KEYLINK MICROWAVE

Broadband High Power Amplifier Module (SSPA)

Version. 1.0 _2025.02.17

2000-6000MHz/40Watt/Module

Model Number: KB2060M46A

The model KB2060M46B is a multi-octave high power amplifier operating between 2000 MHz and 6000 MHz and offering a wide dynamic Range with 40 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 S/C Band applications.

FEATURES:

- Broadband & High power
- High Efficiency
- Small Size & Light Weight
- Built-In Control and Protection Circuits

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

Parameter	Symbol	Min	Typ	Max	Units
Operating Frequency	BW	2000		6000	MHz
RF Output Power	P_{SAT}		40		Watt
Power Gain	G p		46		dB
Power Gain Flatness	Δ Gp		±2		dB
Input Return Loss	S_{11}			-10	dB
Harmonics @30W	H		-20	-10	dBc
Spurious Signals	Spur		-60		dBc
Switch On/Off@10-90% Time	$T_{ON/OFF}$		2	3	μS
In/Output Impedance	Impedance		50		Ω
Operating Voltage	V_{DC}	26	28	30	Volt
DC Current @40W	I_{DD}		7		Amp

MECHANICAL SPECIFICATIONS

Parameter	Value	Units	Notes
Dimensions	160x100x25 [6.30x3.94x0.98]	mm [inch]	Maximum
Weight	1.5 [3.3]	kg [lbs]	Maximum
RF Connectors Input	SMA, Female		
RF Connectors 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 @ P_{OUT} =30W	∞ @ all load phase & amplitude for duration of 1 minutes; 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

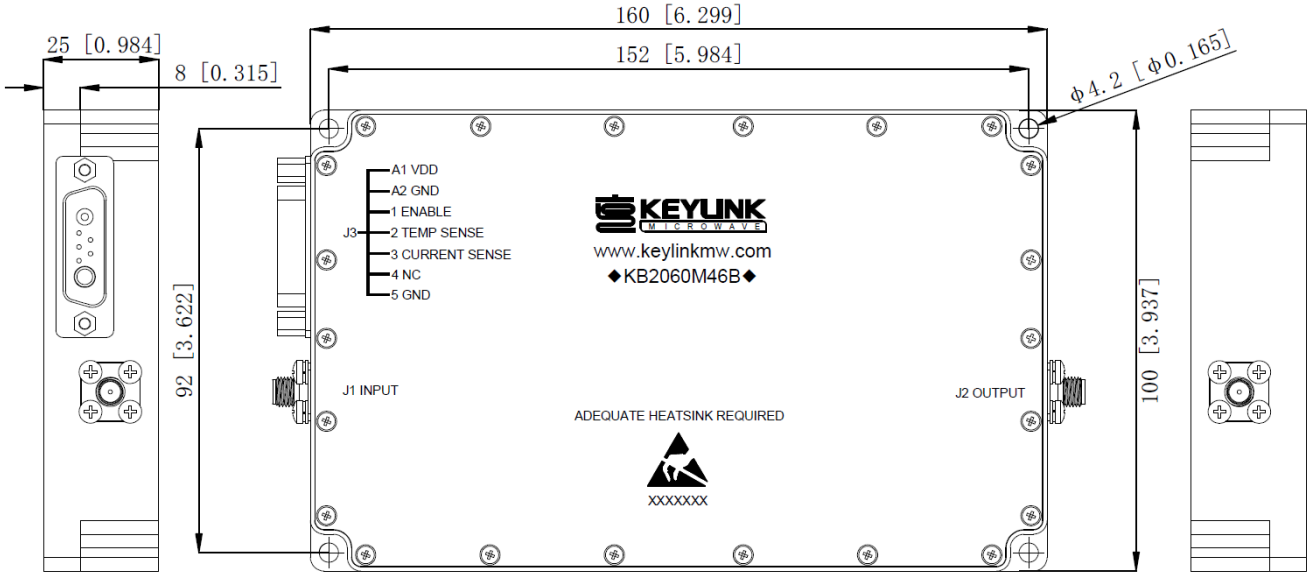
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DC INTERFACE CONNECTOR

Pin #	Description	Specifications
A1	VDD	28V_{DC}
A2	GND	Ground
1	ENABLE	Amplifier Enable: TTL Logic High (3.3V) (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 I_{DD} @ 100mV per Ampere
4	NC	No electrical connection
5	GND	Ground

OUTLINE DRAWING (All dimensions in mm)



Focus on Your Application

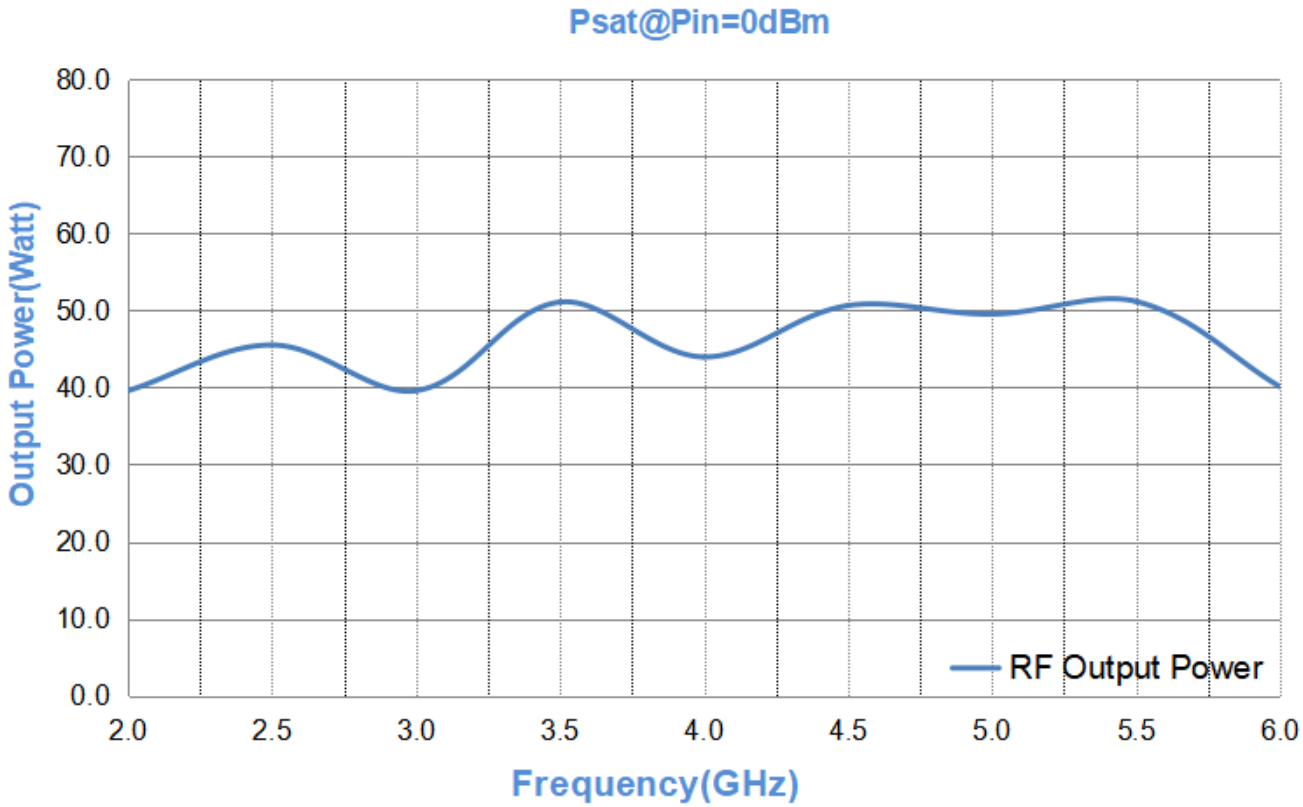
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TYPICAL PERFORMANCE PLOTS (For reference only)



Note: Adequate heatsink required.

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