

Narrowband High Power Amplifier Module (SSPA)

REV.3.0_2024.04.12

2400-2500MHz/100Watt/Module

Model Number: KN2450M50B

The model KN2450M50A is a narrowband high-power amplifier operating between 2.4GHz and 2.5GHz with 100Watts 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 narrowband high-power RF and linear applications.

FEATURES:

- Narrowband & High power
- High Efficiency
- Small Size & Light Weight
- Low Distortion
- 50 Ohms input and output matched

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

Parameter	Symbol	Min	Typ	Max	Units
Operating Frequency	BW	2.4		2.5	GHz
RF Output Saturated Power	PSAT		100		Watt
Power Gain	Gp		50		dB
Power Gain Flatness	Δ Gp		± 1.5		dB
Input Return Loss	S11			-10	dB
Harmonics @60W	H		-15		dBc
Spurious Signals	Spur		-60		dBc
Switch On/Off@10-90% Time	TON/OFF		2		μ s
In/Output Impedance	Impedance		50		Ω
Operating Voltage	VDC	24	28	32	Volt
DC Current @100W	IDD		10		Amp

MECHANICAL SPECIFICATIONS

Parameter	Value	Units	Notes
Dimensions	180x90x25 [7.09x3.54x0.98]	mm [inch]	Maximum
Weight	2.0 [4.4]	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	-20		60	°C	
Non-operating Temperature	-40		65	°C	Storage
Relative Humidity (non-condensing)			95	%	

ABSOLUTE MAXIMUM RATING

Input RF drive level without damage	+5 dBm (Max)
Load VSWR @ POUT =40W	∞ @ 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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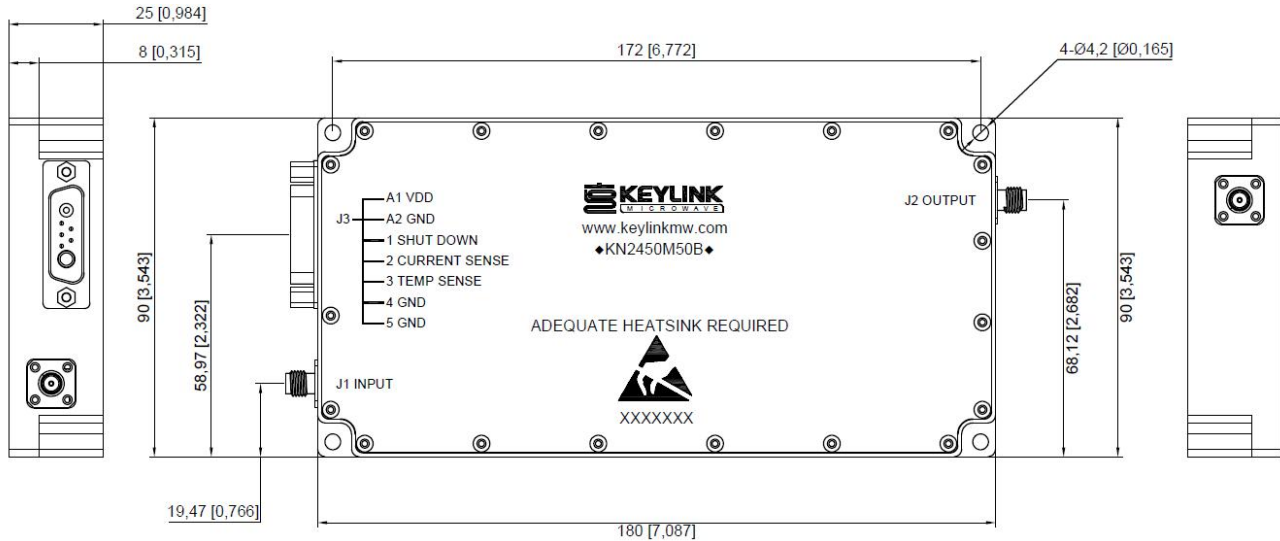
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DC INTERFACE CONNECTOR

Pin #	Description	Specifications
A1	VDD	28V _{DC}
A2	GND	Ground
1	SHUTDOWN	Amplifier Disable: TTL Logic High (3.3V) (Internally Pulled-Low)
2	CURRENT SENSE	Analog voltage relative to I _{DD} @ 100mV per Ampere
3	TEMP SENSE	Analog voltage relative to Module's Temperature @ 10 mV/°C
4	GND	Ground
5	GND	Ground

OUTLINE DRAWING (All dimensions in mm [inch])



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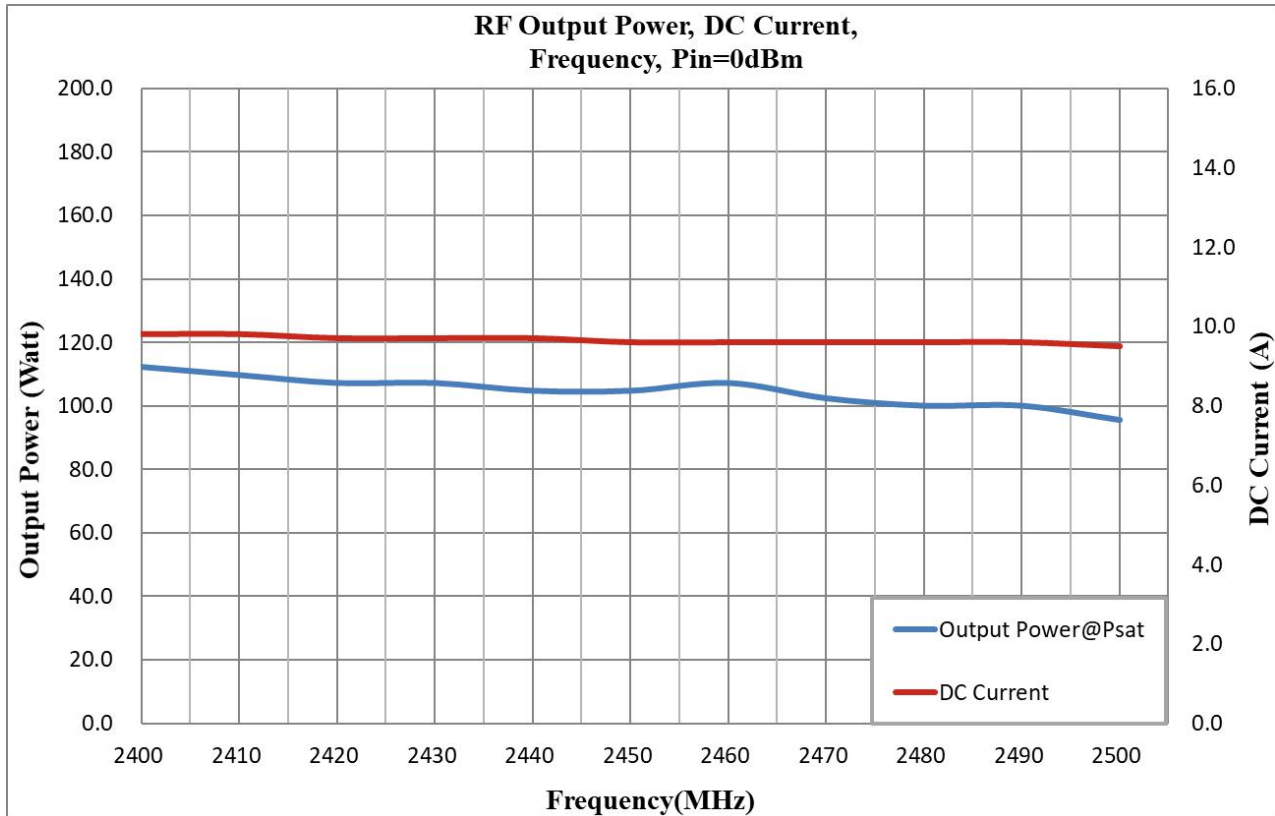
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TYPICAL PERFORMANCE PLOTS



Note: Adequate heatsink required.

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