KEYLINK MICROWAVE

Broadband High Power Amplifier Module (SSPA)

REV.4.0 _2024.04.12

0.5-2.5GHz/100Watt/Module

Model Number: KB0525M50B

The model KB0525M50B is a multi-octave high power amplifier operating between 0.5 GHz and 2.5GHz and offering a wide dynamic Range with 100 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 jamming, EMC, test and measurement applications.

FEATURES:

- Small Size and light weight
- Instantaneous ultra-broadband
- 50 Ohms input and Output matched
- Built-in control and protection circuits
- Class AB

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

Parameter	Symbol	Minimum	Typical	Maximum	Units
Operating Frequency	BW	500		2500	MHz
RF Output Power @PSAT	PSAT	60	100		Watt
Power Gain	Gp		50		dB
Power Gain Flatness	Δ Gp		±2		dB
Input Return Loss	S_{11}			-10	dB
Harmonics @70W	H		-10	-8	dBc
Spurious Signals	Spur		-60		dBc
In/Output Impedance	Impedanc		50		Ω
Operating Voltage	V_{DC}	24	28	32	Volt
Power add efficiency	Eff		27		%
DC Current @100W	I_{DD}		13		Amp
Switching Time @1kHz TTL	$T_{on/off}$		5		uS

MECHANICAL SPECIFICATIONS

Parameter	Value	Units	Limits
Dimensions	180x90x25 [7.09x3.54x0.98]	mm [inch]	Maximum
Weight	2 [4.4]	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	-20		60	°C	
Non-operating Temperature	-25		65	°C	Storage
Relative Humidity (non-condensing)			95	%	

Absolute Maximum Rating

Input RF drive level without damage	+10 dBm (Max)
Load VSWR @ POUT =50W	∞ @ 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 Wireless Technology Co., Ltd.

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Specifications subject to change without notice

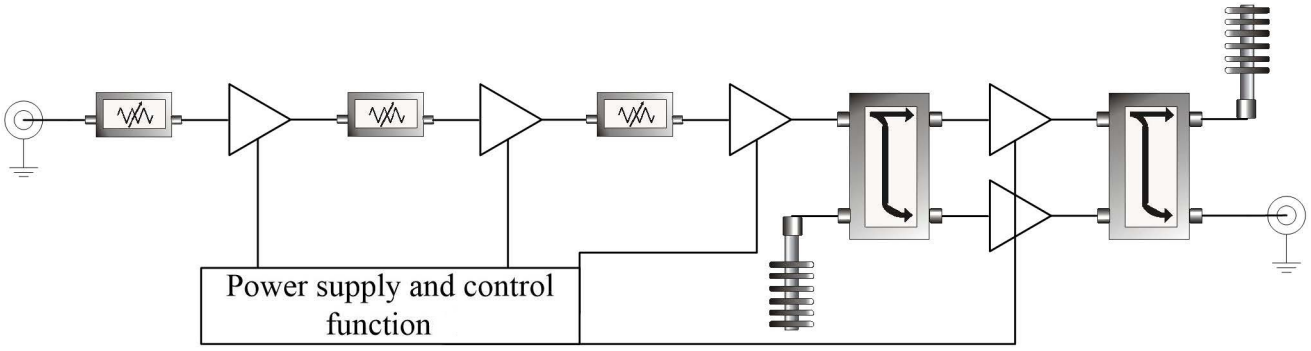
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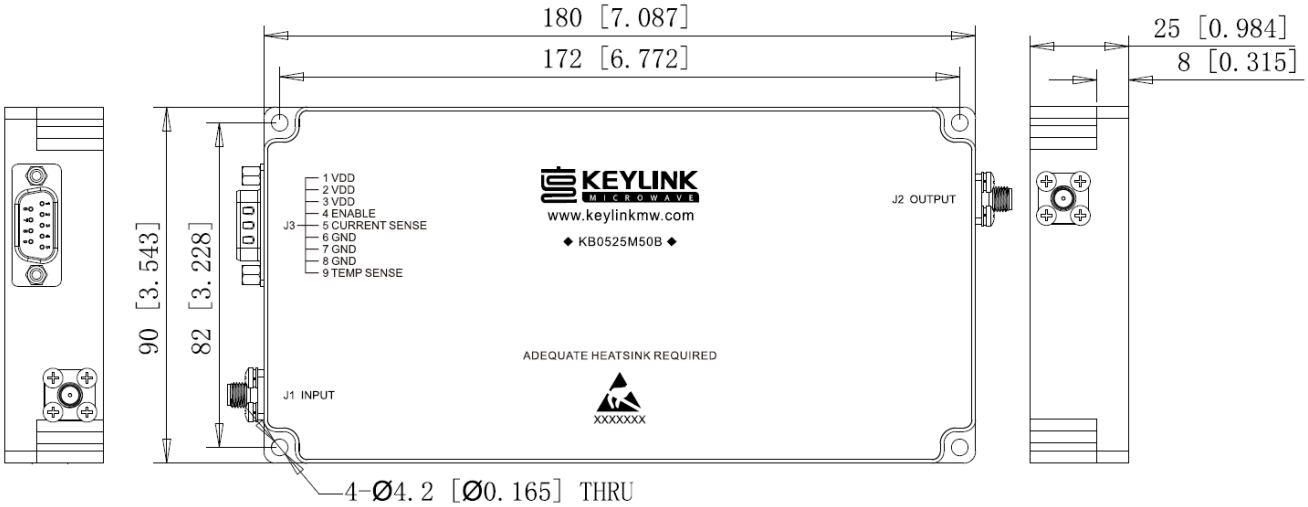
DC INTERFACE CONNECTOR

Pin #	Description	Specifications
1	VDD	28V_{DC}
2	VDD	28V_{DC}
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	GND	Ground
7	GND	Ground
8	GND	Ground
9	TEMP SENSE	Analog voltage relative to Module's Temperature @ 10 mV/°C

Functional Diagram



OUTLINE DRAWING (All dimensions in mm [inch])



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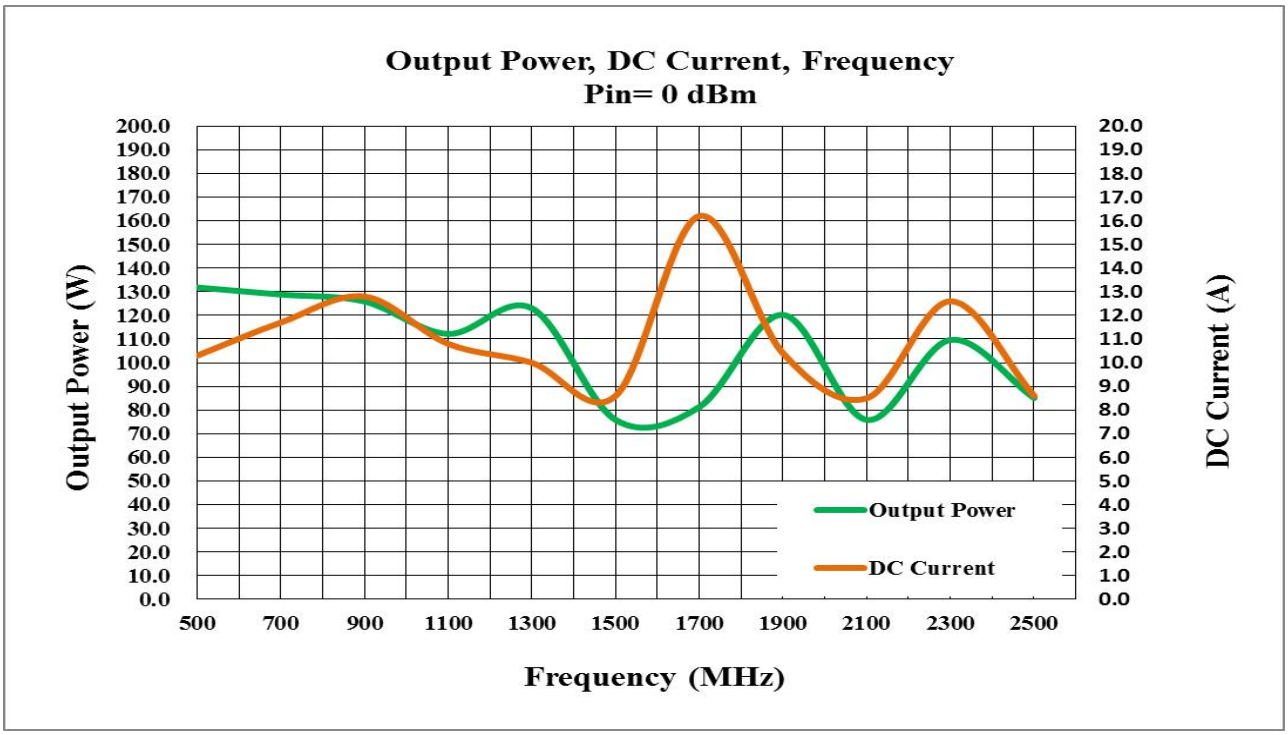
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TYPICAL PERFORMANCE PLOTS (For reference only)



Note: Adequate heatsink required.

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