KEYLINK MICROWAVE

Broadband High Power Amplifier Module (SSPA)

REV.3.0_2024.12.05

20-1000MHz/80Watt/Module

Model Number: KB00210M49A

The model KB00210M49A is a high power amplifier operating between 20MHz and 1000MHz and offering a wide dynamic range with 80 watts typical saturated power. The employment of LDMOS 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

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

Parameter	Symbol	Minimum	Typical	Maximum	Units
Operating Frequency	BW	20		1000	MHz
RF Output Power@P_{IN}=0dBm	P_{SAT}	60	80		Watt
Power Gain	Gp		49		dB
Power Gain Flatness	Δ Gp		±2		dB
Input Return Loss	S_{11}			-10	dB
Harmonics @50W	H		-10		dBc
Spurious Signals	Spur		-55		dBc
In/Output Impedance			50		Ω
Operating Voltage	V_{DC}	24	28	32	Volt
DC Current @80W	I_{DD}		11	12.5	Amp
Efficiency @80W	η		25		%

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 (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	Maximum
Load VSWR @ P_{OUT} =30W	∞ @ all load phase & amplitude for duration of 1 minute; 3:1 @ all load phase & amplitude continuous	
Thermal Overload	85°C ±5°C shutdown	Maximum

Focus on Your Application

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Specifications subject to change without notice

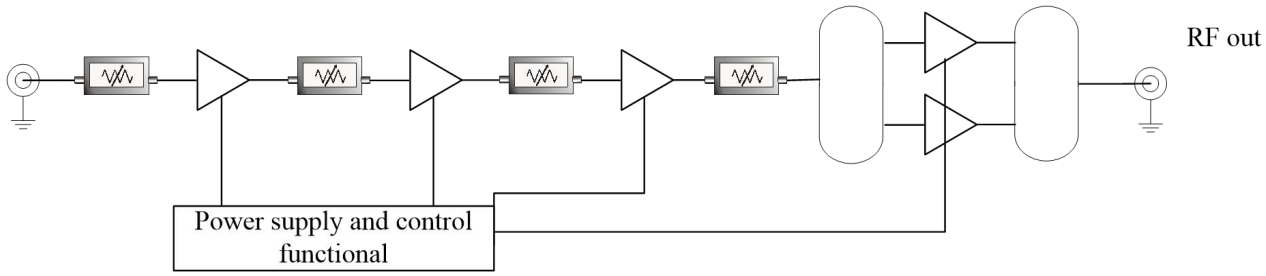
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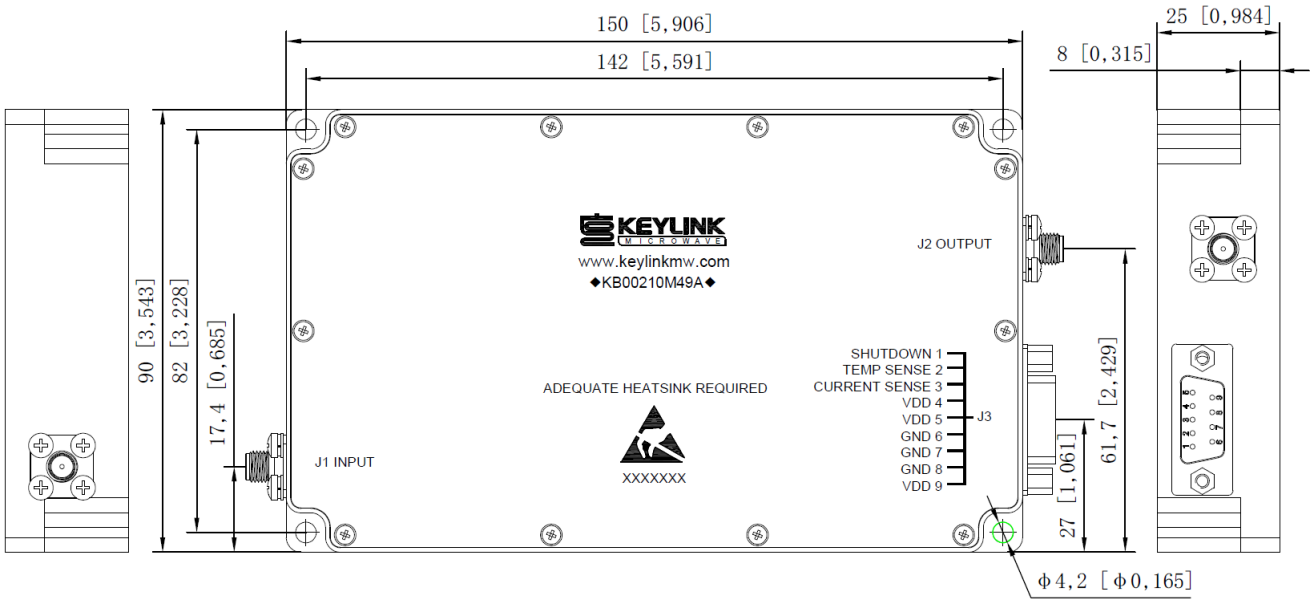
DC INTERFACE CONNECTOR

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

Functional Diagram



OUTLINE DRAWING (All dimensions in mm [inch])



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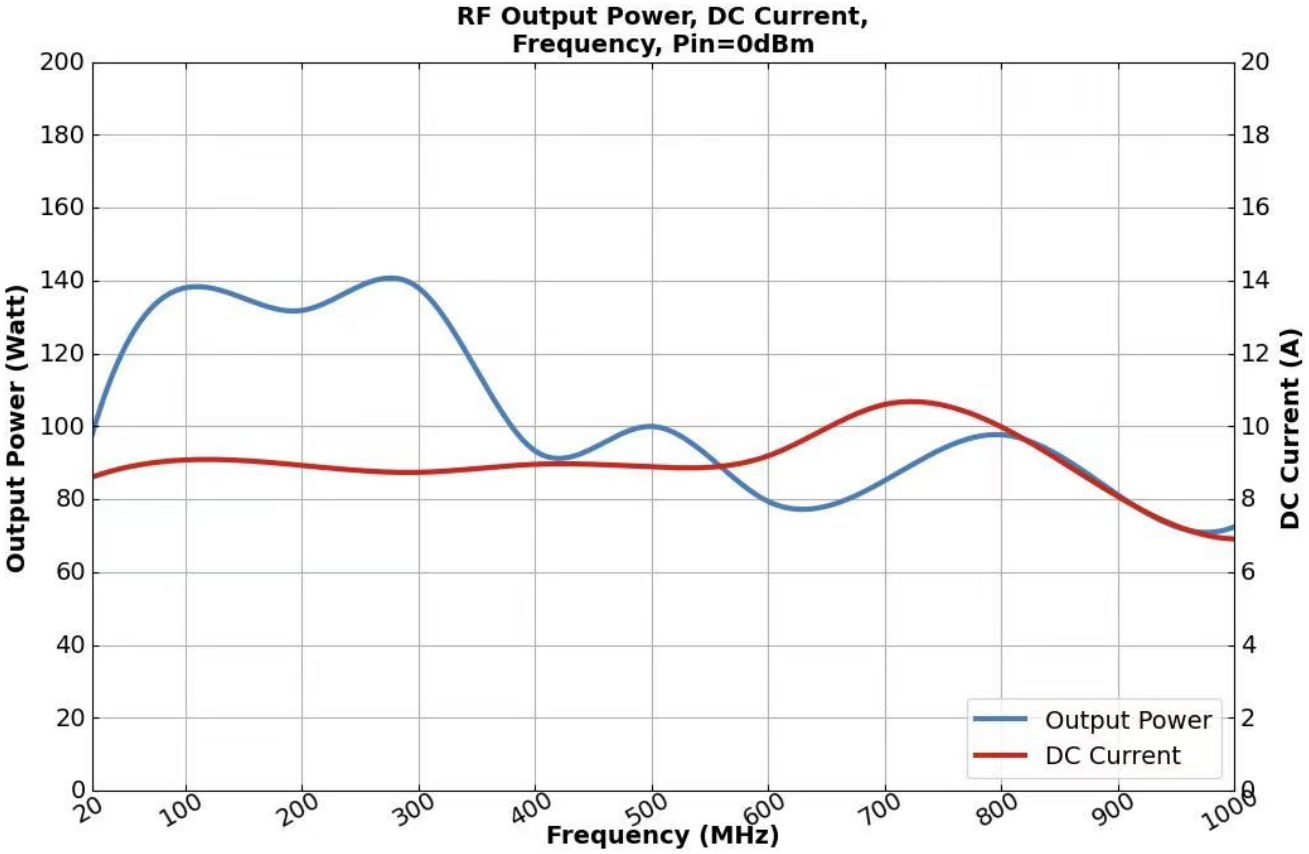
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TYPICAL PERFORMANCE PLOTS (FOR REFERENCE ONLY)



Note: Adequate heat sink required.

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