

Block Up-Converter

54dBm Output Power

Model: TLBUC12.7513.5G-250W

The TLBUC12.7513.5G-250W is a block up-converter operating in the Ku-band. It features an integrated local oscillator, with input IF frequency of 950-1700 MHz and output RF frequency of 12.75 to 13.5 GHz. Providing up to 250W of saturated output power, it also supports switchable functionality between internal and external references.

Features:

- IF Frequency: 950~1700 MHz.
- RF Frequency: 12.75-13.5GHz.
- Saturated output power: 250W.
- External/Internal Reference Adaptive.
- Protection: lock loss, over voltage, over TEM, over current, over VSWR protection

Applications:

- Communication/Radar Systems
- Test Labs

Electrical Characteristics:

Parameter	Min	Typ	Max	Units
IF Frequency Range	950		1700	MHz
IF Input Power	-5	0	5	dBm
Gain@Pout=54dBm	54			dB
RF Output Frequency Range	12.75		13.5	GHz
Output Psat	54			dBm
Reference Frequency*		10		MHz
Gain Flatness@full band		±2		dB
Gain Flatness@40MHz band		±0.5		dB
Gain Stability@full TEM		±2		dB
IMD3*			-25	dBc
putious Suppression			-55	dBc
Noise power spectral density@RX band			-76	dBm/Hz
Noise power spectral density@TX band*			-130	dBm/Hz

Note: *Default internal reference, internal and external reference automatically switch.

Test conditions: the two-tone interval is 5MHz, and the total power of two-tone synthesis is 50dBm.

The amplifier gain at 12.25 GHz remains relatively high, and the filter suppression is approximately 50-60 dB.

Electrical Characteristics:

Parameter		Min	Typ	Max	Units
Phase Noise	@10Hz			-55	dBc
	@100Hz			-65	
	@1KHz			-75	
	@10KHz			-85	
	@100KHz			-95	
	@1MHz			-115	
Input VSWR				1.5	:1
Output VSWR			1.3		:1
VSWR Alarm Threshold			3		:1
AC Supply Voltage			220		V AC
Power Consumption@Psat				1400	W

Mechanical Specifications:

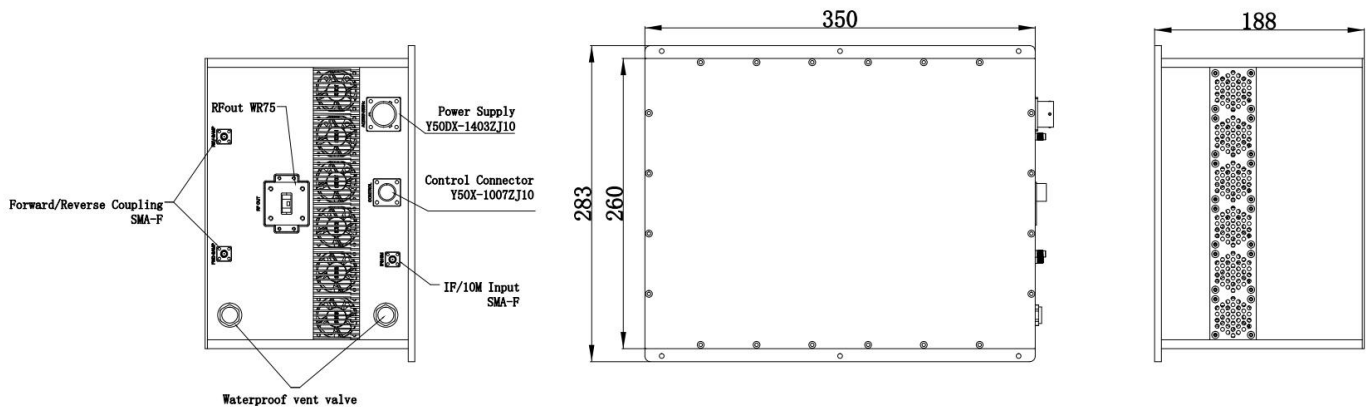
Parameter	Value	Units
RF Output Connector	WR75	
IF/REF Input Connector	SMA Female	
Forward/Reverse Coupling	SMA Female/SMA Female	
Power Supply Connector	Y50X-1403	
Communication Connector	Y50X-1007	
Ingress Protection Grade	IP-65	
Size	350*283*188	mm
Weight	16	Kg

Absolute Maximum Ratings:

Parameter	Value
IF Input Power	+5 dBm
ESD sensitivity (HBm)	Class 0, passed 150V

Outline Drawing:

Unit:mm; Tolerance:±0.1mm



Key Features:

Parameter	Advantages
Control functions	1, Power setting on/off 2, RF setting on/off
Protection functions	1, Over TEM 2, Over voltage 3, Over current 4, Over VSWR 5, Lock loss
Remote control	RS422
Cooling system	Built in Cooling system, forced air cooling

Environmental Conditions:

Parameter	Min	Typ	Max	Units
Operating Temperature	-20		+60	°C
Non-operating Temperature	-40		+70	°C
Relative humidity		95		%
Altitude	3,000			meters
Shock / Vibration(MIL-STD-810F)	10G rms (15 degree 2KHz) endurance			
Shock(non operating)	50G for 12msc half sin wave			

Ordering Information:

Base Number	Description	Revision
TLBUC12.7513.5G-250W	Block Up-Converter, IF frequency range:950-1700MHz; RF output frequency range: 12.75-13.5GHz; 250W output power	Rev.1.0