

Broadband High Power Amplifier Module (SSPA)

REV. 3.0_2024.04.11

500-2000MHz/20Watt/Module

Model Number: KB0520M43A

The model KB0520M43A is a multi-octave high power amplifier operating between 500 MHz and 2000 MHz and offering a wide dynamic Range with 20 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 mobile Jamming and band specific high power linear applications in the P/L/S frequency bands.

FEATURES:

- Solid-state Class AB Linear Design
- Instantaneous Ultra-broadband
- Small Size and Light Weight
- Suitable for CW, AM, and FM, etc.
- 50 Ohm Input/Output Impedance
- High Reliability and Ruggedness
- Built-in Control, Monitoring and Protection Circuits

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

Parameter	Symbol	Min	Typ	Max	Units
Operating Frequency	BW	500		2000	MHz
Output Power CW	P _{SAT}		20		Watt
Power Gain	G _P		43		dB
Power Gain Flatness	ΔG _P		±2		dB
Harmonics @ POUT = 10W	H		-15		dBc
Spurious Signals	Spur		-60		dBc
Input Return Loss	S ₁₁			-10	dB
Operating Voltage	V _{DC}	24	28	32	Volt
Current Consumption @ POUT = 20W	I _{DD}		4		Amp
Current Consumption @ Shutdown	I _{SD}		0.1		Amp
Switching Speed	TON/OFF			2	μs
RF Input to Output Isolation(During OFF State)	Isolation		85		dBc
In/Output Impedance	Impedance		50		Ω

MECHANICAL SPECIFICATIONS

Parameter	Value	Units	Notes
Dimensions	140×85×25 [5.51×3.35×0.98]	mm [inch]	Max
Weight	0.65 [1.4]	kg [lbs]	Max
RF Connectors Input	SMA, Female		
RF Connectors 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	-30		75	°C	Storage
Relative Humidity (non-condensing)			95	%	

Absolute Maximum Rating

Input RF drive level without damage	+10 dBm (Max)
Load VSWR @ POUT =10W	∞ @ 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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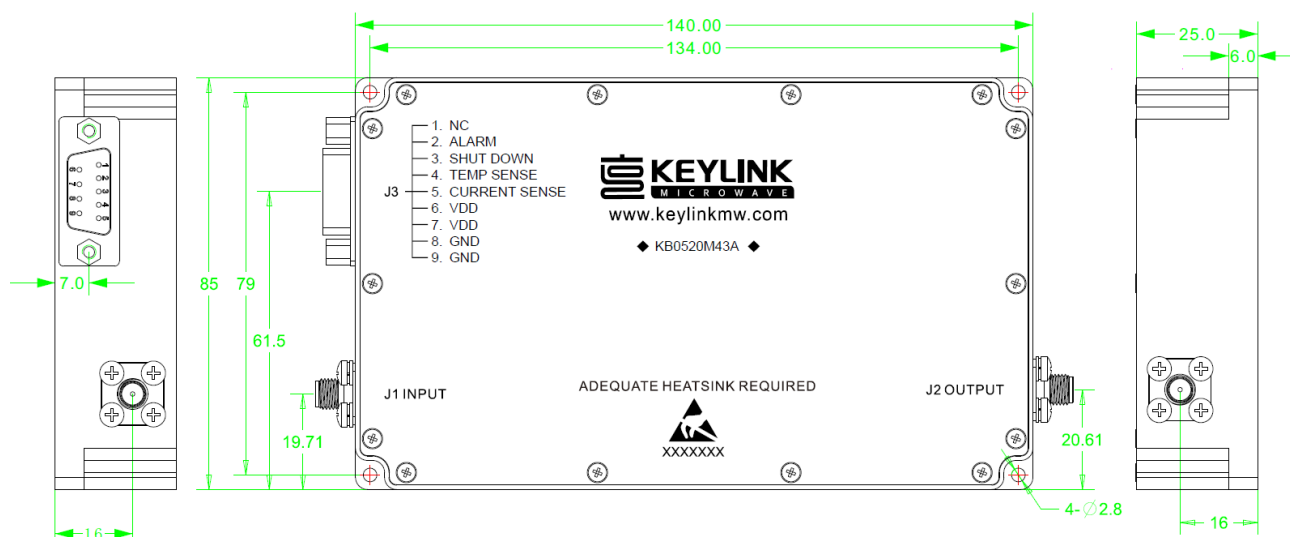
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DC INTERFACE CONNECTOR

Pin #	Description	Specifications
1	NC	No electrical connection
2	Alarm	Amplifier Alarm indicator: Normally TTL Low
3	Shutdown	Amplifier Disable: TTL Logic High (3.3V) (Internally Pulled-Low)
4	Temperature Sense	Analog voltage relative to Module's Temperature @ 10 mV/°C
5	Current Sense	Analog voltage relative to IDD @ 100mV per Ampere
6	VDD	28VDC
7	VDD	28VDC
8	GND	Ground
9	GND	Ground

OUTLINE DRAWING (All dimensions in mm)



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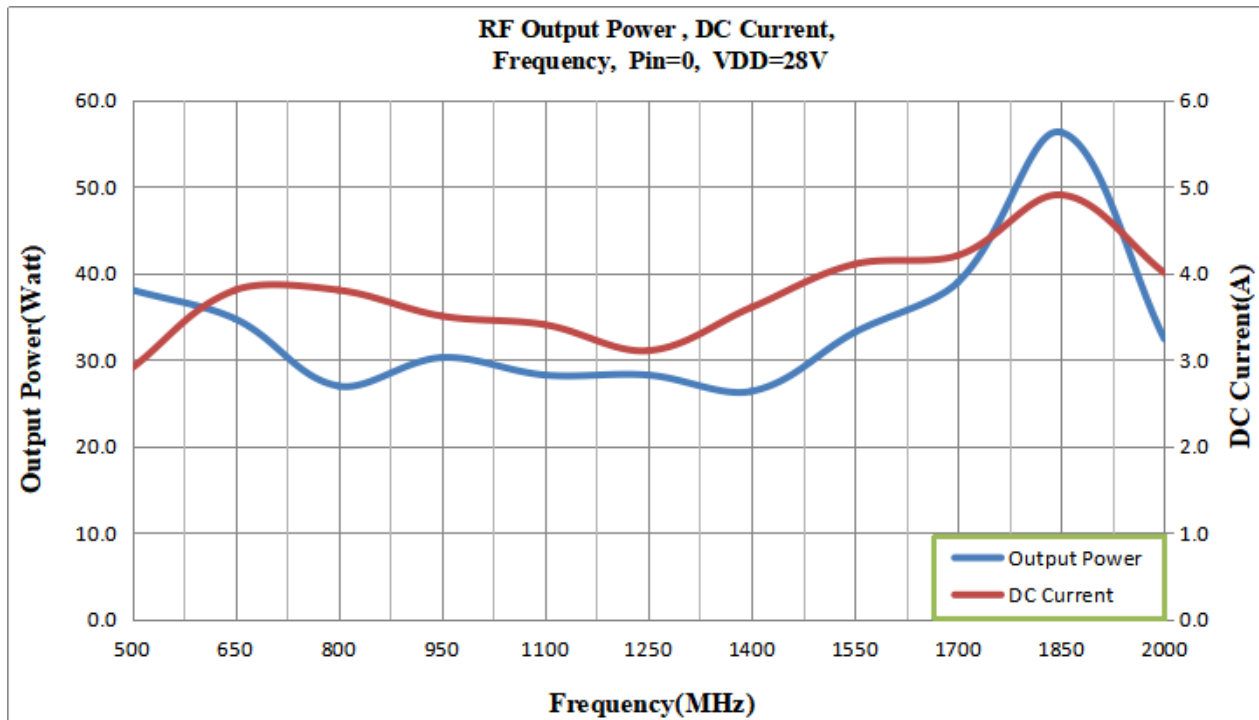
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TYPICAL PERFORMANCE PLOTS (For Reference Only)



Note: Adequate heatsink required.

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