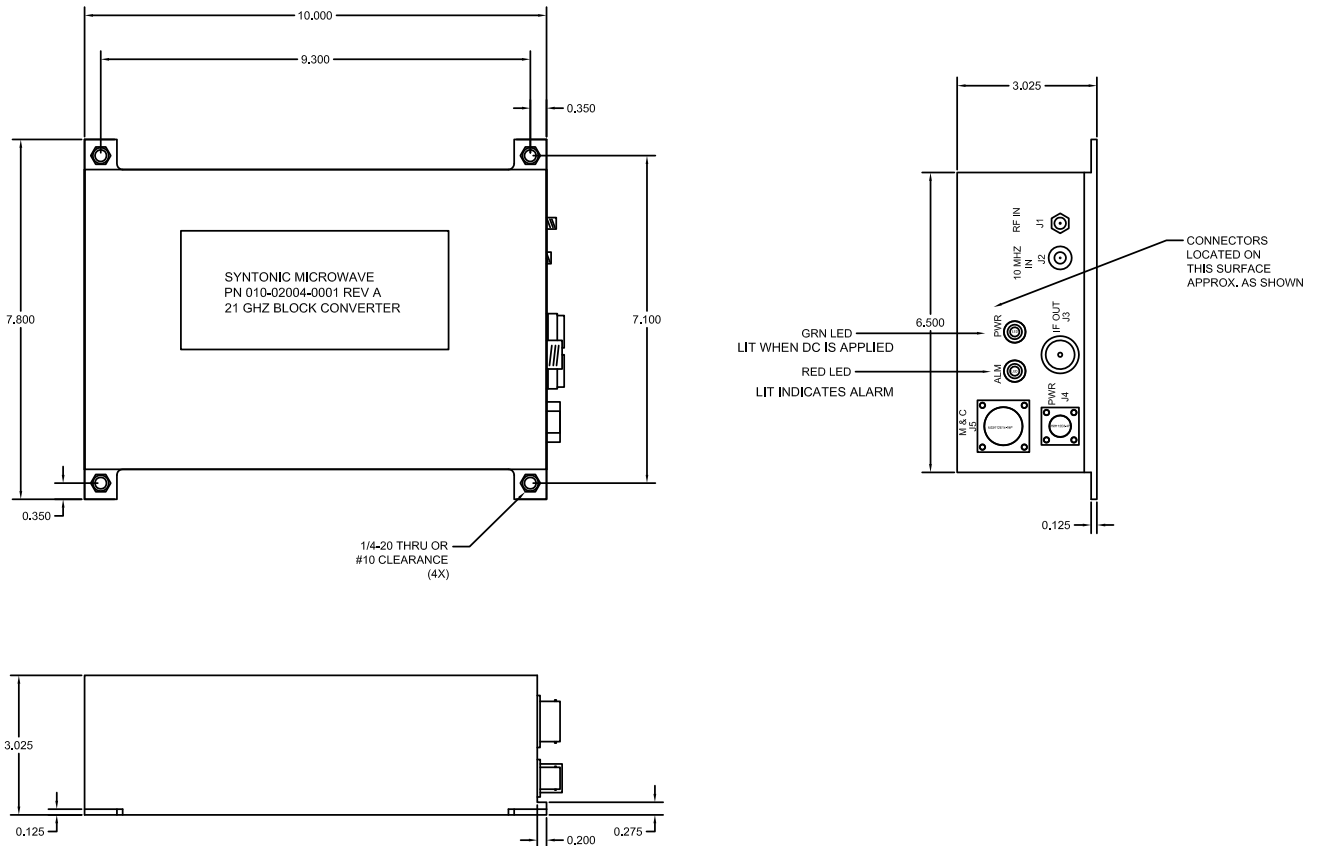
@ offsets:	100 Hz	-65 dBc/Hz
	1 KHz	-85 dBc/Hz
	10 KHz	-97 dBc/Hz
	100 KHz	-97 dBc/Hz
	1 MHz	-112 dBc/Hz

General

DC Power	12-15 VDC at tbd mA
DC Power Connector	Circular Mil Type (MS3112E8-4P)
Alarm Connector	Circular Mil Type (MS3112E14-18P)
Operating Temperature	-30C to 70 C baseplate
Humidity	95% non-condensing
Alarm	Summary of DC Power, phase lock and Loss of external reference
Alarm Type	Contact Closure
	Open = normal; Closed = Fault
Size	10.00 X 7.80 X 3.03
Weight	<12 LBS



OUTLINE DRAWING



RELATED MODEL NUMBERS

MODEL NUMBER	INPUT (GHz)	OUTPUT (GHz)	LO (GHz)
BDC-0304	3.4 - 4.2	0.95 - 1.75	5.15
BDC-0707	7.25 - 7.75	0.95 - 1.45	6.3
BDC-1011	10.7 - 11.7	0.95 - 1.95	9.75
BDC-1111	10.95 - 11.7	0.95 - 1.7	10
BDC-1112	11.2 - 12	0.95 - 1.75	10.25
BDC-1113	11.45 - 12.25	0.95 - 1.75	10.5
BDC-1114	11.7 - 12.5	0.95 - 1.75	10.75
BDC-1115	11.7 - 12.75	0.95 - 2.0	10.75
BDC-1212	12.2 - 12.75	0.95 - 1.5	11.25
BDC-1818	18.3 - 18.8	0.95 - 1.45	17.35
BDC-1819	19.7 - 20.2	0.95 - 1.45	18.75
BDC-2121	20.2 - 21.2	0.95 - 1.95	19.25
<i>BDC -2120*</i>	<i>20.2 - 21.2</i>	<i>1.0 - 2.0</i>	<i>19.2</i>
BDC-2828	28.3 - 28.8	0.95 - 1.45	27.35
BDC-2929	29.25 - 29.5	0.95 - 1.2	28.3
BDC-2930	29.25 - 30	0.95 - 1.7	28.3
BDC-3031	30-31	0.95 - 1.95	29.25