

Ku-BAND BLOCK CONVERTER MODULES



The **Jersey Microwave** Block Converter Module series are specially designed to translate a block of L-Band frequencies into Ku-Band, or vice versa. Our Block Converters are designed for 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.

Features/Options

Excellent Frequency Stability

**Voltage Regulator &
Delay Circuit Included**

**Low Phase Noise - Intelsat/
Eutelsat Compliant**

Stable Gain Over Temperature

High Reliability & Low Cost

Low Power Consumption

**5, 10 and 20 Watt Versions
Available for BUC**

**Locks To External 5, 10 or 50
MHz References**

**Internal Reference –
Standard or High Stability**

**25 dB Gain Control at L-Band
with 0.1 dB Step**

**Auto Switch-Over from
External to Internal REF**

Standard Frequency Bands

Ku-Band Block Down Converters — Series

Model Number	Input Frequency	Output Frequency	LO Frequency
KBDC-109115-2015	10.95-11.55 GHz	950-1550 MHz	10.0 GHz
KBDC-115121-2015	11.55-12.15 GHz	950-1550 MHz	10.6 GHz
KBDC-121127-2015	12.15-12.75 GHz	950-1550 MHz	11.2 GHz
KBDC-127132-2015	12.70-13.20 GHz	950 – 1450 MHz	11.75 GHz
KBDC-144153-2015	14.40-15.30 GHz	950 – 1850 MHz	13.45 GHz

Ku-Band Block Up Converters — Series

Model Number	Input Frequency	Output Frequency	LO Frequency
KBUC-140145-2010	950-1450 MHz	14.00-14.50 GHz	13.05 GHz
KBUC-137145-2010	950-1700 MHz	13.75-14.50 GHz	12.80 GHz
KBUC-127145-2010	950-2700 MHz	12.75-14.50 GHz	11.80 GHz
KBUC-144153-2010	950-1850 MHz	14.40-15.30 GHz	13.45 GHz

Custom bands and custom specifications can be provided.

Electrical Specification	Up Converter	Down Converter
IF Port Characteristics	Input	Output
Frequency Range	- See Table -	- See Table -
Connectors/Impedance	SMA-Female / 50 Ω	
Return Loss	18 dB min.	
RF Port Characteristics	Output	Input
Frequency Range	- See Table -	- See Table -
Connectors/Impedance	SMA-Female / 50 Ω	
Return Loss	18 dB min.	
LO Characteristics		
Internal Local Oscillator DRO	- See Table -	
Reference Input	10 MHz or 50 MHz (Option: 5 MHz)	
Reference Input Level	-10 dBm ± 10 dB	
Reference Port: Connectors/Impedance	SMA-Female / 50 Ω	
Return Loss	15 dB min.	
Frequency Stability: External	Same as the reference unit	
Option: Internal	±5 ppm max. (±1.0 ppm max. option)	
Phase Lock Alarm: TTL	"H" = Locked / "L" = Unlocked – Open Collector: Option	
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 min.	+15 dBm min.
IMD (two output carriers at 0 dBm per)	-40 dBc max.	-50 dBc max.
Gain vs. temperature		
At constant temperature	± 0.25 dB/day max. @ constant temperature 25°C	
Over the operating temperature	± 1.5 dB max.	
Noise Figure	15 dB max.	
Group Delay	2.0 nsec p-p max over RF band	
In-Band Spurious		
Signal Independent	-80 dBm max.	
Signal Dependent @Po = 0 dBm	-70 dBc max.	
LO Leakage	-70 dBm max	
Image Rejection	-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@ 650 ma	
Connector	Solder Feedthru	
Operating Temperature Range	-30° to +70° 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 may change without notice, please consult the factory for your specific needs.

DS-203-01