

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

电气特性 Electrical Characteristics:

参数 Parameter	Min	Typ	Max	单位 Units
IF频率范围 IF Frequency Range	950		1700	MHz
IF输入功率 IF Input Power	-5	0	5	dBm
增益 Gain@Pout=54dBm	54			dB
RF输出频率范围 RF Output Frequency Range	12.75		13.5	GHz
饱和输出功率 Output Psat	54			dBm
参考频率 Reference Frequency*		10		MHz
增益平坦度 Gain Flatness@full band		±2		dB
增益平坦度 Gain Flatness@40MHz band		±0.5		dB
增益稳定度 Gain Stability@full TEM		±2		dB
三阶互调 IMD3*			-25	dBc
杂散抑制 Spurious Suppression			-55	dBc
噪声功率谱密度 Noise power spectral density@RX band			-76	dBm/Hz
噪声功率谱密度 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.

电气特性 Electrical Characteristics:

参数 Parameter		Min	Typ	Max	单位 Units
相位噪声 Phase Noise	@10Hz			-55	dBc
	@100Hz			-65	
	@1KHz			-75	
	@10KHz			-85	
	@100KHz			-95	
	@1MHz			-115	
输入驻波 Input VSWR				1.5	:1
输出驻波 Output VSWR			1.3		:1
驻波告警门限 VSWR Alarm Threshold			3		:1
交流电压 AC Supply Voltage			220		V AC
功耗 Power Consumption@Psat				1400	W

机械特性 Mechanical Specifications:

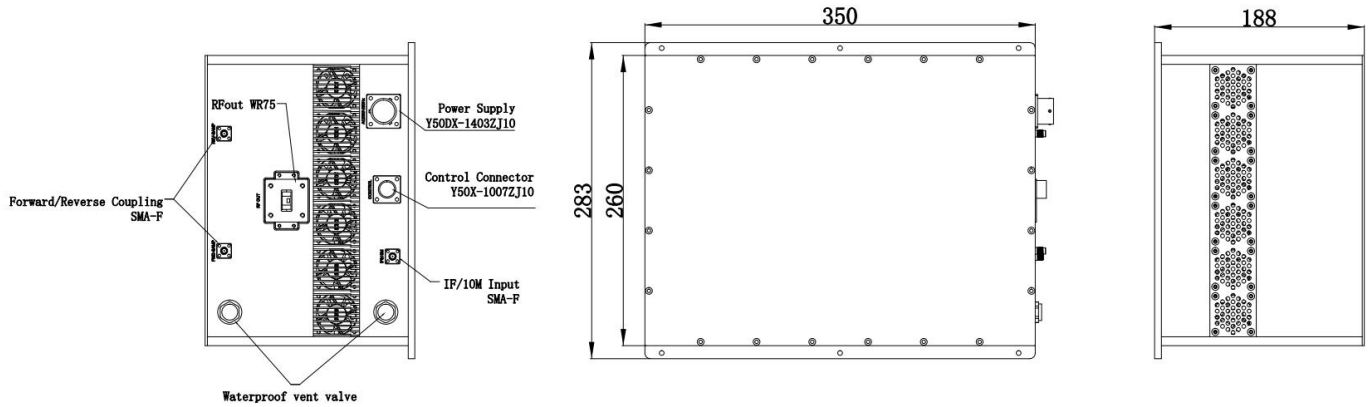
参数 Parameter	指标 Value	单位 Units
RF输出接口 RF Output Connector	WR75	
IF/REF输入接口 IF/REF Input Connector	SMA Female	
正向/反向耦合 Forward/Reverse Coupling	SMA Female/SMA Female	
供电接口 Power Supply Connector	Y50X-1403	
通信接口 Communication Connector	Y50X-1007	
防护等级 Ingress Protection Grade	IP-65	
尺寸 Size	350*283*188	mm
重量 Weight	16	Kg

绝对最大值 Absolute Maximum Ratings:

参数 Parameter	指标 Value
IF输入功率 IF Input Power	+5 dBm
ESD灵敏度 ESD sensitivity (HBm)	Class 0, passed 150V

外形图 Outline Drawing:

Unit:mm; Tolerance:±0.1mm



主要功能 Key Features:

参数 Parameter	特点 Advantages
控制功能 Control functions	1, Power setting on/off 2, RF setting on/off
内置保护功能 Protection functions	1, Over TEM 2, Over voltage 3, Over current 4, Over VSWR 5, Lock loss
监控和控制 Remote control	RS422
冷却系统 Cooling system	Built in Cooling system, forced air cooling

温度环境 Environmental Conditions:

参数 Parameter	Min	Typ	Max	单位 Units
操作温度 Operating Temperature	-20		+60	°C
存储温度 Non-operating Temperature	-40		+70	°C
相对湿度 Relative humidity		95		%
海拔 Altitude	3,000			meters
震动 Shock / Vibration(MIL-STD-810F)	10G rms (15 degree 2KHz) endurance			
冲击 Shock(non operating)	50G for 12msc half sin wave			

订货信息 Ordering Information:

标准型号 Base Number	描述 Description	版本号 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