

Jersey Microwave

L/Ku-Band Block Converters

Features

- ✓ Voltage Regulator & Delay Circuit Included
- ✓ Low Phase Noise
- ✓ Stable Gain Over Temperature
- ✓ High Reliability
- ✓ Low Power Consumption
- ✓ Intelsat/Eutelsat Compliant



Options

- Internal Reference – standard or high stability
- Auto Switchover – automatic switchover to internal reference when external reference is removed.

Description

The **Jersey Microwave** Block Converter series are specially designed to translate a block of L-Band frequencies to Ku-Band frequencies, or vice versa, for use in transmitting or receiving applications in Intelsat, Eutelsat, and other satellite communications systems.

Jersey Microwave components can be tailored to meet your company's specific needs.

Electrical Specifications

KBUC Series

Designation	Input Frequency	Output Frequency	LO Frequency
KBUC-122127-2815	950-1500 MHz	12.20-12.75 GHz	11.25 GHz
KBUC-127145-2815	950-2700 MHz	12.75-14.50 GHz	11.80 GHz
KBUC-137145-1808	950-1700 MHz	13.75-14.50 GHz	12.80 GHz
KBUC-143149-2010	1150-1750 MHz	14.30-14.90 GHz	13.15 GHz
KBUC-144150-1008	1000-1650 MHz	14.40-15.05 GHz	13.40 GHz
KBUC-148151-2010	1000-1300 MHz	14.85-15.15 GHz	13.85 GHz
KBUC-149153-1008	1550-1950 MHz	14.95-15.35 GHz	13.35 GHz
KBUC-173181-2005	950-1750 MHz	17.30-18.10 GHz	16.35 GHz
KBUC-173184-0303	950-2050 MHz	17.30-18.40 GHz	16.35 GHz

KBDC Series

Designation	Input Frequency	Output Frequency	LO Frequency
KBDC-1011-1818	10.95-11.55 GHz	950-1550 MHz	10.00 GHz
KBDC-1112-1818	11.55-12.15 GHz	950-1550 MHz	10.60 GHz
KBDC-1212-1818	12.15-12.75 GHz	950-1550 MHz	11.20 GHz
KBDC-1313-2015	13.65-13.95 GHz	1000-1300 MHz	12.65 GHz
KBDC-144149-1026	14.40-14.94 GHz	1.05-1.59 GHz	13.35 GHz
KBDC-148154-2415	14.80-15.40 GHz	1150-1750 MHz	13.65 GHz
KBDC-149153-1005	14.95-15.35 GHz	1550-1950 MHz	13.40 GHz

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Ku-Band Specifications Standard SATCOM

PARAMETER	UP CONVERTER	DOWN CONVERTER
IF Port Characteristics		
	Input	Output
Frequency Range	950 – 1700 MHz	950 – 1550 MHz
Connectors / Impedance	SMA-Female / 50 Ω	
Return Loss	18 dB min.	
RF Port Characteristics		
	Output	Input
Frequency Range	13.75 – 14.50 GHz	10.95 – 11.55 GHz 11.55 – 12.15 GHz 12.15 – 12.75 GHz
Connectors / Impedance	SMA-Female / 50 Ω	
Return Loss	18 dB min.	
LO Characteristics		
Frequency	12.8 GHz	10.00 GHz / 10.60 GHz / 11.20 GHz
Reference Input	5 / 10 / 50 MHz	
Reference Input Level	0 dBm +/- 3 dB	
Reference Port: Connector / Impedance	SMA-Female / 50 Ω	
Return Loss	15 dB min.	
Frequency Stability: External	Same as the reference unit	
Internal	+/-2.5 ppm max. (+/-1.0 ppm max. option)	
Phase Lock Alarm: TTL	"H" = Locked / "L" = Unlocked	
Operating Temperature	-30° C to +60° C	
Input to Output Performance		
Transfer Type	Single Conversion	
Frequency Sense	No Spectral Inversion	
Gain	20 dB +/-2 dB	
Gain Flatness: Over RF Band	+/-1.00 dB max.	
Over any 40 MHz Segment	+/-0.25 dB max.	
Output Power Po (1dB)	+10 dBm typical / +8 dB min.	+18 dBm min.
IMD (two output carriers at -3 dBm per)	-40 dBc max.	-50 dBc max.
Gain vs. temperature		
At constant temperature	+/- 0.25 dB/day max.	
Over the operating temperature	+/- 1.5 dB max.	
Noise Figure	15 dB max.	
Spurious - In-band		
Signal Independent	-80 dBm max.	
Signal Dependent (@Po = 0 dBm)	-80 dBc max.	
LO Leakage	-75 dBm max.	-50 dBm max.
Image Rejection	N/A	-70 dBc max.
SSB Phase Noise*	External Reference	Internal Reference
10 Hz	REF – [20log(1/N) + 3 dB]	-40 dBc/Hz
100 Hz	REF – [20log(1/N) + 3 dB]	-70 dBc/Hz
1 KHz	REF – [20log(1/N) + 3 dB]	-85 dBc/Hz
10 KHz	REF – [20log(1/N) + 3 dB]	-95 dBc/Hz
100 KHz	REF – [20log(1/N) + 3 dB]	-100 dBc/Hz
1 MHz	-125 dBc/Hz typical / -120 dBc/Hz max.	
Supply Voltage	+15 Vdc@ 500 ma	
Connector:	Solder Feedthru.	
Operating Temperature Range	-30° to +60° C	
Package Size (L x W x H)	4.75" x 2.96" x 1.16"	3.85" x 2.90" x 1.16"

Note: Specifications are subject to change without notice