

800-1000MHz/200Watt/Module

Model Number: KB0810M53A

The model KB0810M53A is a high power amplifier operating between 800 MHz and 1000 MHz and offering a wide dynamic Range with 200 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 RF, UHF linear applications.

FEATURES:

- Small Size and light weight;
- Instantaneous ultra broadband;
- 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 | 800 | | 1000 | MHz |
| RF Output Power@Pin=30dBm | P _{out} | | 200 | | Watt |
| Peak Output Power@920MHz | P _{out} | 200 | | | Watt |
| Power Gain | G _p | | 23 | | dB |
| Power Gain Flatness | Δ G _p | | ±1 | | dB |
| Input Return Loss | S ₁₁ | | | -10 | dB |
| Harmonics @100W | H | | -15 | | dBc |
| Spurious Signals | Spur | | -60 | | dBc |
| Switch On/Off@10-90% Time | TON/OFF | | 2 | 5 | μs |
| In/Output Impedance | Impedance | | 50 | | Ω |
| Operating Voltage | VDC | 26 | 28 | 30 | Volt |
| DC Current @200W | IDD | | 21 | | Amp |
| Efficiency @200W | η | | 30 | | % |

MECHANICAL SPECIFICATIONS

| Parameter | Value | Units | Notes |
|------------------------|---|-----------|---------|
| Dimensions | 200x150x25 [7.9x5.9x0.98] | mm [inch] | Maximum |
| Weight | 2[4.4] | kg [lbs] | Maximum |
| RF Connectors Input | SMA, Female | | |
| RF Connectors Output | N, 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 | -40 | | 60 | °C | |
| Non-operating Temperature | -45 | | 65 | °C | Storage |
| Relative Humidity | | | 95 | % | |

ABSOLUTE MAXIMUM RATING

| | |
|-------------------------------------|--|
| Input RF drive level without damage | +35 dBm (Max) |
| Load VSWR @ P _{OUT} =100W | ∞ @ all load phase & amplitude for duration of 1 minutes; 3:1 @ all load phase & amplitude continuous |
| Over Temperature | 85°C @ heatsink [restored @ 60°C] |

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Specifications subject to change without notice

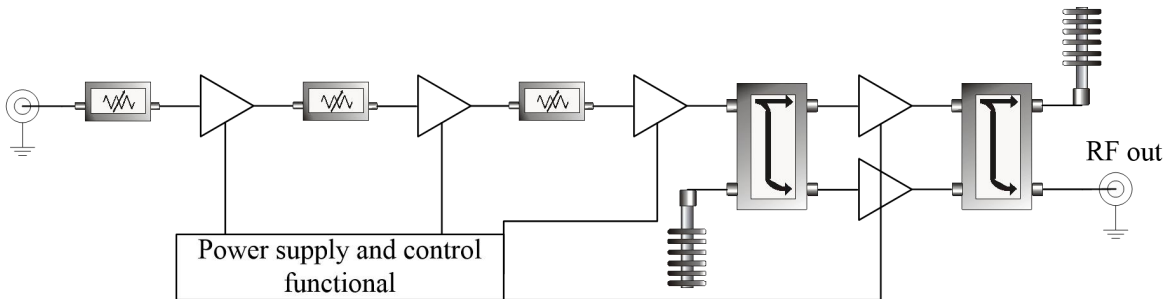
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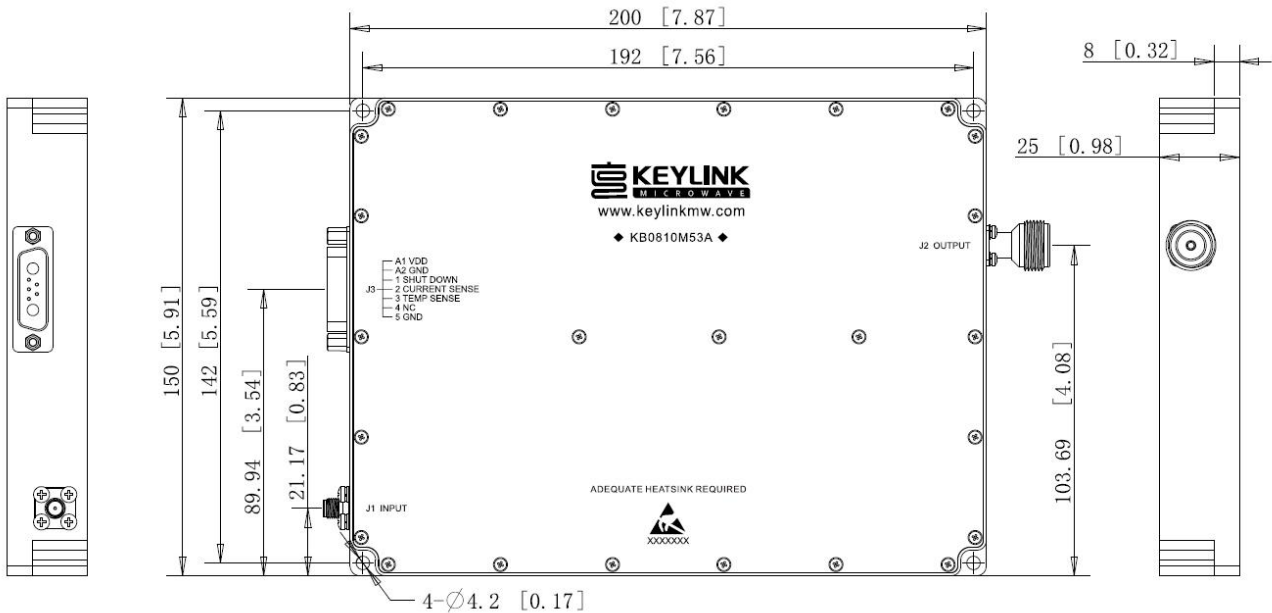
DC INTERFACE CONNECTOR

| Pin # | Description | Specifications |
|-------|---------------|--|
| A1 | VDD | 28V _{DC} |
| A2 | GND | Ground |
| 1 | SHUT DOWN | Amplifier Disable: TTL Logic High (3.3V) (Internally Pulled-Low) |
| 2 | CURRENT SENSE | Analog voltage relative to I _{DD} @ 100mV per Ampere |
| 3 | TEMP SENSE | Analog voltage relative to Module's Temperature @ 10 mV/°C |
| 4 | NC | No electrical connection |
| 5 | GND | Ground |

Functional Diagram



OUTLINE DRAWING (All dimensions in mm [inch])



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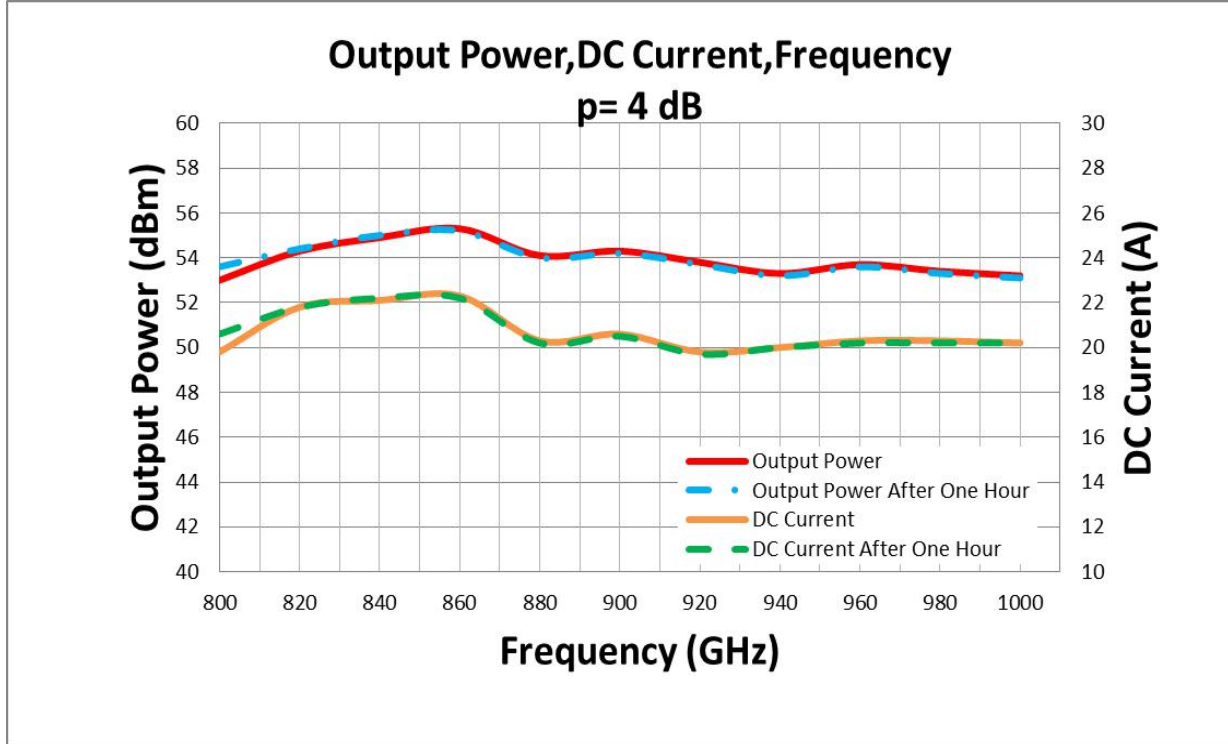
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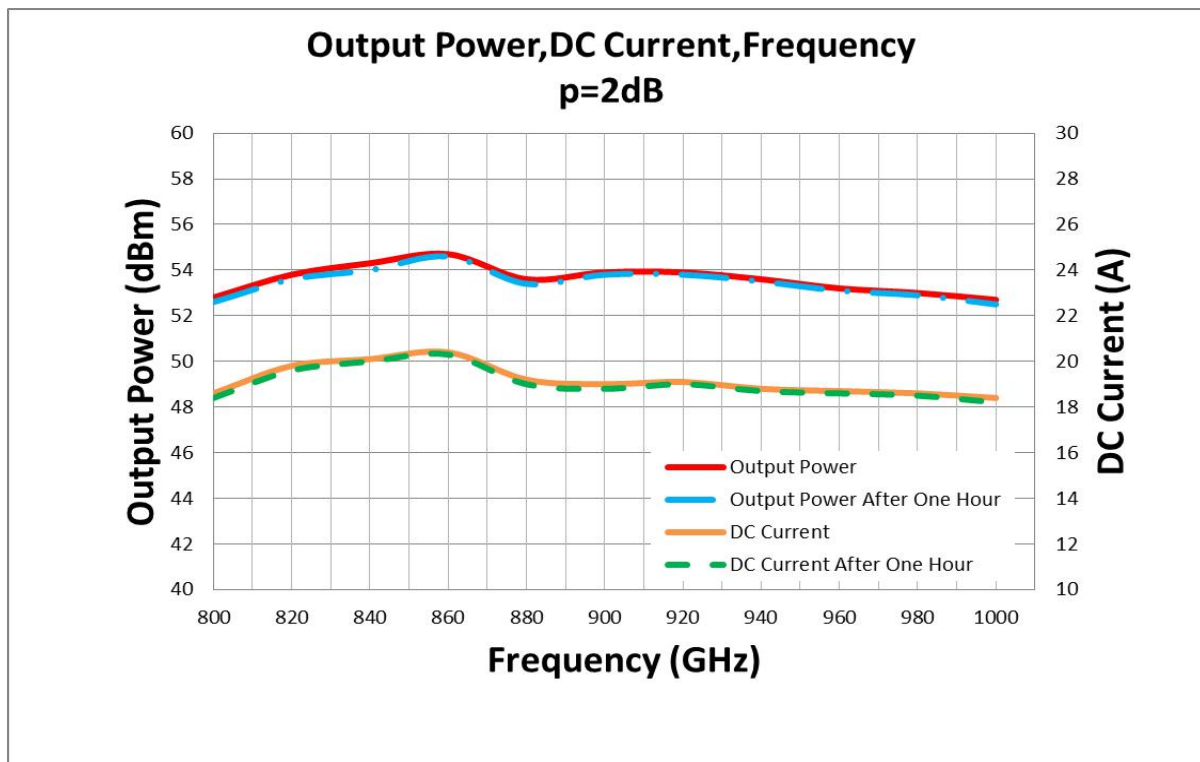
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TYPICAL PERFORMANCE PLOTS

Graph1: Output Power(Low temp.-20±3°C)



Graph2: Output Power (High temp.+60±3°C)



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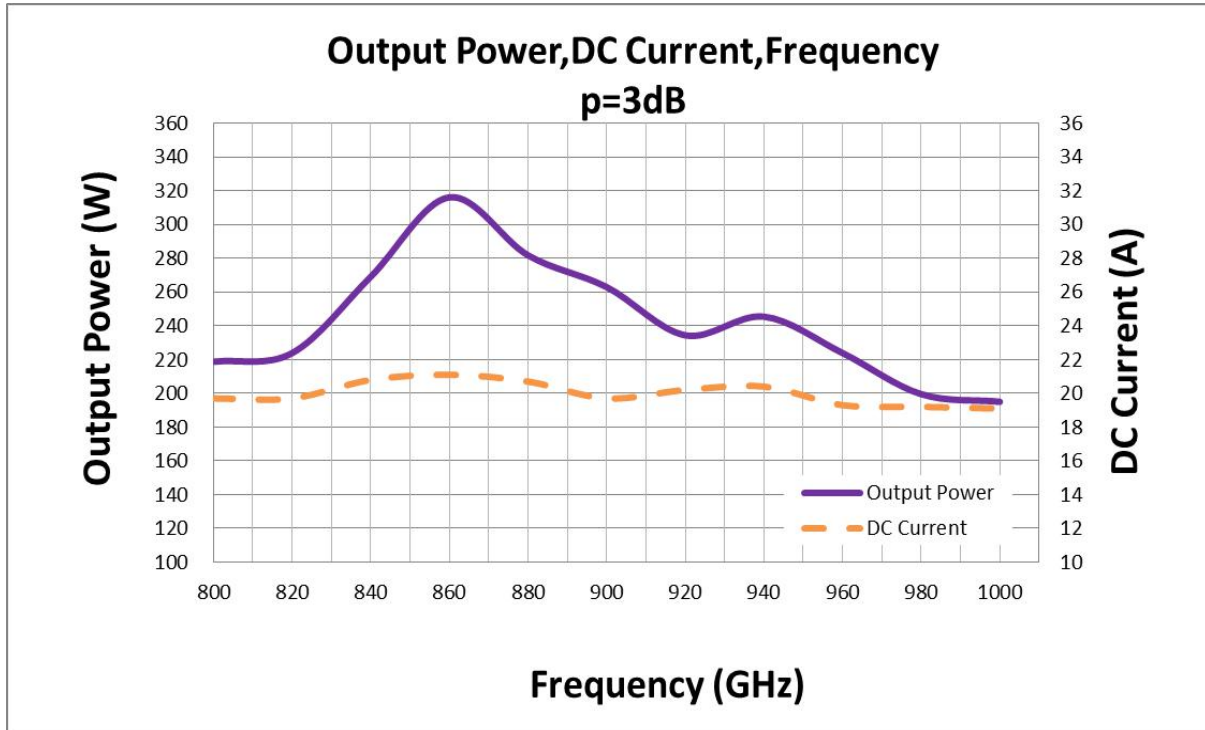
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Graph3: Output Power (Normal temp.+25±3°C)



Note: Adequate heatsink required.

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