

## 800-2000MHz/100Watt/Module

**Model Number: OC-PA08-2K100W**

The model OC-PA08-2K100W is a multi-octave high power amplifier operating between 800 MHz and 2000MHz and offering a wide dynamic Range with 120 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 L Band 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                  | 800 |     | 2000 | MHz   |
| RF Output Power           | P <sub>out</sub>    | 100 | 120 |      | Watt  |
| Power Gain                | G <sub>p</sub>      |     | 44  |      | dB    |
| Power Gain Flatness       | Δ G <sub>p</sub>    |     | ±1  |      | dB    |
| RF Input Power            | P <sub>in</sub>     |     | 8   |      | dBm   |
| Input Return Loss         | S <sub>11</sub>     |     |     | -10  | dB    |
| Harmonics @100W           | H                   |     | 10  |      | dBc   |
| Spurious Signals @100W    | Spur                |     |     | -60  | dBc   |
| Switch On/Off@10-90% Time | T <sub>ON/OFF</sub> |     | 300 | 500  | nS    |
| In/Output Impedance       | Impedance           |     | 50  |      | Ω     |
| Operating Voltage         | VDC                 | 26  | 28  | 30   | Volt  |
| DC Current @120W          | IDD                 |     | 11  | 13.5 | Amp   |

### MECHANICAL SPECIFICATIONS

| Parameter              | Value                            | Units     | Notes   |
|------------------------|----------------------------------|-----------|---------|
| Dimensions             | 150x90x25 [5.9x3.54x0.98]        | 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 (Not Supplied) |           |         |

### ENVIRONMENTAL CHARACTERISTICS (Design to Meet)

| Parameter                          | Minimum | Typical | Maximum | Units | Notes   |
|------------------------------------|---------|---------|---------|-------|---------|
| Operating Temperature              | -20     |         | 60      | °C    |         |
| Non-operating Temperature          | -25     |         | 65      | °C    | Storage |
| Relative Humidity (non-condensing) |         |         | 95      | %     |         |

### ABSOLUTE MAXIMUM RATING

|                                     |                                                                                                          |
|-------------------------------------|----------------------------------------------------------------------------------------------------------|
| Input RF drive level without damage | +18dBm (Max)                                                                                             |
| Load VSWR @ P <sub>OUT</sub> =80W   | ∞ @ 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]                                                                        |

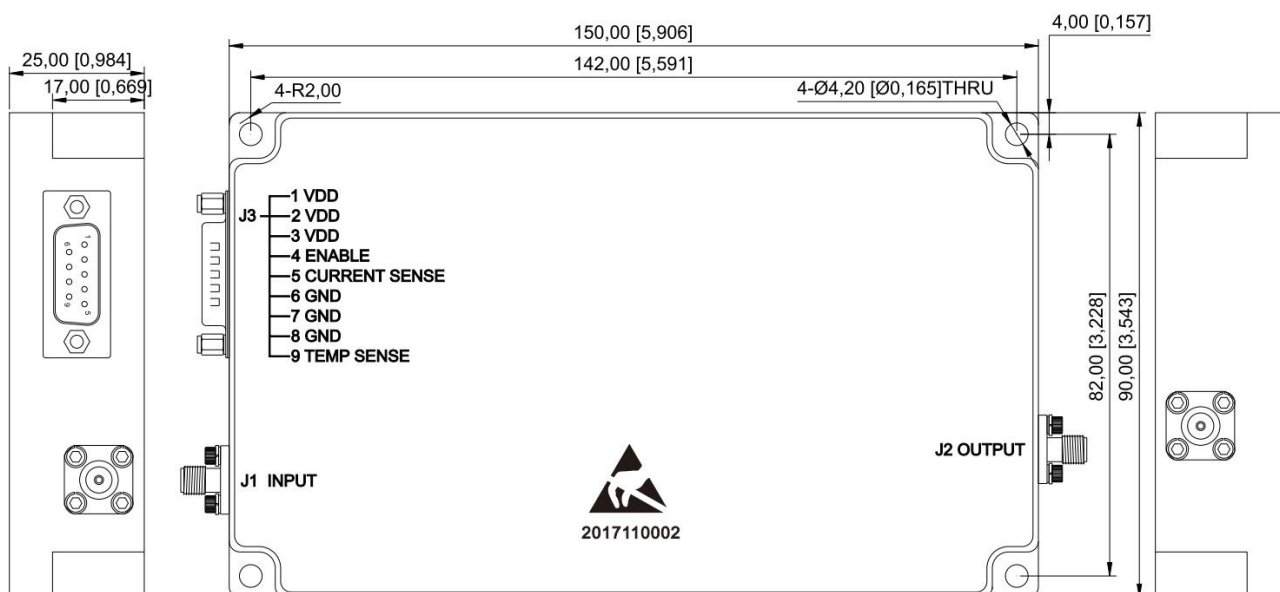
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## DC INTERFACE CONNECTOR

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

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

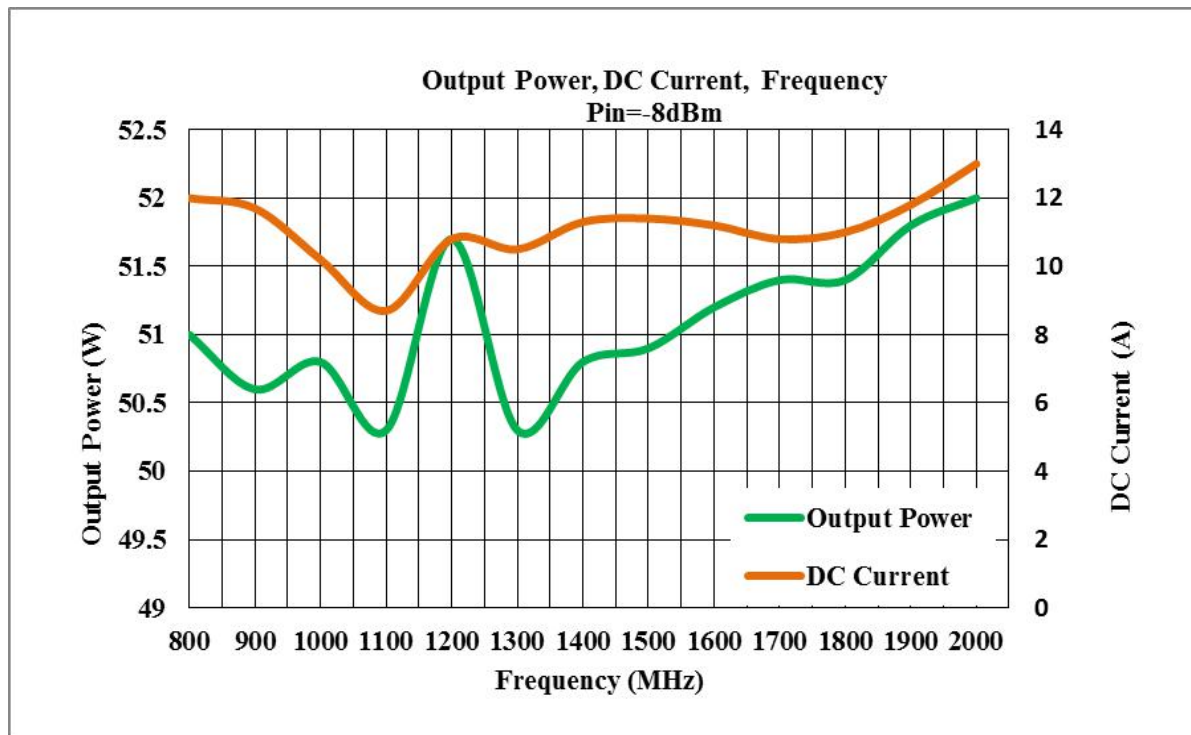
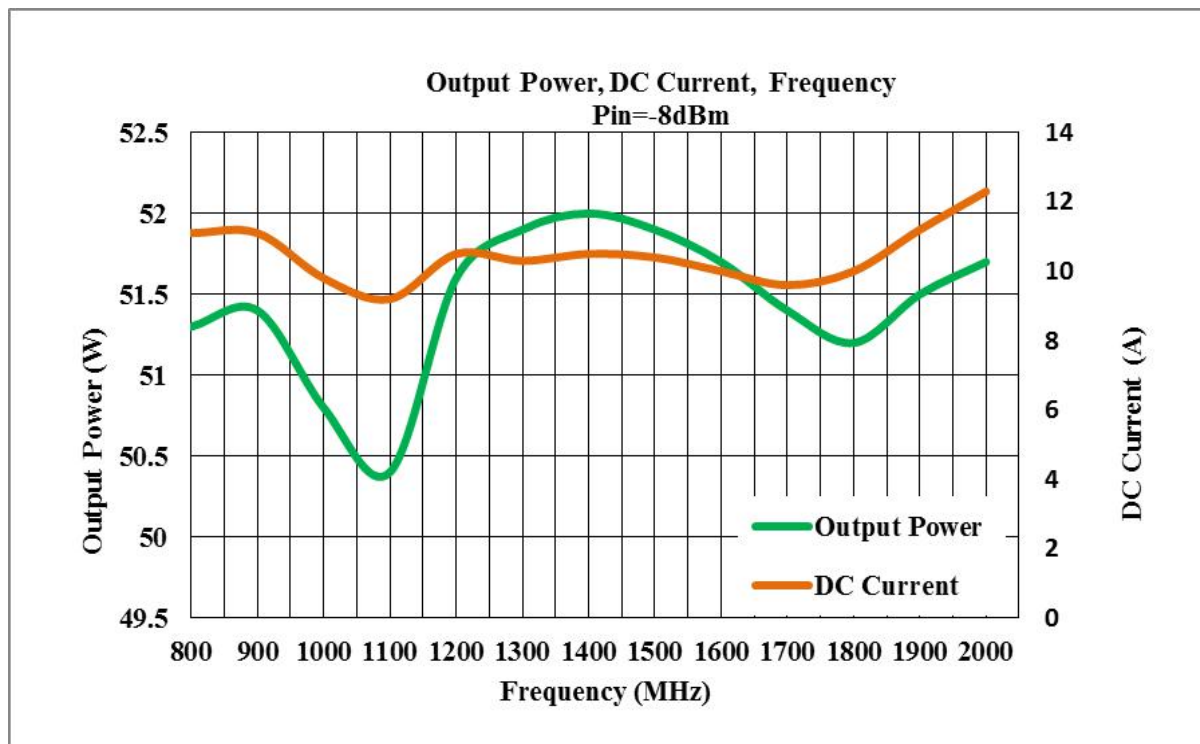


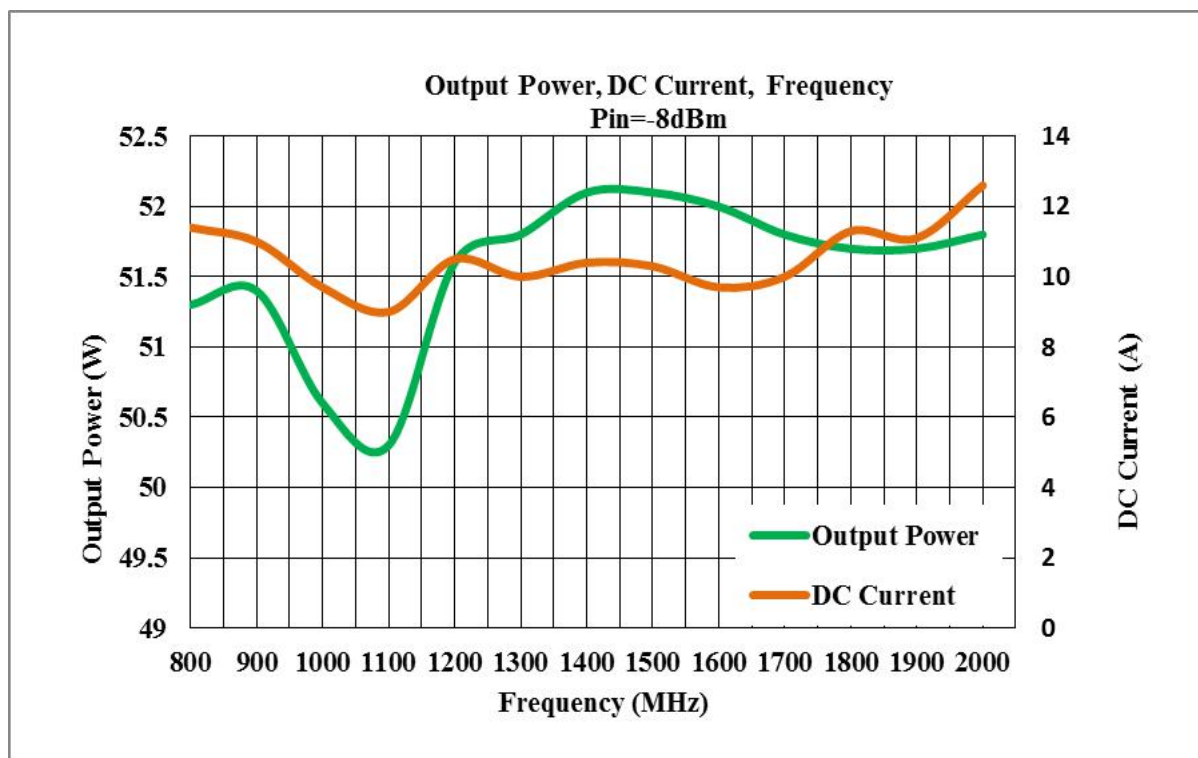


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## TYPICAL PERFORMANCE PLOTS (For reference only)

Graph1: Output Power (Low temp.  $-20\pm 3^{\circ}\text{C}$ )Graph2: Output Power (High temp.  $+60\pm 3^{\circ}\text{C}$ )

**800-2000MHz/100Watt/Module***Model Number: OC-PA08-2K100W*Graph3: Output Power (Normal temp.  $+25\pm 3^{\circ}\text{C}$ )**Note:** Adequate heat sink required.