KEYLINK MICROWAVE

Narrowband High Power Amplifier Module (SSPA)

Version.1.0_2024.06.17

800-1000MHz/200Watt/Module

Model Number: KN900M53AC1

The model KN900M53AC1 is a narrow-band high power amplifier operating between 800 MHz and 1000 MHz with 200 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 broadband high power RF UHF linear applications.

FEATURES:

- Small Size and Light Weight
- Narrowband and High Power
- 50 Ohms Input and Output Matched
- Built-in Control and Protection Circuits
- CLASS AB

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

Parameter	Symbol	Min	Typ	Max	Units
Operating Frequency	BW	800		1000	MHz
RF Output Power**@Pin=25dBm**	Pout		200		Watt
Peak Output Power@920MHz	Pout	200			Watt
Power Gain	Gp		28		dB
Power Gain Flatness	ΔGp		±1		dB
Input Return Loss	S_{11}			-10	dB
Harmonics @100W	H		-15		dBc
Spurious Signals	Spur		-60		dBc
Switch On/Off@10-90% Time	$T_{ON/OFF}$		2	5	μs
In/Output Impedance	Impedance		50		Ω
Operating Voltage	VDC	26	28	30	Volt
DC Current @200W	IDD		25		Amp
Efficiency @200W	η		30		%

MECHANICAL SPECIFICATIONS

Parameter	Value	Units	Notes
Dimensions	200x150x25 [7.87x5.91x0.98]	mm [inch]	Maximum
Weight	2[4.4]	kg [lbs]	Maximum
RF Connector Input	SMA, Female		
RF Connector Output	N, 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		65	°C	Storage
Relative Humidity（non-condensing）			95	%	

ABSOLUTE MAXIMUM RATING

Input RF drive level without damage	**+27** dBm (Max)
Load VSWR @ P_{OUT} =100W	∞ @ 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

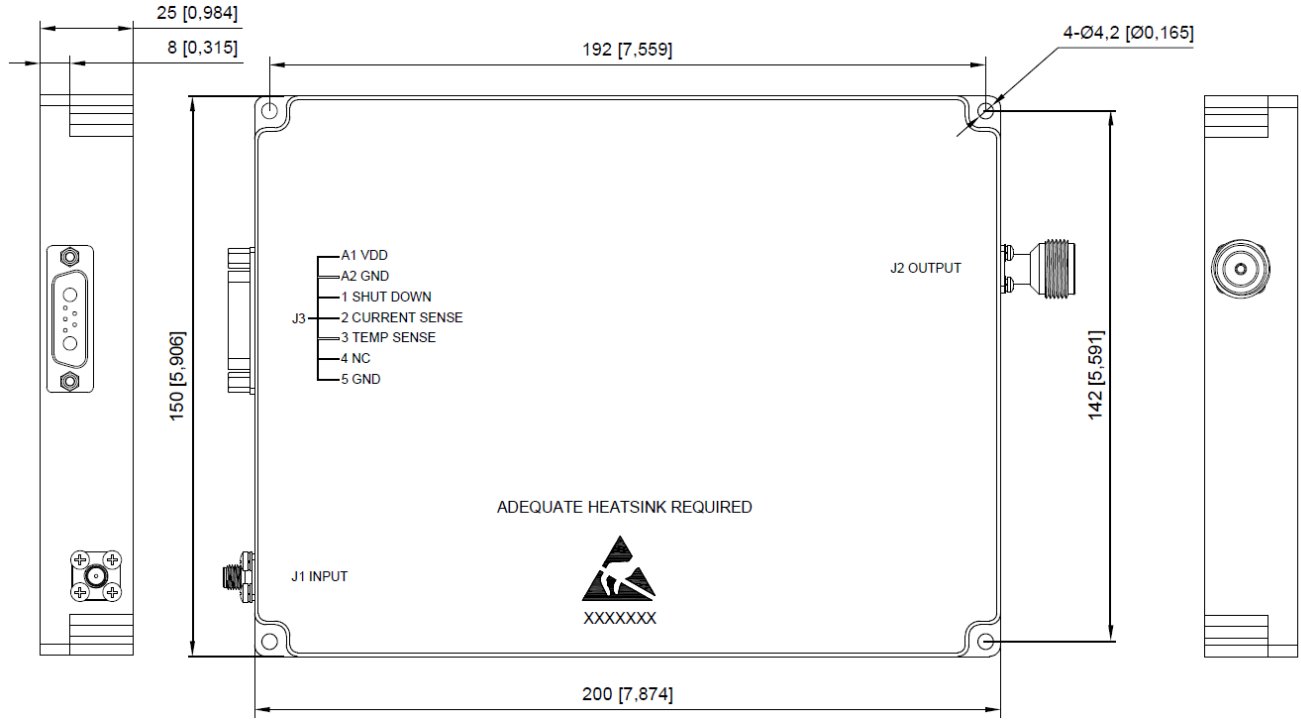
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DC INTERFACE CONNECTOR

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

OUTLINE DRAWING (All dimensions in mm [inch])



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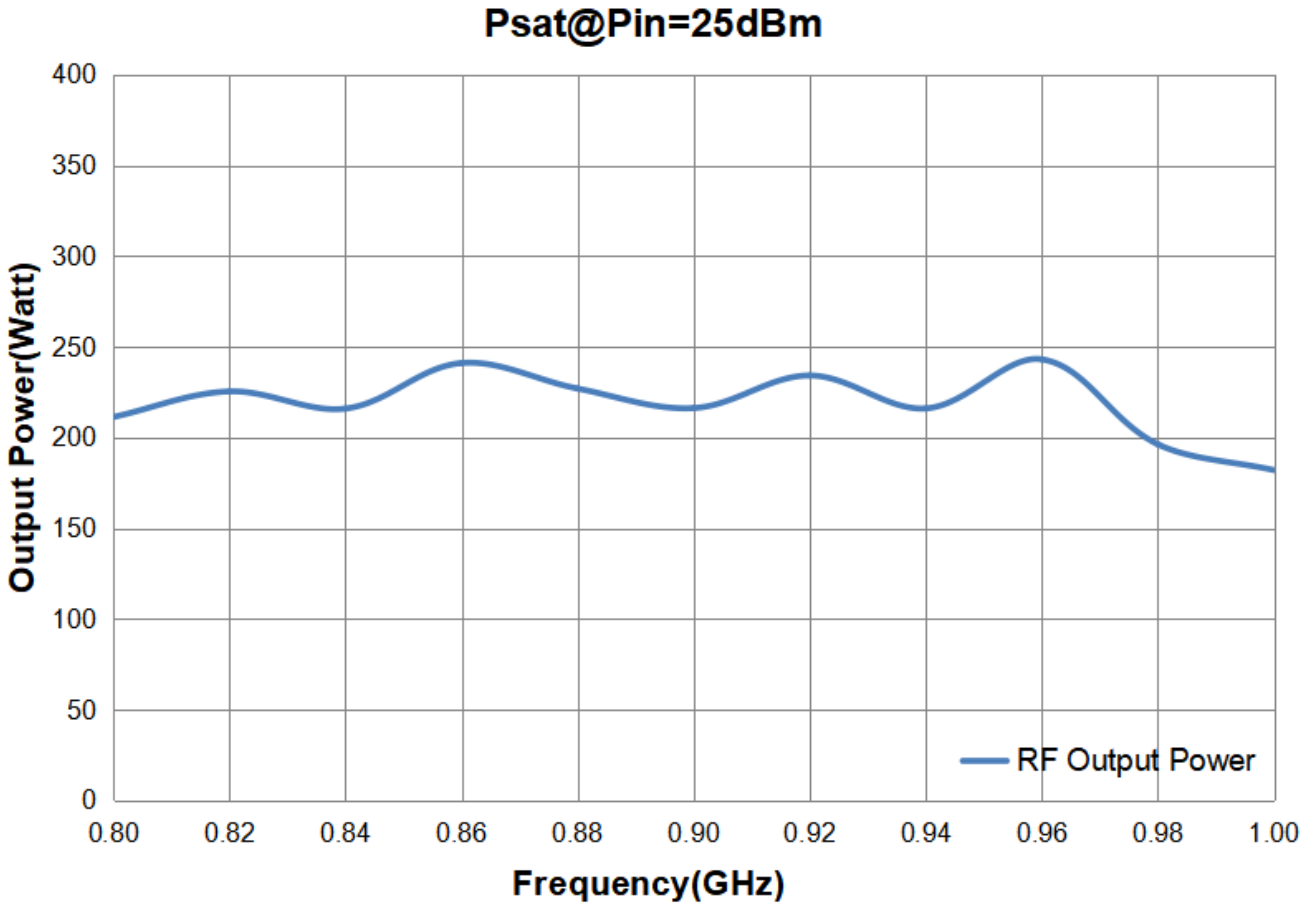
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TYPICAL PERFORMANCE PLOTS (For reference only)



Note: Adequate heatsink required.

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