

25W to 125W
SSPB-2100C® series



Features

- Converts L-Band to C (see table A)
- Integrated amplifier with an output power of 25W to 125W (see table A)
- Phase-locked oscillator to external 10MHz reference
- High linearity (low intermodulation products)
- Remote Monitor & Control
- Protection against thermal runaway and out-of-lock conditions
- Output sample monitoring port
- Built-in power supply
- Light weight
- Weatherproof package
- Compact packaging
- Redundant ready (option)
- CE Marking

Overview

The SSPB-2100C® series are hub-mount up-converter transmitters, operating in the C/X and Ku-Band. The SSPB-2100C® is an integrated unit, complete with power supply, phase-locked oscillator, mixer, filter and cooling mechanism. Intended for outdoor operation, the SSPB-2100® provides the utmost in convenience and efficiency. 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. 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.

Application

The SSPB-2100C® series convert an L-Band signal to the C-band frequency (see table A). Designed for satellite up-link applications, the SSPB series are available in output power from 10W to 1000W. The SSPB-2100C® series are fully integrated units from 25W to 125W output power designed for mounting outdoors, near the hub of an antenna.

Accessories

- Remote M&C panel (Ethernet port optional)
- Handheld terminal
- Boom mounting kit

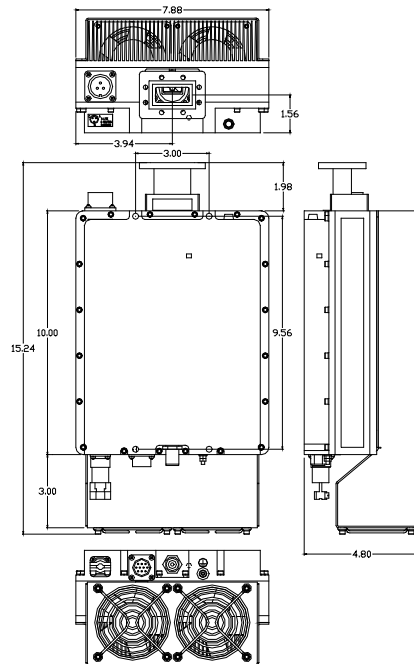


Figure 1: Outline 80W – 125W

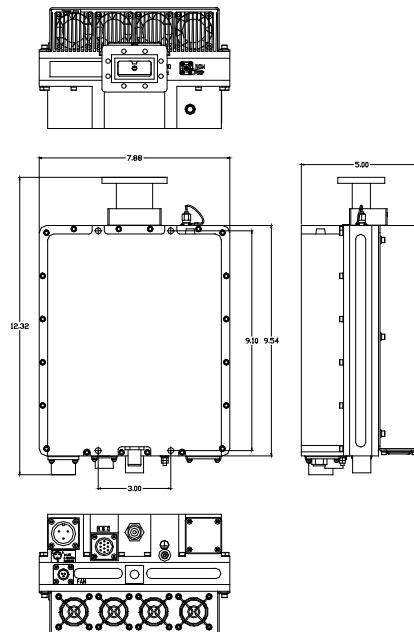


Figure 2: Outline 25W – 60W

Table A

Band	RF-Band (GHz)	IF-Band (MHz)	LO GHz
CS	5.850 - 6.425	950 - 1525	4.900
CP	6.425 - 6.725	1025 - 1325	5.400
CI	6.725 - 7.025	1225 - 1525	5.500
CR	5.725 - 6.025	950 - 1250	4.775
CL	4.400 - 5.000	950 - 1550	3.450
CX	5.850 - 6.725	950 - 1825	4.900

Compact C-Band Hub-mount SSPA/BUC

Technical Specifications			25W	30W	40W	50W	60W	80W	100W	125W	
Electrical Characteristics											
C-Band	CS/CR/ CP/CI/CX		√ √	√ √	√ √	√ -	√ √	√ √	√ √	√ -	
Output power (P _{SAT})		dBm	+44	+45	+46	+47	+48	+49	+50	+51	
Output power (P _{1dB}) min		dBm	+43	+44	+45	+46	+47	+48	+49	+50	
Conversion gain @ maximum setting		dB	64	65	66	67	68	69	70	71	
Gain adjustment range	20 dB min										
Input/Output frequency range	See table A on front page										
Max input power without damage	+10 dBm										
Gain flatness	3.0 dB p-p for CS, CP, CI, CR, CL - band, 4 dB p-p for CX-band, 1.0 dB p-p/40 MHz										
Gain variation over temperature	±1.5 dB over full operating range (temperature compensation mode)										
Gain variation over 24 hours	±0.5 dB max at constant temperature & drive level										
Input VSWR	1.5 :1 dB, min										
Output VSWR	1.5 :1 dB min										
Noise power density (NPD)	-80 dBm/Hz in TX band -135 dBm/Hz in RX band										
Spurious at rated power	-55 dBc, max										
AM/PM conversion	2.5°/dB typical (at P _{1dB})										
Third order IMD (2 tones)	-26 dBc, max at 3 dB back-off from P _{1dB}										
Local Oscillator frequency (LO)	See table A on front page										
LO leakage	-20 dBm max										
Phase noise	-50 dBc/Hz at 10Hz -83 dBc/Hz at 10 kHz -63 dBc/Hz at 100Hz -93 dBc/Hz at 100 kHz -73 dBc/Hz at 1000Hz -105 dBc/Hz at 1 MHz										
Group delay (over any 40 MHz):	Linear	0.02 ns /MHz, max									
	Parabolic	0.003 ns/MHz ² , max									
	Ripple	1 nsecp-p, max									
External reference											
Reference frequency	10 MHz										
Reference frequency phase noise	-115 dBc/Hz at 10 Hz -155 dBc/Hz at 10 kHz -135 dBc/Hz at 100 Hz -160 dBc/Hz at 100 kHz -148 dBc/Hz at 1000 Hz										
Reference frequency level	0 dBm ± 5 dB supplied via input L-Band cable										
Power Requirements											
AC input voltage	110/220 VAC (47-63 Hz) auto-ranging (90-132 V / 180-264 V)										
Power consumption (W nominal)	150	180	200	300	350	400	450	500			
Mechanical Characteristics											
Dimensions (L x W x H)	10" x 8" x 4.8" (254 x 203 x 114 mm)							DC 13" x 8" x 4.8" (330 x 203 x 114 mm) AC 13" x 8" x 5.2" (330 x 203 x 132 mm)			
Weight	14.4 lbs (6.5 kg)							22 lbs (10.0 kg)			
Interfaces:	RF input	Type N (F)	RS-485/RS232	MS3112E12-10P	AC Line	MS3102R16-10P					
	RF output	CPR137				DC Line	MS3102R16-10PX				
Environmental Conditions											
Temperature:	Operating	-30°C to +55°C; Option: E-40°C to +55°C; G: -50°C to +50°C									
	Storage	-55°C to +85°C									
Humidity	100%, condensing (2" rain/hour)										
Altitude	10,000' AMSL, de-rated 2°C/1,000' from AMSL										

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www.servsat.com

770-754-4547

sales@servsat.com



Ref.: PB-SSPBm-C-25-125-11029