

Broadband High Power Amplifier Module (SSPA)

REV.2.0_2025.06.16

8000-12000MHz/50Watt/Module

Model Number: KB80120M47C

The model KB80120M47C is a multi-octave high power amplifier operating between 8000 MHz and 12000 MHz and offering a wide dynamic range with 50 Watts typical saturated power. The employment of advanced high power devices in manufacturing ensures this module exceptional power performance, long term reliability and high efficiency. It is ideal for multi-octave high power X band applications.

FEATURES:

- Broadband & High Power
- High Efficiency
- Small Size & Light Weight
- Built-In Control and Protection Circuits, Including Over-Temperature Protection, Over-Current Protection, and Over-Voltage Protection.

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

Parameter	Symbol	Min	Typ	Max	Units
Operating Frequency	BW	8000		12000	MHz
RF Output Power	PSAT		50		Watt
Power Gain	Gp		47		dB
Power Gain Flatness	ΔGp		±1		dB
Input Return Loss	S11		-15	-10	dB
Harmonics @50W	H		-25		dBc
Spurious Signals	Spur		-60		dBc
Switch On/Off@10-90% Time	TON/OFF		2	5	μs
In/Output Impedance	Impedance		50		Ω
Operating Voltage	VDC	26	28	30	Volt
DC Current @40W	IDD		8		Amp

MECHANICAL SPECIFICATIONS

Parameter	Value	Units	Notes
Dimensions	160x120x20 [6.30x4.72x0.79]	mm [inch]	Maximum
Weight	1.0[2.2]	kg [lbs]	Maximum
RF Connector Input	SMA, Female		
RF Connector Output	SMA, Female		
DC Interface Connector	Hybrid, D-Sub 7-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 @ POUT =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

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Specifications subject to change without notice

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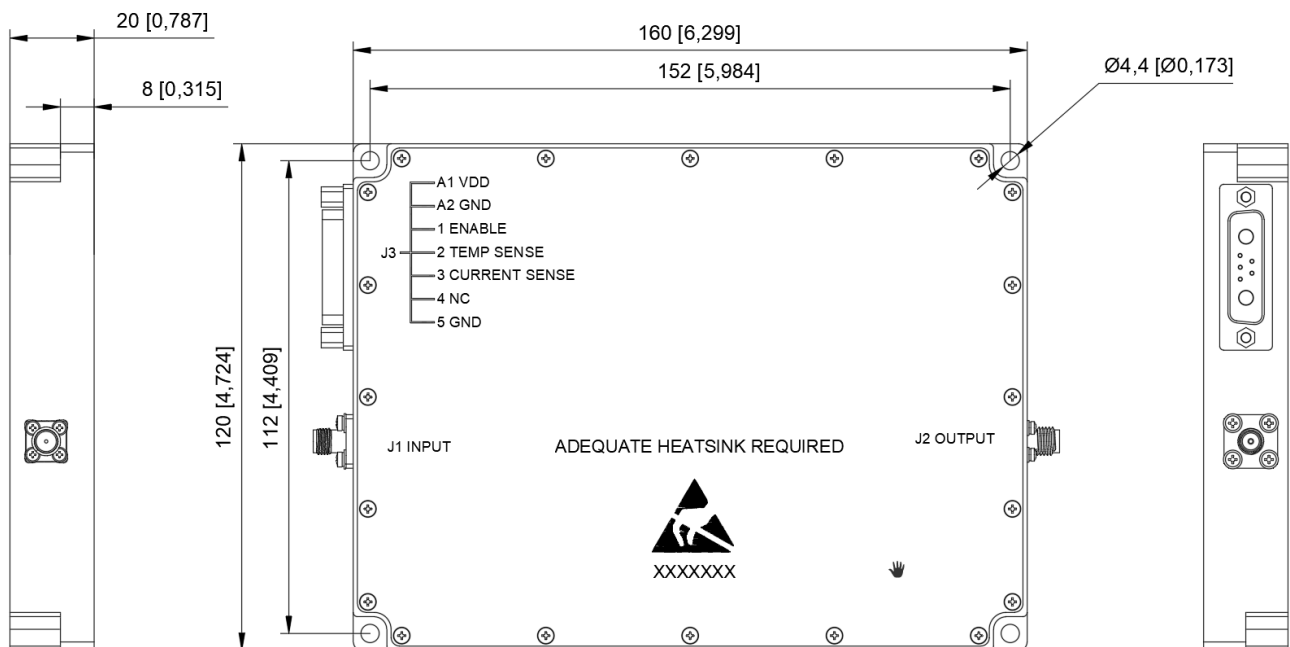
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DC INTERFACE CONNECTOR

Pin #	Description	Specifications
A1	VDD	28VDC
A2	GND	Ground
1	ENABLE	Amplifier Enable: TTL Logic High (3.3V~5V) (Internally Pulled-Low)
2	TEMP SENSE	Analog voltage relative to Module's Temperature @ 0.5V+10 mV/°C
3	CURRENT SENSE	Analog voltage relative to IDD @ 100mV per Ampere
4	NC	No electrical connection
5	GND	Ground

OUTLINE DRAWING (All dimensions in mm [inch])



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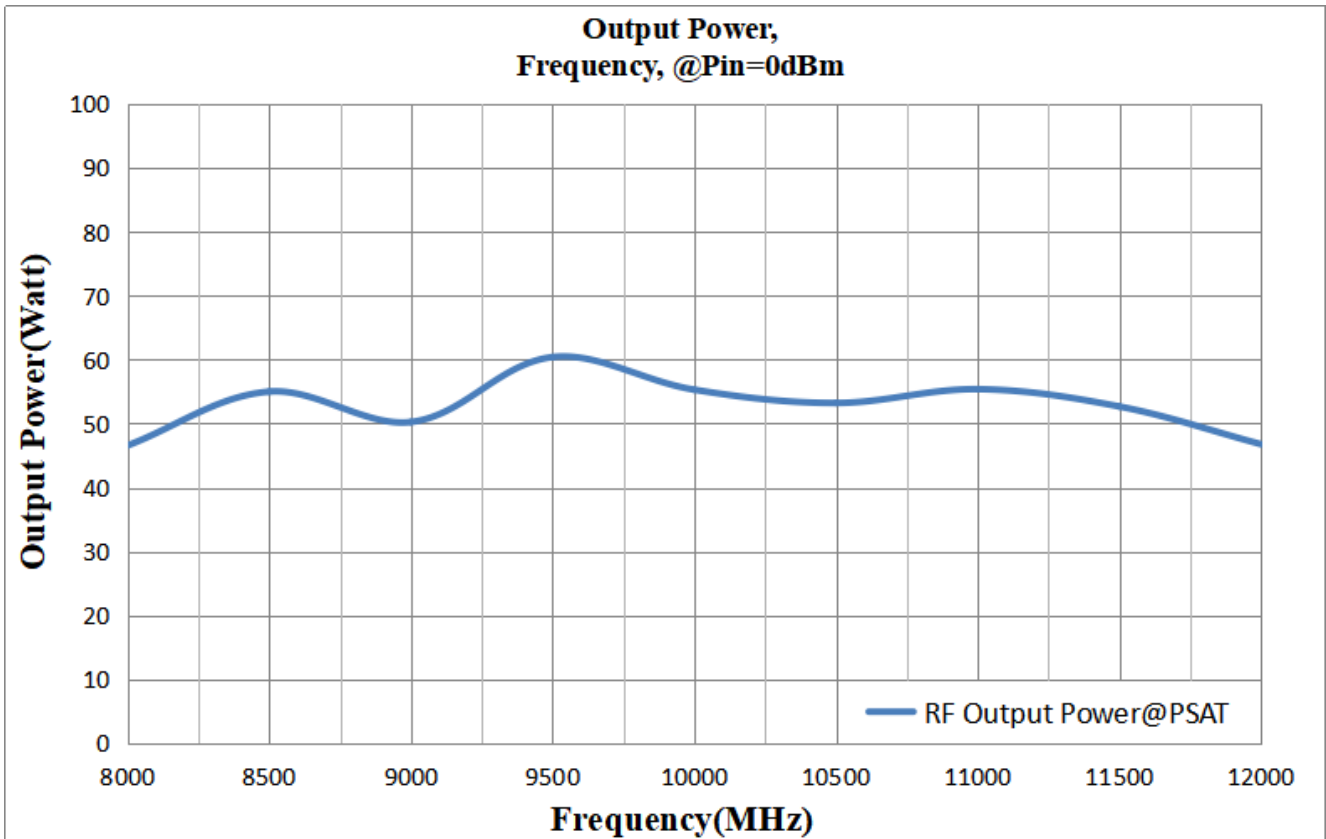
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TYPICAL PERFORMANCE PLOTS(for reference only)

Output Power(Normal temp.+25±3℃)

**Note:** Adequate heatsink required.*Focus on Your Application****Chengdu KeyLink Wireless Technology Co., Ltd.***

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