

8000-12000MHz/100Watt/Module

Model Number: KB80120M50A

The model KB80120M50A is a multi-octave high power amplifier based on GaN technology and operating between 8000 MHz and 12000 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 broadband high power X Band linear applications.

FEATURES:

- Broadband & High power
- High Efficiency
- Class AB
- Small Size & Light Weight
- Low Distortion

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

| Parameter | Symbol | Min | Typ | Max | Units |
|-------------------------------------|------------------|------|-----|-------|-------|
| Operating Frequency | BW | 8000 | | 12000 | MHz |
| RF Output Power | P _{out} | | 100 | | Watt |
| Power Gain | G _p | | 50 | | dB |
| Power Gain Flatness | Δ G _p | | ±3 | | dB |
| Input Return Loss | S ₁₁ | | | -10 | dB |
| Harmonics @80W | H | | -25 | | dBc |
| Spurious Signals @100W | Spur | | -55 | | dBc |
| Switch On/Off@10-90% Time @Pin=0dBm | TON/OFF | | 2 | 5 | μS |
| In/Output Impedance | Impedance | | 50 | | Ω |
| Operating Voltage | VDC | 26 | 28 | 32 | Volt |
| Power add efficiency | Eff | | 11 | | % |
| DC Current @100W | IDD | | 32 | | Amp |

MECHANICAL SPECIFICATIONS

| Parameter | Value | Units | Notes |
|------------------------|---|-----------|---------|
| Dimensions | 180x150x25 [7x5.9x1] | mm [inch] | Maximum |
| Weight | 3.5 [7.7] | kg [lbs] | Maximum |
| RF Connectors Input | SMA, Female | | |
| RF Connectors Output | N-Typ, 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 | -20 | | 50 | °C | |
| Non-operating Temperature | -25 | | 55 | °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 minutes; 3:1 @ all load phase & amplitude continuous |
| Over Temperature | 85°C @ heat sink [restored @ 60°C] |

Focus on Your Application

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Specifications subject to change without notice

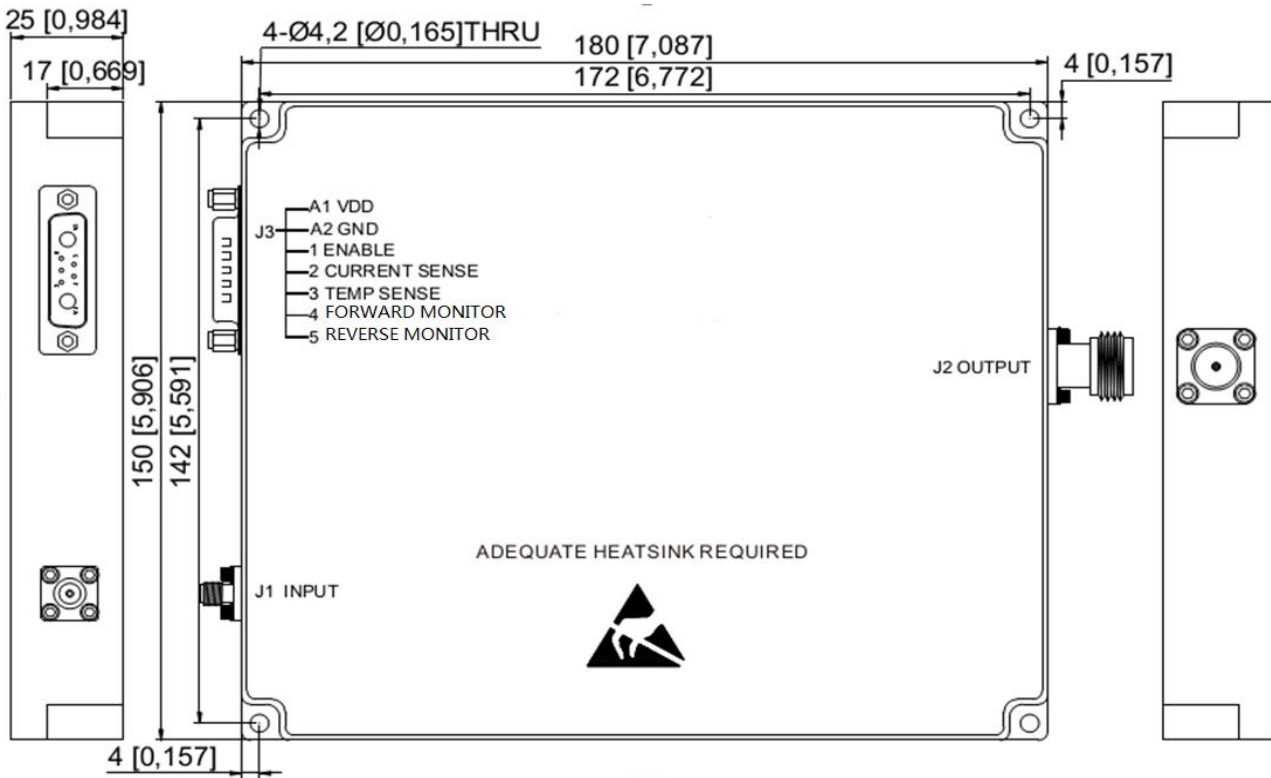
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DC INTERFACE CONNECTOR

| Pin # | Description | Specifications |
|-------|---------------|---|
| A1 | VDD | 28Vdc |
| A2 | GND | Ground |
| 1 | ENABLE | Amplifier Enable: 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 I _{DD} @ 100mV per Ampere |
| 4 | NC | No electrical connection |
| 5 | GND | Ground |

OUTLINE DRAWING (All dimensions in mm [inch])



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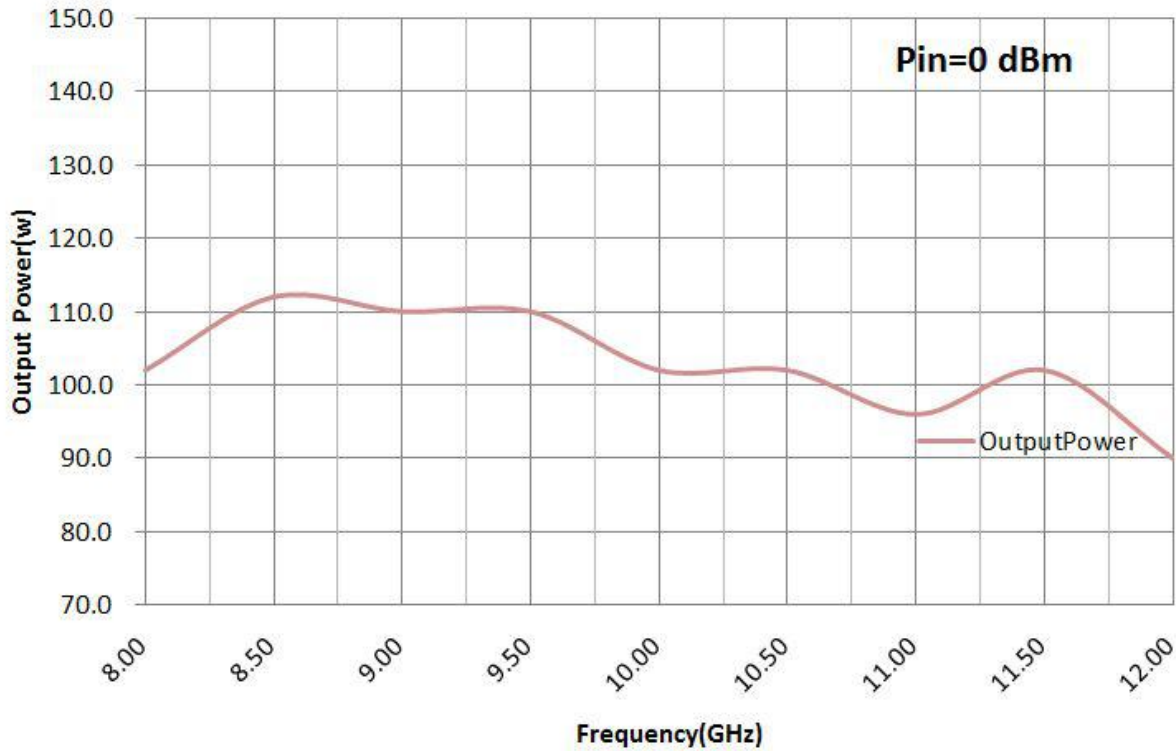
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TYPICAL PERFORMANCE PLOTS

Graph3: Output Power(Normal temp.+25±3°C)



Note: Adequate heatsink required.

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