

## 2000-4000MHz/20Watt/Module

Model Number: OC-PA2-4K20W

The model OC-PA2-4K20W is a multi-octave high power amplifier operating between 2000 MHz and 4000 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 multi octave broadband high power RF, linear applications.

### FEATURES:

- Broadband & High power;
- High Efficiency;
- Great Linearity;
- Small Size & Light Weight;
- Low Distortion

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

| Parameter                 | Symbol           | Min  | Typ  | Max  | Units |
|---------------------------|------------------|------|------|------|-------|
| Operating Frequency       | BW               | 2000 |      | 4000 | MHz   |
| RF Output Power           | P <sub>out</sub> |      | 20   |      | Watt  |
| Power Gain                | G <sub>p</sub>   |      | 43   |      | dB    |
| Power Gain Flatness       | Δ G <sub>p</sub> |      | ±2.5 |      | dB    |
| Input Return Loss         | S <sub>11</sub>  |      |      | -10  | dB    |
| Harmonics @15W            | H                |      | -15  |      | dBc   |
| Spurious Signals          | Spur             |      | -55  |      | 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 @20W           | IDD              |      | 5    |      | Amp   |

### MECHANICAL SPECIFICATIONS

| Parameter              | Value                                     | Units     | Notes   |
|------------------------|---|-----------|---------|
| Dimensions             | 150x90x25 [5.9x3.5x0.98]                  | mm [inch] | Maximum |
| Weight                 | 1.2 [2.6]                                 | kg [lbs]  | Maximum |
| 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     |         | 55      | °C    |         |
| Non-operating Temperature          | -25     |         | 60      | °C    | Storage |
| Relative Humidity (non-condensing) |         |         | 95      | %     |         |

### ABSOLUTE MAXIMUM RATING

|                                     |  |
|-------------------------------------|--|
| Input RF drive level without damage | +10 dBm (Max)  |
| Load VSWR @ P <sub>OUT</sub> =20W   | ∞ @ all load phase & amplitude for duration of 1 minutes;<br>3:1 @ all load phase & amplitude continuous |
| Over Temperature                    | 85°C @ heatsink [restored @ 60°C]  |

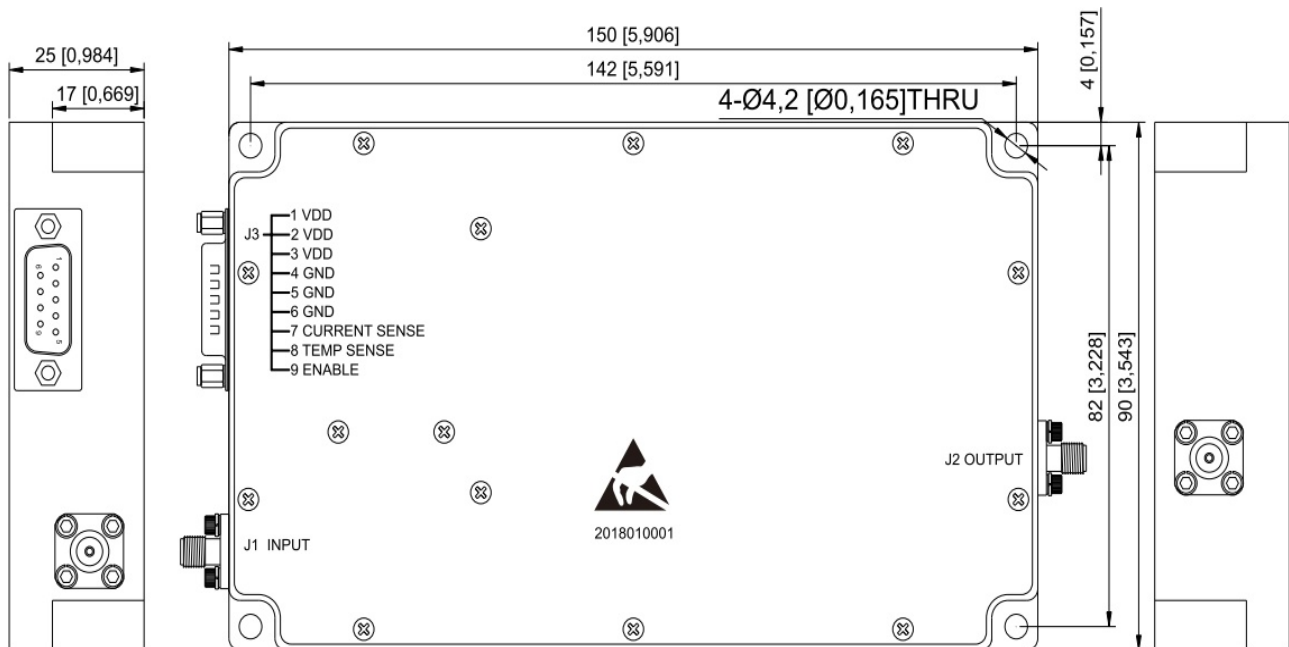
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### DC INTERFACE CONNECTOR

| Pin # | Description   | Specifications  |
|-------|---------------|---|
| 1     | VDD           | 28V <sub>DC</sub>   |
| 2     | VDD           | 28V <sub>DC</sub>   |
| 3     | VDD           | 28V <sub>DC</sub>   |
| 4     | GND           | Ground  |
| 5     | GND           | Ground  |
| 6     | GND           | Ground  |
| 7     | CURRENT SENSE | Analog voltage relative to I <sub>DD</sub> @ 100mV per Ampere   |
| 8     | TEMP SENSE    | Analog voltage relative to Module's Temperature @ 10 mV/°C      |
| 9     | ENABLE        | Amplifier Enable: TTL Logic High (3.3V) (Internally Pulled-Low) |

### OUTLINE DRAWING (All dimensions in mm [inch])

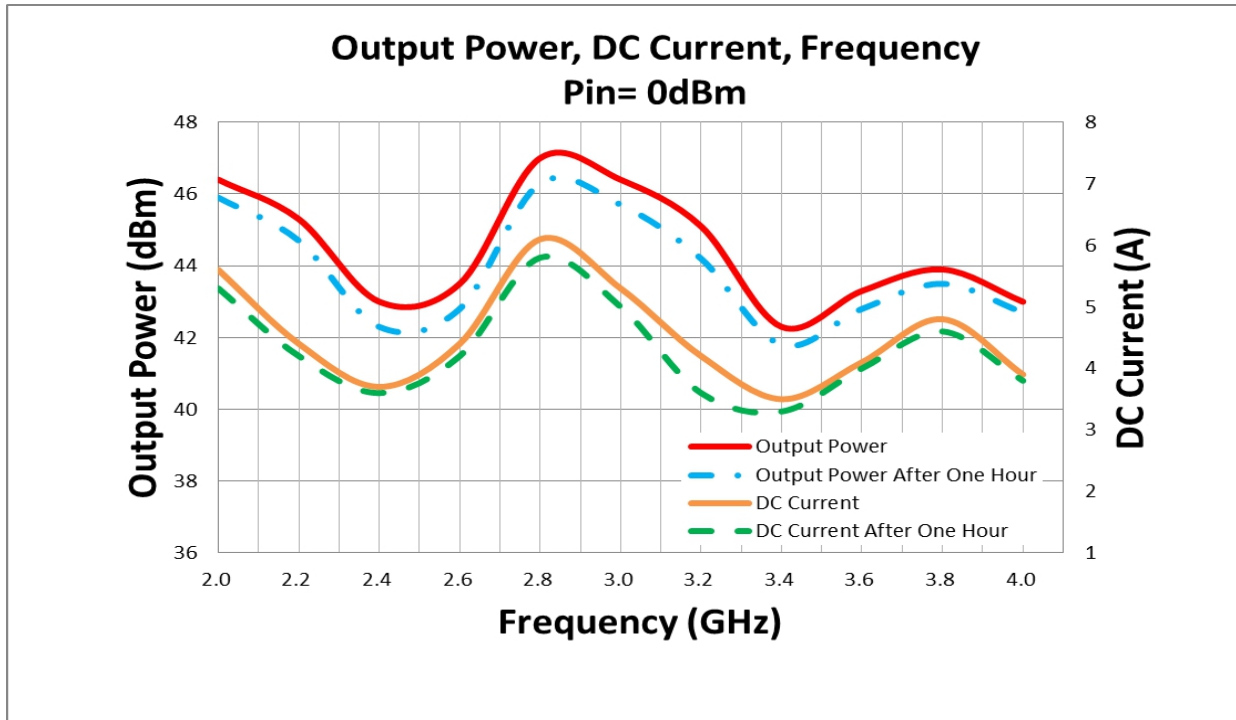


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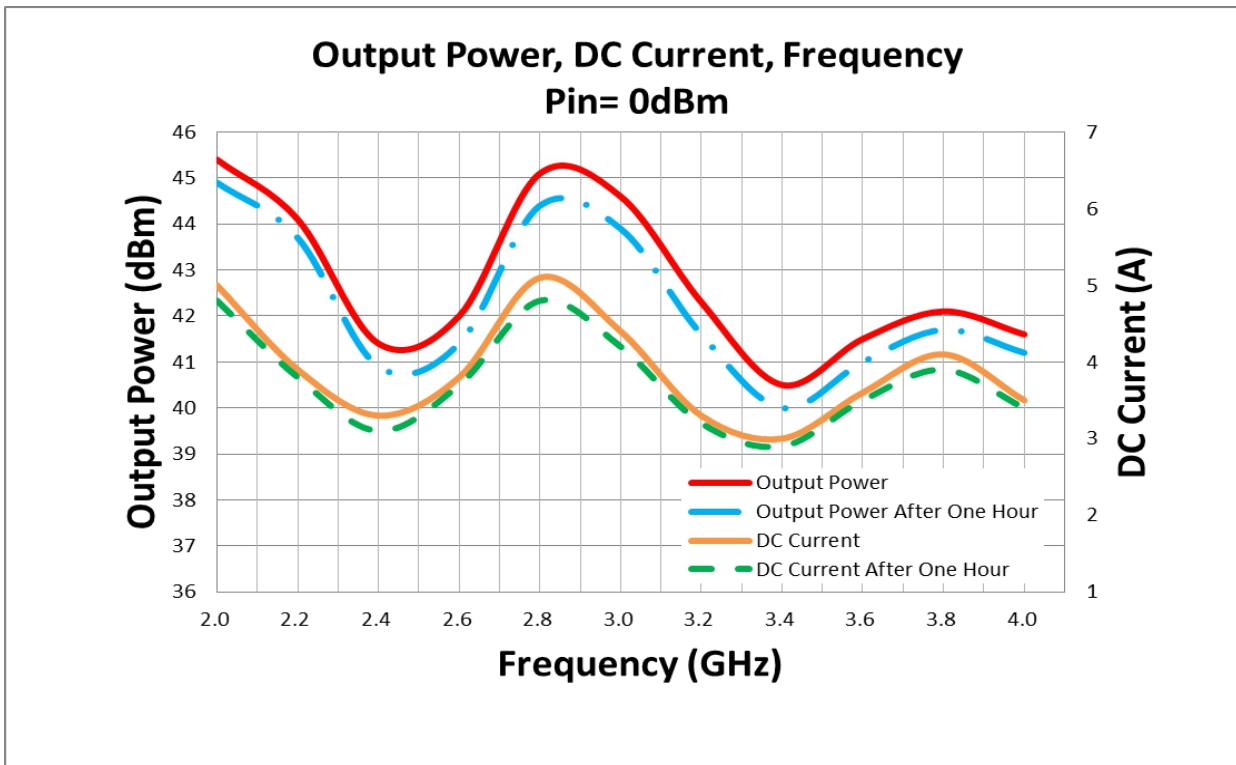
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TYPICAL PERFORMANCE PLOTS(For reference only)

Graph 1: Output Power (Low temp.  $-20\pm 3^{\circ}\text{C}$ )



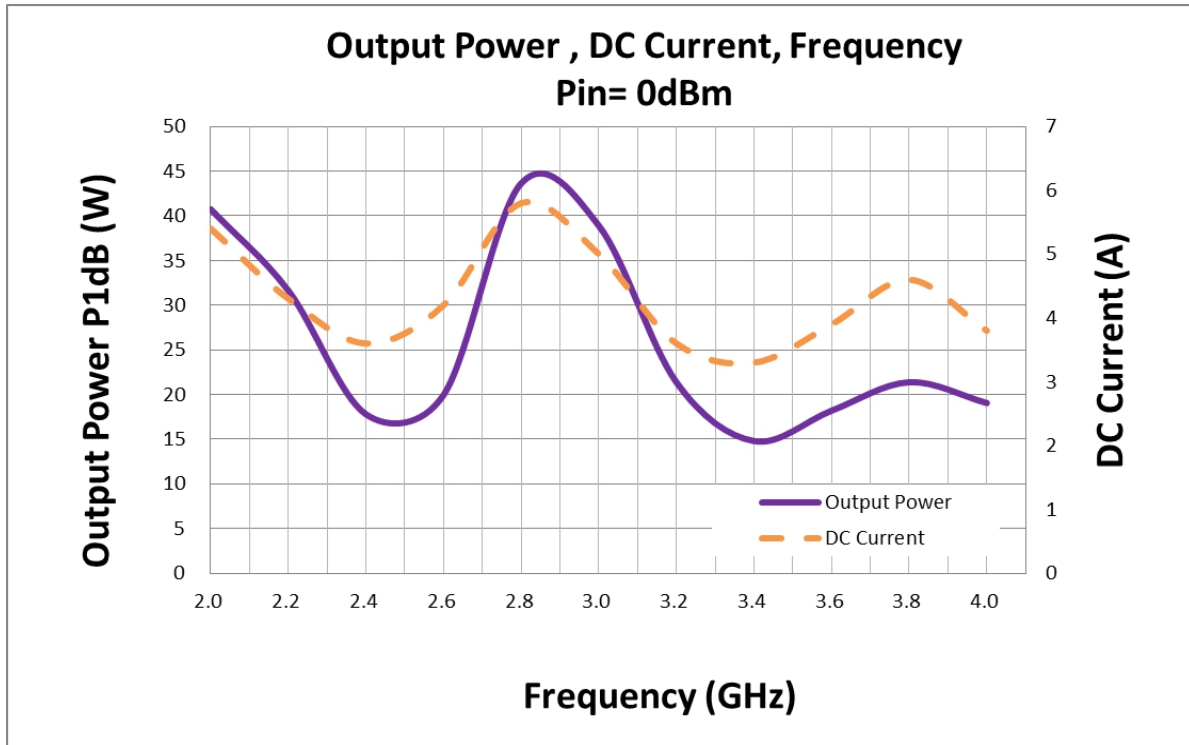
Graph 2: Output Power (High temp.  $+55\pm 3^{\circ}\text{C}$ )



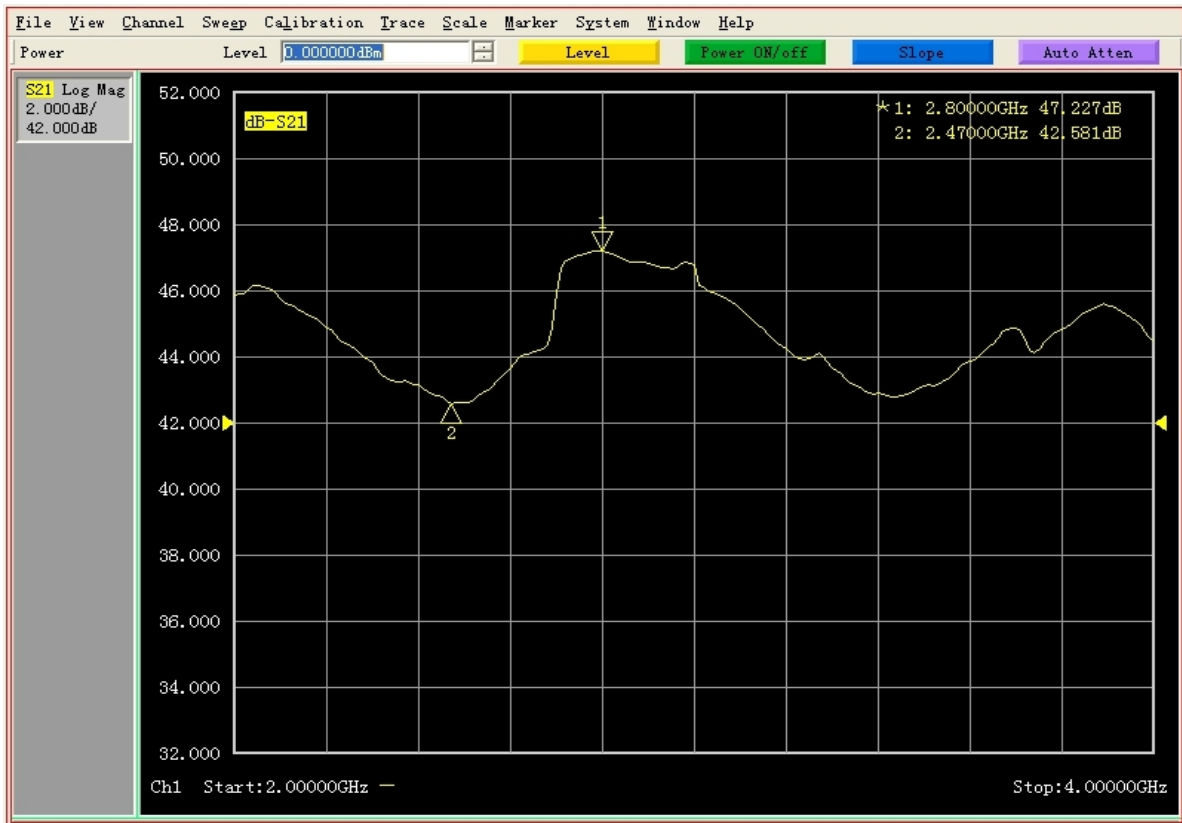
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Graph 3: Output Power (Normal temp. +25±3°C)



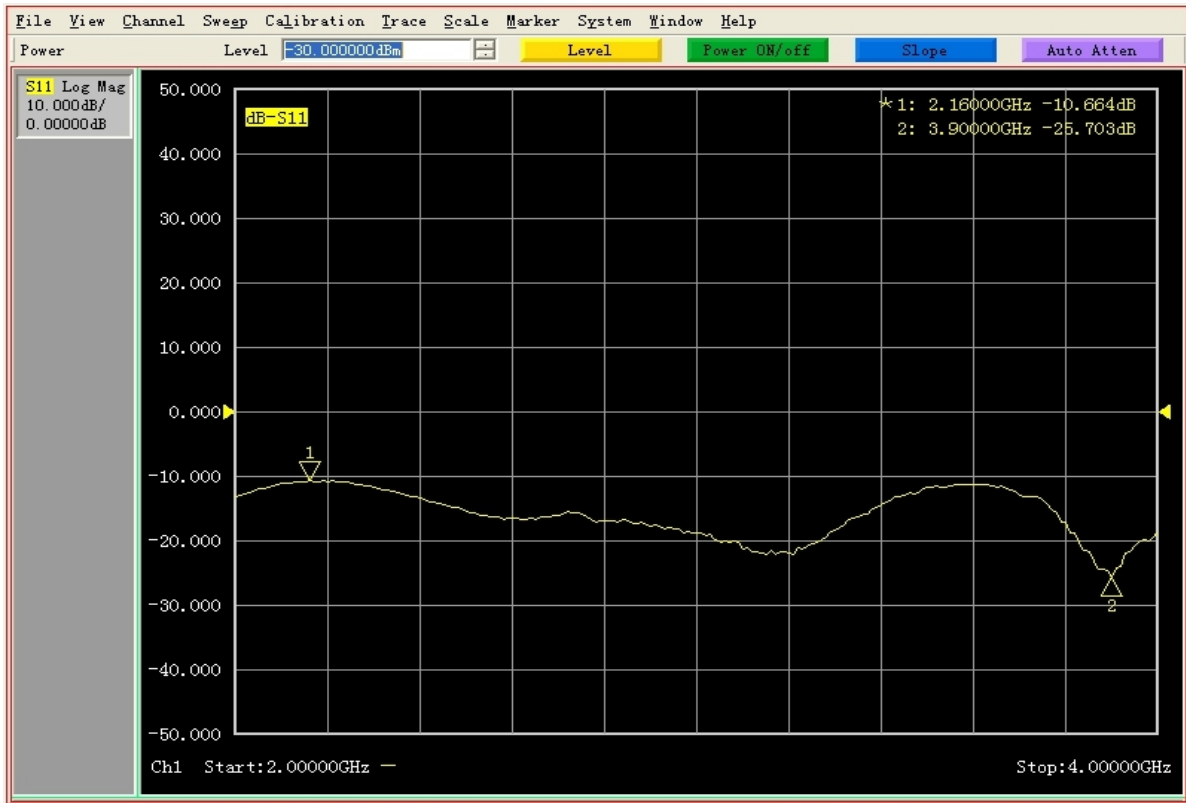
Power Gain:



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Input Return Loss:



**Note:** Adequate heatsink required.