

Broadband High Power Amplifier Module (SSPA)

REV.2.0_2025.02.26

1000-3000MHz/50Watt/Module

Model Number: KB1030M47A

The model KB1030M47A is a multi-octave high power amplifier operating between 1000 MHz and 3000 MHz and offering a wide dynamic Range with 50 Watts typical saturated power. The employment of gallium nitride (GaN) and chip-and-wire technology in manufacturing ensures this module state-of-the-art power performance with excellent power-to-volume ratio. It is ideal for multi octave broadband high power RF applications.

FEATURES:

- Suitable for RF, L&S Applications
- Small Size and Light Weight
- Unconditional Stability and Ruggedness
- Built-in Control, and Protection Circuits

ELECTRICAL SPECIFICATIONS @ +28.0VDC, 25°C, 50Ω

Parameter	Symbol	Min	Typ	Max	Units
Operating Frequency	BW	1000		3000	MHz
RF Output Power	P _{SAT}		50		Watt
Power Gain	Gp		47		dB
Power Gain Flatness	Δ Gp		±1.5		dB
Input Return Loss	S ₁₁			-10	dB
Harmonics @20W	H		-15		dBc
Spurious Signals	Spur		-60		dBc
Switching Speed	T _{ON/OFF}		2	5	μS
In/Output Impedance	Impedance		50		Ω
Operating Voltage	V _{DC}	24	28	32	Volt
Current Consumption @ P _{OUT} =50W	I _{DD}		8		Amp

MECHANICAL SPECIFICATIONS

Parameter	Value	Units	Notes
Dimensions	150x90x25 [5.91x3.54x0.98]	mm [inch]	Maximum
Weight	1.2 [2.6]	kg [lbs]	Maximum
RF Connectors Input	SMA, Female		
RF Connectors Output	SMA, Female		
DC Interface Connector	D-Sub 9-Pin, Male		
Cooling	External Heatsink Required (Not Supplied)		

ENVIRONMENTAL CHARACTERISTICS (Design to Meet)

Parameter	Minimum	Typical	Maximum	Units	Notes
Operating Temperature	-40		60	°C	
Non-operating Temperature	-45		85	°C	Storage
Relative Humidity (non-condensing)			95	%	

Absolute Maximum Rating

Input RF drive level without damage	+10 dBm (Max)
Load VSWR @ P _{OUT} =30W	∞ @ all load phase & amplitude for duration of 1 minute; 3:1 @ all load phase & amplitude continuous
Over Temperature	85°C @ heatsink [restored @ 60°C]

Focus on Your Application

Chengdu KeyLink Microwave Technology Co., Ltd.

>> 5-2, Huidu Headquarters Park, High-Tech(West) Zone, Chengdu, 611731, P. R. China

>> Phone: +86(28)87870761*8708 >> Fax: +86(28)87883266

>> Email: sales@keylinkmw.com >> www.keylinkmw.com

Specifications subject to change without notice

Broadband High Power Amplifier Module (SSPA)

REV.2.0_2025.02.26

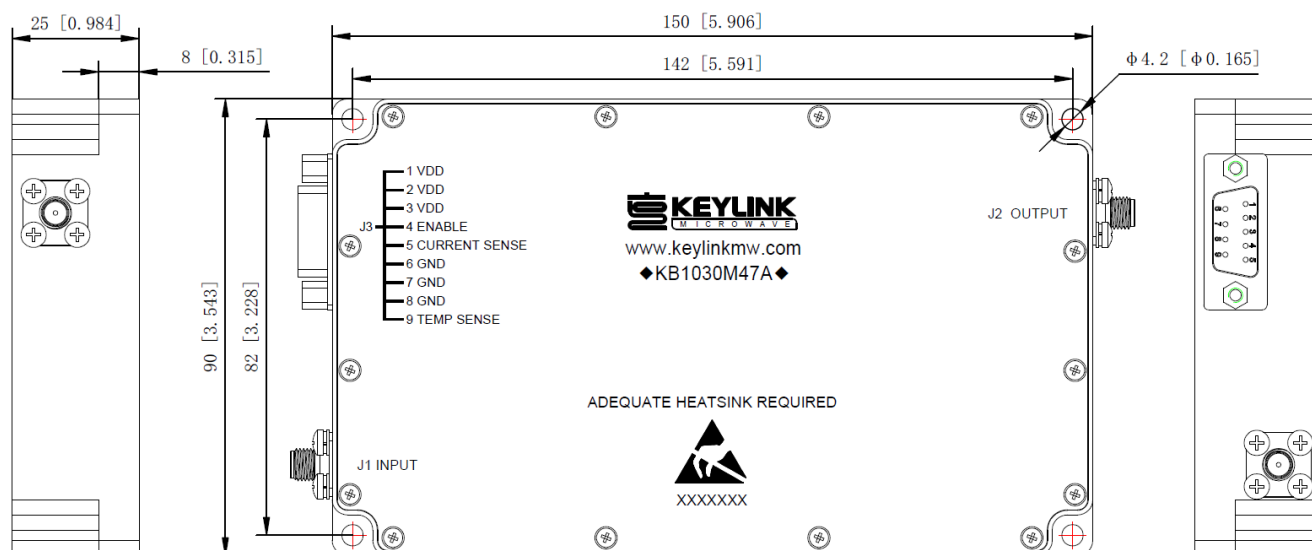
1000-3000MHz/50Watt/Module

Model Number: KB1030M47A

DC INTERFACE CONNECTOR

Pin #	Description	Specifications
1,2,3	VDD	28V _{DC}
4	ENABLE	Amplifier Enable: TTL Logic High (3.3V) (Internally Pulled-Low)
5	CURRENT SENSE	Analog voltage relative to I _{DD} @ 100mV per Ampere
6,7,8	GND	Ground
9	TEMP SENSE	Analog voltage relative to Module's Temperature @ 10 mV/°C

OUTLINE DRAWING (All dimensions in mm[inch])



Focus on Your Application

Chengdu KeyLink Microwave Technology Co., Ltd.

>> 5-2, Huidu Headquarters Park, High-Tech(West) Zone, Chengdu, 611731, P. R. China

>> Phone: +86(28)87870761*8708 >> Fax: +86(28)87883266

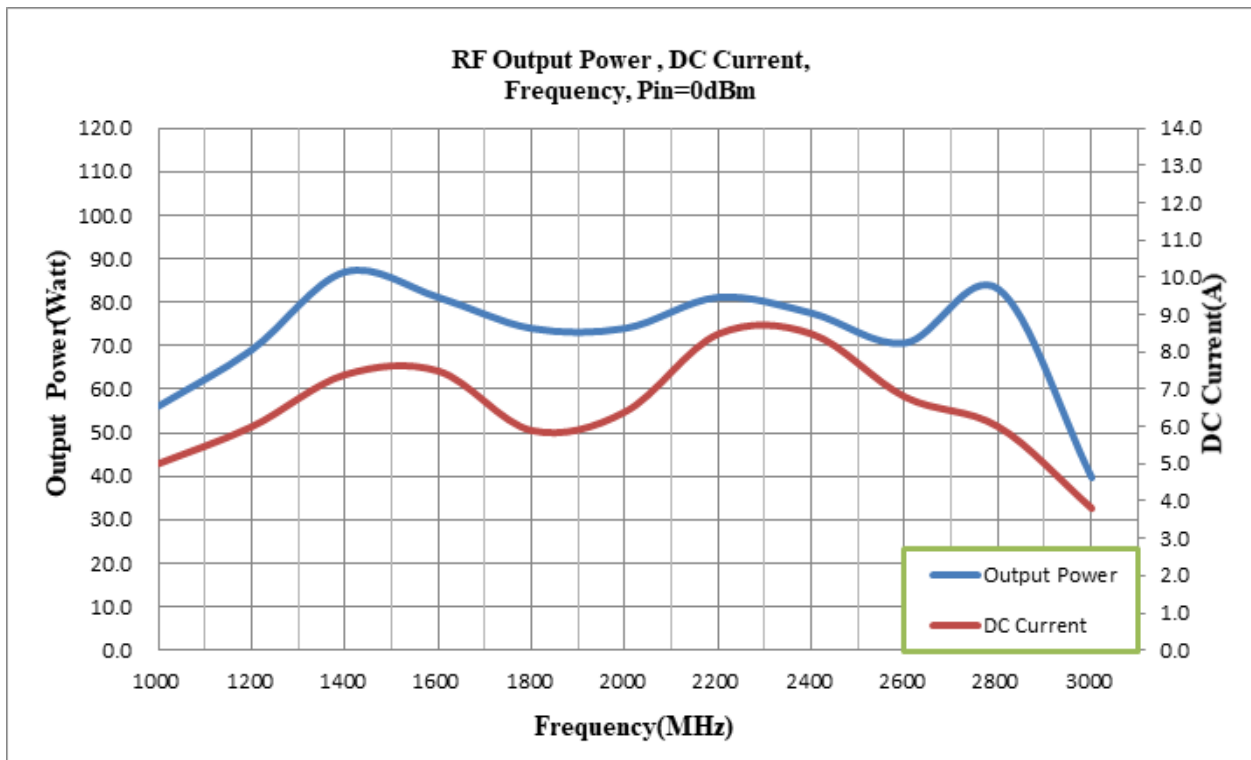
>> Email: sales@keylinkmw.com >> www.keylinkmw.com

Specifications subject to change without notice

1000-3000MHz/50Watt/Module

Model Number: KB1030M47A

TYPICAL PERFORMANCE PLOTS (For reference only)



Note: Adequate heatsink required.

Focus on Your Application

Chengdu KeyLink Microwave Technology Co., Ltd.

>> 5-2, Huidu Headquarters Park, High-Tech(West) Zone, Chengdu, 611731, P. R. China

>> Phone: +86(28)87870761*8708 >> Fax: +86(28)87883266

>> Email: sales@keylinkmw.com >> www.keylinkmw.com

Specifications subject to change without notice