

Narrowband High Power Amplifier Module (SSPA)

REV.3.0_2024.02.26

850-930MHz/100Watt/Module

Model Number: KN890M50A

The model KN890M50A is a narrowband high-power amplifier operating between 850MHz and 930MHz with 100 Watts typical saturated power. The employment of 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:

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

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

Parameter	Symbol	Min	Typ	Max	Units
Operating Frequency	BW	850		930	MHz
RF Output Power @P _{SAT}	P _{SAT}		100		Watt
Power Gain	Gp		50		dB
Power Gain Flatness	Δ Gp		±1		dB
Input Return Loss	S ₁₁			-10	dB
Harmonics @60W	H		-15		dBc
Spurious Signals	Spur		-60		dBc
In/Output Impedance	Impedance		50		Ω
Operating Voltage	V _{DC}	26	28	30	Volt
DC Current @100W	I _{DD}		10		Amp

MECHANICAL SPECIFICATIONS

Parameter	Value	Units	Notes
Dimensions	180x90x25 [7.08x3.54x0.98]	mm [inch]	Maximum
Weight	1.0 [2.2]	kg [lbs]	Maximum
RF Connector Input	SMA, Female		
RF Connector 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)	5		95	%	

ABSOLUTE MAXIMUM RATING

Input RF drive level without damage	+5 dBm(MAX)
Load VSWR @ POUT =30W	∞ @ 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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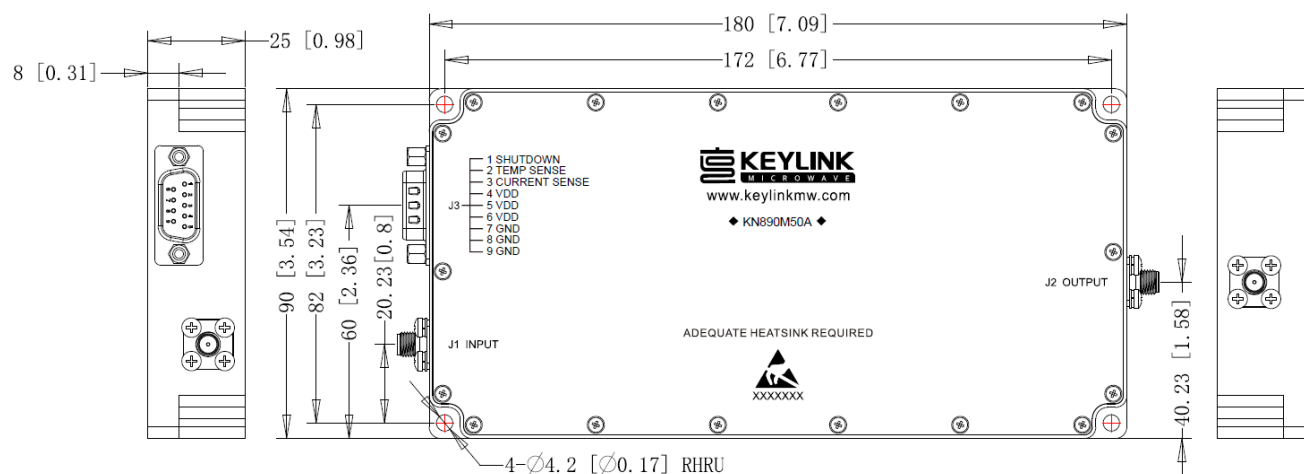
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DC INTERFACE CONNECTOR

Pin #	Description	Specifications
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 IDD @ 100mV per Ampere
4	VDD	+28.0VDC
5	VDD	+28.0VDC
6	VDD	+28.0VDC
7	GND	Ground
8	GND	Ground
9	GND	Ground

OUTLINE DRAWING (All dimensions in mm [inch])



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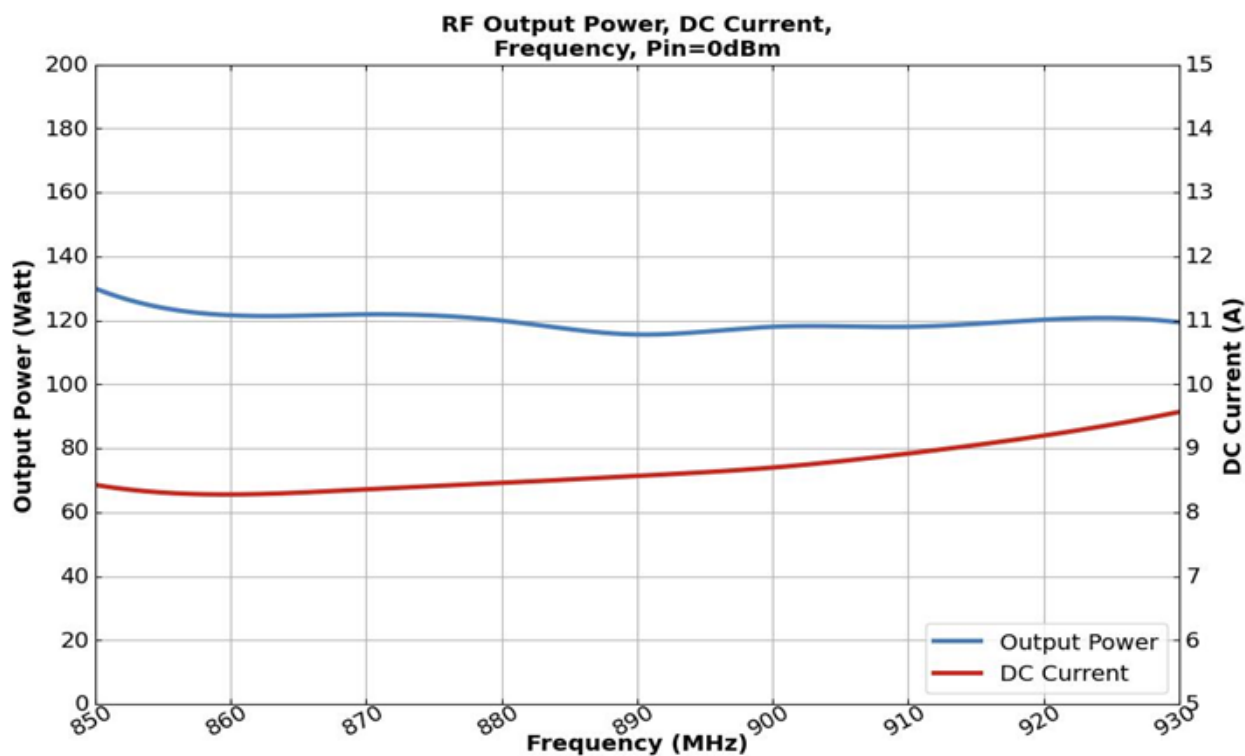
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TYPICAL PERFORMANCE PLOTS (FOR REFERENCE ONLY)



Note: Adequate heatsink required.

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