

Solid State Broadband High Power Amplifier

1124 - BBM2E4AFL
20 – 1000 MHz / 30 Watts

The BBM2E4AFL (SKU 1124) is suitable for ultra broadband or band specific high power applications. This amplifier utilizes Silicon RF Power GaN devices that provide high gain, wide dynamic range, low distortions and good linearity. Exceptional performance, long term reliability and high efficiency are achieved by employing advanced broadband RF matching networks and combining techniques, EMI/RFI filters, machined housings and qualified components. Empower RF's ISO9001 Quality Assurance Program assures consistent performance and the highest reliability.



- Solid-state Class AB design
- Instantaneous ultra broadband
- Small form factor and lightweight
- Suitable for CW, AM, and FM (Consult factory for other modulation types)
- 50 ohm input/output impedance
- High reliability and ruggedness
- Built-in control, monitoring & protection circuits

ELECTRICAL SPECIFICATIONS @ +28V_{DC}, 25°C, 50Ω System

Parameter	Symbol	Min	Typ	Max	Unit
Operating Frequency	BW	20		1000	MHz
Output Power CW	P _{SAT}	25	30		Watt
Output Power @ 1dB Gain Compression	P _{1dB}		20		Watt
Power Gain @ 1dB Gain Compression	G _{1dB}	44			dB
Input Power for Rated P _{SAT}	P _{IN}		0	3	dBm
Small Signal Gain Flatness	ΔG		±1.5	±2.0	dB
Input Return Loss	S ₁₁			-10	dB
Noise Figure	NF			10	dB
Third Order Intercept Point 2-Tone @ 33dBm/Tone, 100kHz Spacing	IP3		+52		dBm
Harmonics @ P _{OUT} = 20W	H		-20		dBc
Spurious Signals	Spur			-60	dBc
Operating Voltage	V _{DC}	26	28	30	Volt
Current Consumption @ P _{OUT} = 25W	I _{DD}			3.8	Amp

MECHANICAL SPECIFICATIONS

Parameter	Value	Unit
Dimension	6.4 x 3.4 x 1.1	Inch
Weight	1.0	Pound
RF Connectors Input/Output	Type-SMA, Female	
DC Interface Connector	D-sub 9-pin, Male	
Cooling	External Heatsink (not supplied)	

ENVIRONMENTAL CHARACTERISTICS (Design to Meet)

Parameter	Symbol	Min	Typ	Max	Unit
Operating Case Temperature	T _C	0		+75	°C
Non-operating Temperature	T _{STG}	-40		+85	°C
Relative Humidity (non-condensing)	RH			95	%
Altitude (MIL-STD-810F Method 500.4)	ALT			30,000	Feet
Vibration/Shock MIL-STD-810F Method 514.5/516.5 – Proc I	VI/SH		Airborne		

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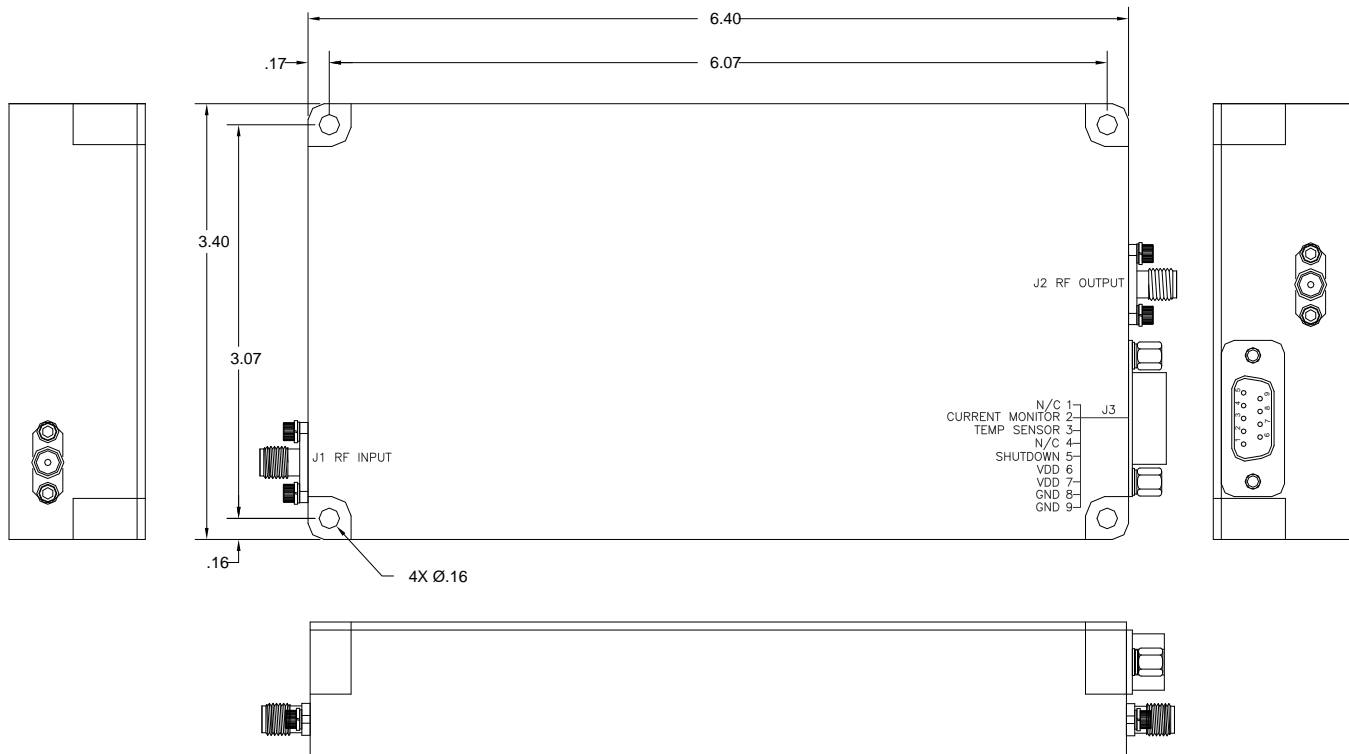
LIMITS

Input RF drive level without damage	+10 dBm	Max
Load VSWR @ P _{OUT} = 25W	∞:1 @ all load phase & amplitude for duration of 1 minute 3:1 @ all load phase & amplitude continuous	-
Thermal Overload	85°C shutdown	Max

INTERFACE CONNECTOR

Pin #	Description	Specification
1	N/C	No Connection
2	Current Monitor	Analog voltage relative to I _{DD} @ 100mV/100mA
3	Temp Sensor	Analog voltage relative to Module's Temperature @ 10mV/°C
4	N/C	No Connection
5	Shutdown	Amplifier Disable: TTL Logic High (5V) (Internally Pulled-Low)
6&7	VDD	+26.0-30.0V _{DC}
8&9	GND	Ground

OUTLINE DRAWING



Features:

- Fast switching - Mute function
- Reverse polarity protection
- Temperature protection
- Temperature indication
- Current limit protection
- Current consumption indicator

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TYPICAL PERFORMANCE PLOTS

