



C-BAND HUB-MOUNT SSPB (Solid State Power Block-Up Converter) 250W SSPB-3000C® series



FEATURES

- Converts synthesized L-Band to C-Band (see table A)
- Integrated amplifier with an output power of 250W (see table A)
- Phase-locked oscillator to external 10MHz reference
- High linearity (low intermodulation products)
- Weatherproof package
- Remote Monitor & Control
- Protection against thermal runaway and out-of-lock conditions
- Output sample monitoring port
- Built-in power supply
- Built-in Harmonic Filter
- Compact packaging
- CE Marking

OPTIONS

- Internal High Stability 10 MHz Reference
- Redundant system
- Remote M&C panel (Ethernet port optional)

OVERVIEW

The SSPB-3000C® series are hub-mount up-converter transmitters, operating in the C-Band. The SSPB-3000C® is an integrated unit, complete with power supply, phase-locked oscillator, mixer, filter and cooling mechanism. Intended for outdoor operation, the SSPB-3000C® provides the utmost in convenience and efficiency. They are the smallest fully integrated units on the market today. Other SSPB's are also available for higher powers or for operation at other up-link frequencies.

The design of these units is based on ADVANTECH AMT™ industry proven reliable solid-state high power amplifiers. Built-in design features and assembly methods incorporated with efficient combining techniques result in an amplifier with exceptional linearity and operating efficiency. The use of high efficiency power supply and conservative thermal designs contribute to the trouble-free operation of the amplifier. Built-in microprocessor controller provides the capability for serial port interfaces (RS232/485) for remote monitoring and control.

REDUNDANCY

The SSPB-3000C® series are available in redundant configuration with a single Monitor and Control interface.

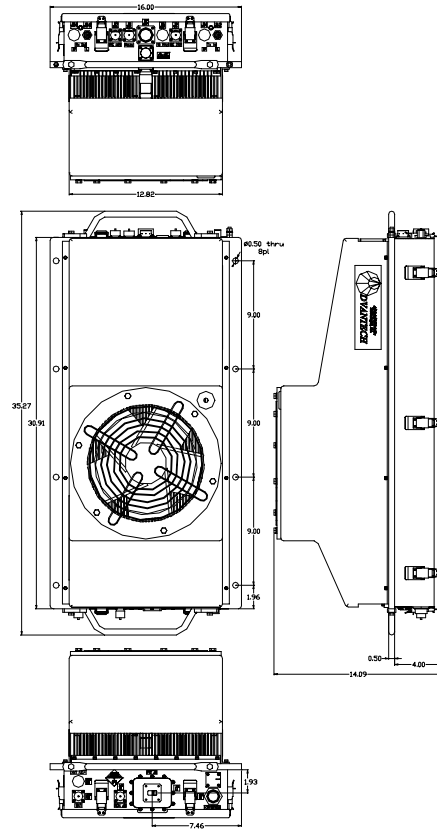


Table A

Band	RF Band (GHz)	IF Band (MHz)	Output Power (W)	LO (GHz)
CL	4.400 – 5.000	950 – 1550	250	3.450
CP	6.425 – 6.725	1025 – 1325	250	5.400
CI	6.725 – 7.025	1225 – 1525	250	5.500
CR	5.725 – 6.025	950 – 1450	-	4.775
CS	5.850 – 6.425	950 – 1525	-	4.900
CX	5.850 – 6.725	950 – 1825	250	7.675

*Other frequency sub-bands are available. Please consult factory.

APPLICATION

The SSPB-3000C® series convert an L-Band signal to the C-band frequency (see table A). Designed for C-Band satellite up-link applications, the SSPB C series are available in output power from 2W to 1000W. For higher power Advantech provides phase-combined systems. The SSPB-3000C® series are fully integrated units 250W output power designed for mounting outdoors, near the hub of an antenna.

C-band High Power SSPB



C-BAND HUB-MOUNT SSPB (Solid State Power Block-Up Converter) 250W

SSPB-3000C® series



C-band High Power SSPB

TECHNICAL SPECIFICATIONS		250W			
Electrical Characteristics					
Availability in this series CS, CR CX, CI, CP, CL	Note 1 ↓				
Output power (P _{SAT})	+54 dBm				
Output power (P1dB) min	+53 dBm				
Conversion gain @ maximum setting at ambient temperature	74 dB				
Gain adjustment range	20 dB				
Frequency range	See table A on front page				
Frequency sense	Non-inverting except for CX band (5.85 GHz – 6.725 GHz)				
Max input power without damage	+10 dBm				
Gain flatness	±2.0 dB, max over full band, 0.3 dB/10 MHz @ 25°C				
Gain variation over temperature	±1.5 dB over full operating range				
Gain variation over 24 hours	±0.25 dB max @ constant temperature & drive level				
Input Return loss	18 dB				
Output return loss	19 dB				
Noise Power Density	-70 dBm/Hz max in TX band -140 dBm/Hz in RX band				
Spurious at rated power	-60 dB, max				
Harmonics at rated power	-70 dBc max				
AM/PM conversion at rated power	2.5°/dB max. at P1dB, 1°/dB max. at 3 dB back-off				
Third order IMD (2 tones)	-26 dBc, max @ 3 dB back-off from rated P1dB				
Local oscillator frequency (LO)	See table A on front page				
LO leakage	-20 dBm				
Phase noise	-50 dBc/Hz at 10Hz -65 dBc/Hz at 100Hz	-75 dBc/Hz at 1000Hz -85 dBc/Hz at 10 kHz	-95 dBc/Hz at 100 kHz -105 dBc/Hz at 1 MHz		
Group delay (over any 40 MHz):	Linear Parabolic Ripple	0.02 ns /MHz, max 0.003 ns/MHz ² , max 1 nsec p-p, max			
Reference (auto-switching)					
<i>Note: In case external reference is not provided, the unit will automatically switch to internal reference. For 1:1 redundant operation, internal 10MHz reference is recommended</i>					
Reference frequency	10 MHz				
Reference frequency phase noise	-115 dBc/Hz at 10 Hz -135 dBc/Hz at 100 Hz -148 dBc/Hz at 1000 Hz		-150 dBc/Hz at 10 kHz -160 dBc/Hz at 100 kHz		
Reference frequency level	0 dBm ± 5 dB				
Power Requirements					
AC input voltage	180 to 264 VAC (47-63 Hz)				
Power consumption (nominal)	2500W				
Mechanical Characteristics					
Dimensions (L x W x H)	35.27" x 16.00" x 14.09" (89.59 x 40.64 x 35.79 cm)				
Weight	55 kg (121 lbs)				
Interfaces:	RF input Relay port AC Line	Type N (F) MS3112E12-10P MS3102E20-19P	Redundancy RS-232 RS-485	MS3112E16-26P MS3112E10-6P MS3112E10-6P	RF output CPR137 contact (for CL series - Type N (F))
Environmental Conditions					
Temperature:	Operating Storage	-30°C to +55°C; Option 1: -40°C to +55°C; Option 2: -50°C to +50°C -55°C to +85°C			
Humidity	100%, condensing				
Altitude	10,000' AMSL, de-rated 2°C/1,000' from AMSL				

Note 1. Please refer to SSPB-2000C® product datasheet



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