

2000-4000MHz/100Watt/Module

Model Number: KB2040M50AC1

The model KB2040M50AC1 is a multi-octave high power amplifier operating between 2000 MHz and 4000 MHz and offering a wide dynamic range with 100 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 multi-octave broadband high power S Band applications.

FEATURES:

- Broadband & High Power
- High Efficiency
- Small Size & Light Weight
- Built-In Control and Protection Circuits

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

Parameter	Symbol	Min	Typ	Max	Units
Operating Frequency	BW	2000		4000	MHz
RF Output Power@Pin=0dBm	Psat		100		Watt
Power Gain	Gp		50		dB
Power Gain Flatness	ΔGp		±2		dB
Input Return Loss	S11			-10	dB
Harmonics @80W	H		-15		dBc
Spurious Signals	Spur		-60		dBc
Switch On/Off@10-90% Time,1KHz	T _{ON/OFF}		2	5	μs
In/Output Impedance	Impedance		50		Ω
Operating Voltage	V _{DC}	24	28	32	Volt
DC Current @100W	I _{DD}		15		Amp

MECHANICAL SPECIFICATIONS

Parameter	Value	Units	Notes
Dimensions	200x150x25 [7.87x5.91x0.98]	mm [inch]	Maximum
Weight	2.4 [5.29]	kg [lbs]	Maximum
RF Connector Input	SMA, Female		
RF Connector Output	N, Female		
DC Interface Connector	J29A-21ZKP, 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		85	°C	Storage
Relative Humidity (non-condensing)			95	%	

ABSOLUTE MAXIMUM RATING

Input RF drive level without damage	+10 dBm (Max)
Load VSWR@P _{OUT} =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

Broadband High Power Amplifier Module (SSPA)

Version.1.0_2025.05.09

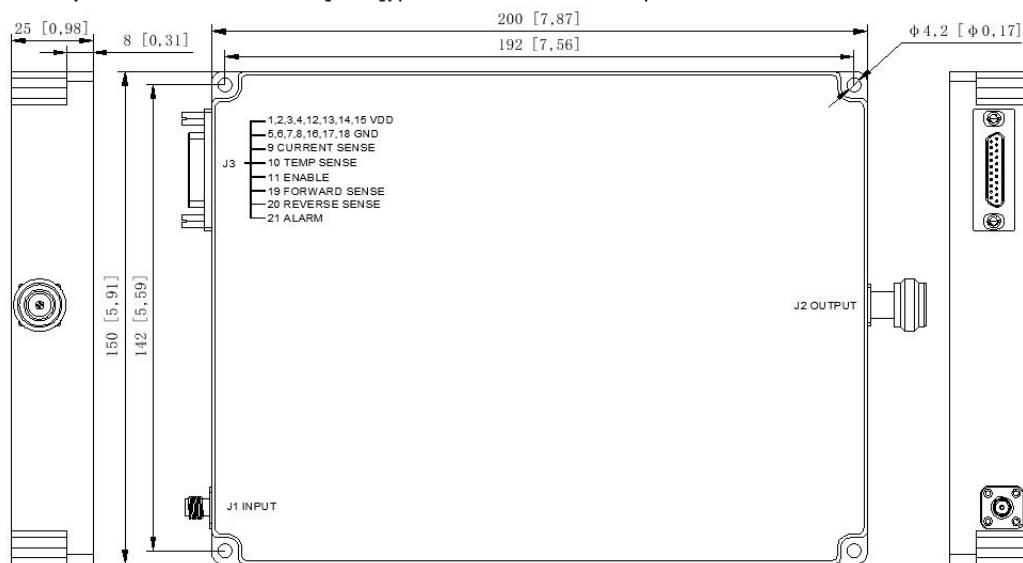
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DC INTERFACE CONNECTOR

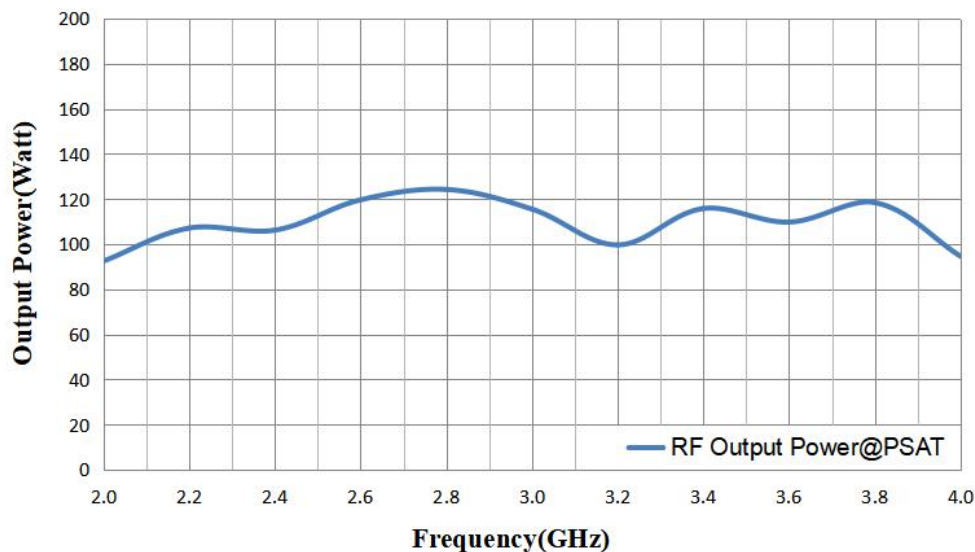
Pin #	Description	Specifications
1,2,3,4,12,13,14,15	VDD	28V
5,6,7,8,16,17,18	GND	GND
9	CURRENT SENSE	Analog voltage relative to IDD @ 100mV per Ampere
10	TEMP SENSE	Analog voltage relative to Module's Temperature @ 0.5V+10 mV/°C
11	ENABLE	Amplifier Enable: TTL Logic High (3.3V-5V) (Internally Pulled-Low)
19	FORWARD SENSE	Analog voltage relative to forward power level
20	REVERSE SENSE	Analog voltage relative to reflected power level
21	ALARM	Amplifier Alarm indicator: Normally TTL Low

OUTLINE DRAWING (All dimensions in mm [inch])(FOR REFERENCE ONLY)



TYPICAL PERFORMANCE PLOTS (FOR REFERENCE ONLY)

Psat@Pin=0dBm



Note: Adequate heatsink required.

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