

## 500-2500MHz/50Watt/Module

The model OC-PA05-2.5K50W is a multi-octave high power amplifier operating between 500 MHz and 2500 MHz and offering a wide dynamic Range with 50 Watts typical saturated power. The employment of gallium nitride (GaN) and chip-and-wire technology in manufacturing ensures this module state-of-the-art power performance with excellent power-to-volume ratio. It is ideal for multi-octave high power RF linear applications.

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

| Parameter                                      | Symbol    | Min | Typ | Max  | Units |
|--|-----------|-----|-----|------|-------|
| Operating Frequency                            | BW        | 500 |     | 2500 | MHz   |
| RF Output Power                                | Pout      |     | 50  |      | Watt  |
| Power Gain                                     | Gp        |     | 48  |      | dB    |
| Power Gain Flatness                            | ΔGp       |     | ±2  |      | dB    |
| Input Return Loss                              | S11       |     |     | -10  | dB    |
| Harmonics @50W                                 | H         |     | -15 |      | dBc   |
| Spurious Signals                               | Spur      |     | -60 |      | dBc   |
| Switching Speed                                | TON/OFF   |     | 2   | 5    | μS    |
| In/Output Impedance                            | Impedance |     | 50  |      | Ω     |
| Operating Voltage                              | VDC       | 24  | 28  | 32   | Volt  |
| Power add efficiency                           | Eff       |     | 30  |      | %     |
| Current Consumption @ POUT = 50W               | IDD       |     |     | 7    | Amp   |
| Current Consumption @ Shutdown                 | ISD       |     | 0.2 |      | Amp   |
| RF Input to Output Isolation(During OFF State) | Isolation |     | 85  |      | dBc   |

### MECHANICAL SPECIFICATIONS

| Parameter              | Value                                      | Units     | Notes   |
|------------------------|--|-----------|---------|
| Dimensions             | 140x85x20.5 [5.5x3.3x0.8]                  | mm [inch] | Maximum |
| Weight                 | 0.65 [1.43]                                | kg [lbs]  | Maximum |
| RF Connectors Input    | SMA, Female                                |           |         |
| RF Connectors Output   | SMA, Female                                |           |         |
| DC Interface Connector | D-Sub 9-Pin, Male                          |           |         |
| Cooling                | External Heat sink Required (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 | +10 dBm (Max)  |
| Load VSWR @ POUT =30W               | ∞ @ all load phase & amplitude for duration of 1 minutes;<br>3:1 @ all load phase & amplitude continuous |

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#### FEATURES:

- Suitable for RF applications
- Small size and light weight
- Unconditional stability and ruggedness
- Built-in control, and

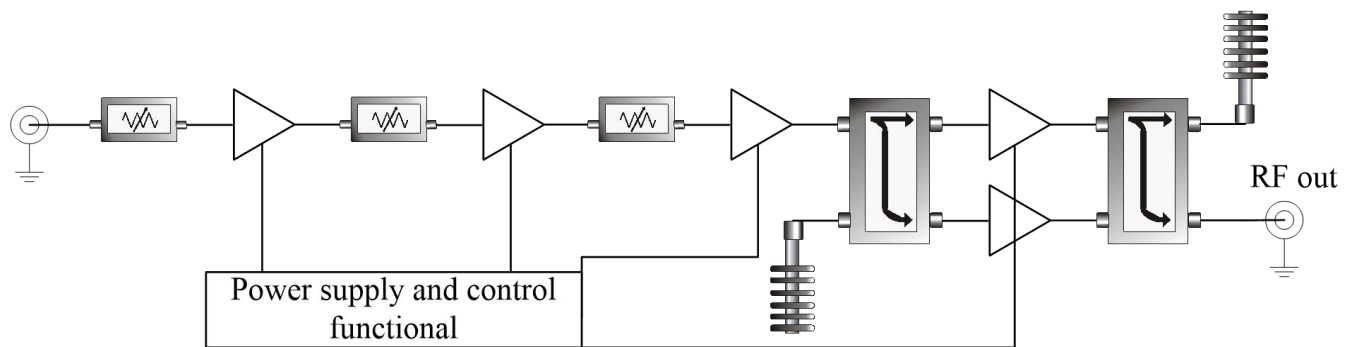
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Model Number: OC-PA05-2.5K50W

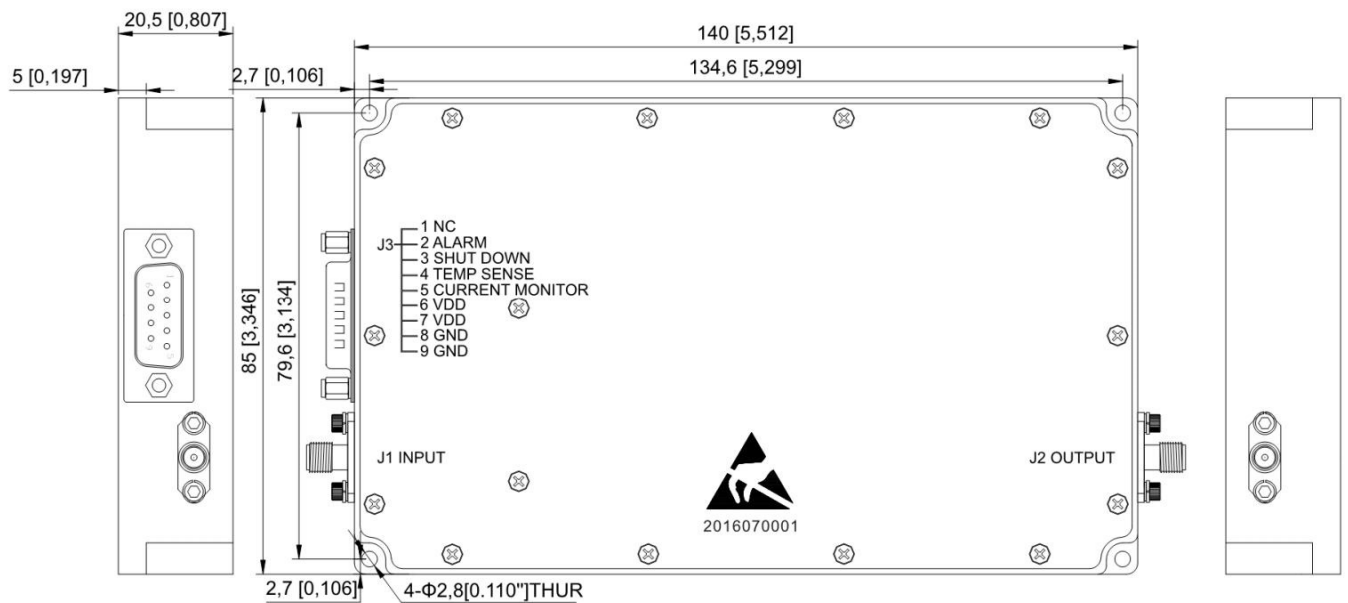
### DC INTERFACE CONNECTOR

| Pin # | Description       | Specifications   |
|-------|-------------------|--|
| 1     | N/C               | No electrical connection   |
| 2     | Alarm             | Amplifier Alarm indicator: Normally TTL Low                      |
| 3     | Shutdown          | Amplifier Disable: TTL Logic High (3.3V) (Internally Pulled-Low) |
| 4     | Temperature Sense | Analog voltage relative to Module's Temperature @ 10 mV/°C       |
| 5     | Current Monitor   | Analog voltage relative to $I_{DD}$ @ 100mV per Ampere           |
| 6     | VDD               | 28VDC  |
| 7     | VDD               | 28VDC  |
| 8     | GND               | Ground   |
| 9     | GND               | Ground   |

### Functional Diagram



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

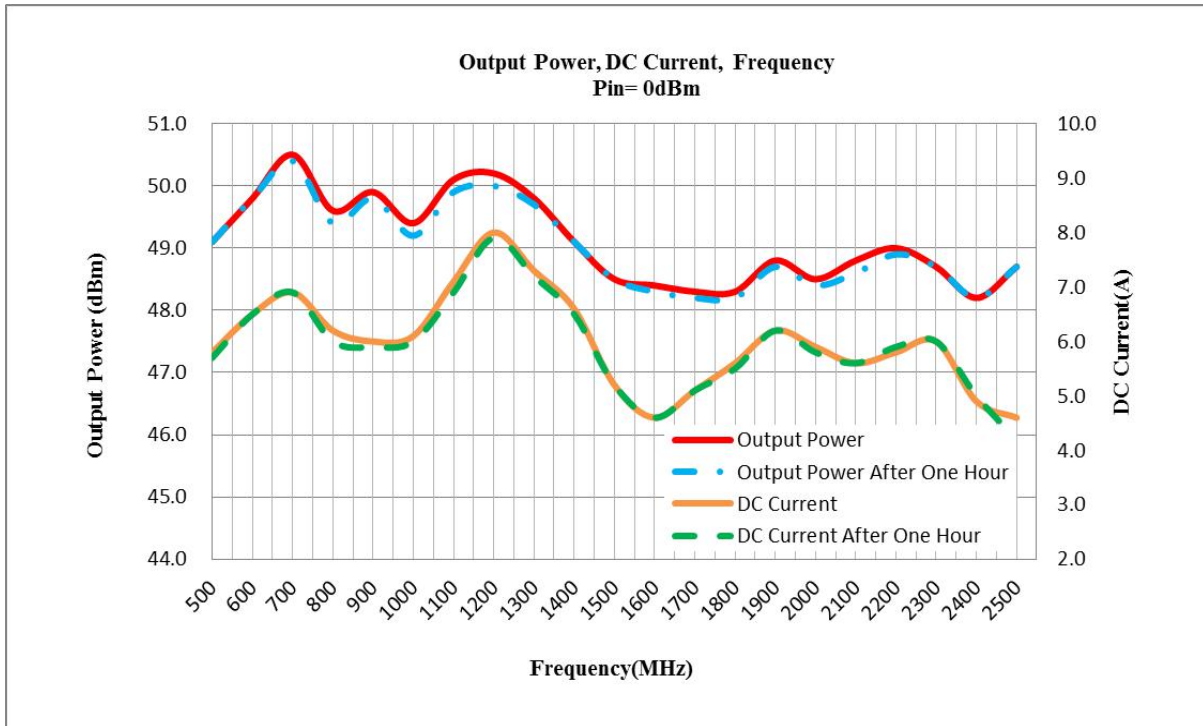


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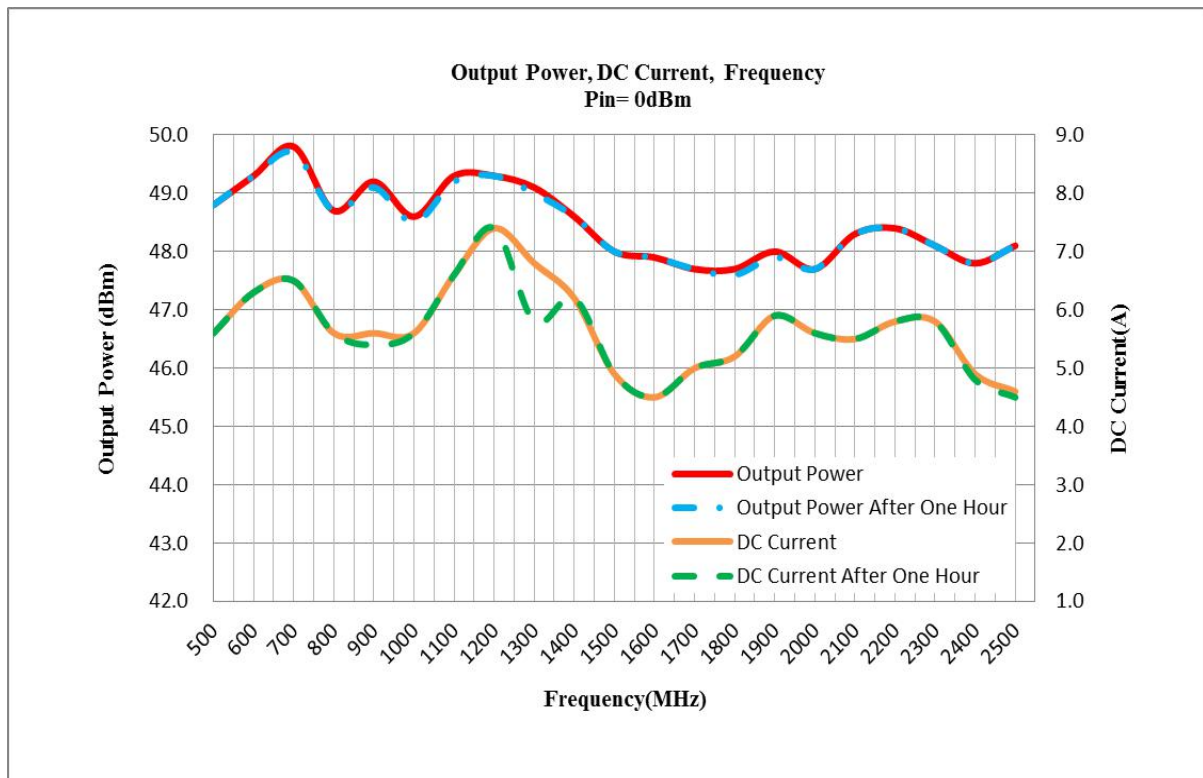
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**TYPICAL PERFORMANCE PLOTS (for reference only)**

Graph 1: Output Power (Low temp. -20±3°C)



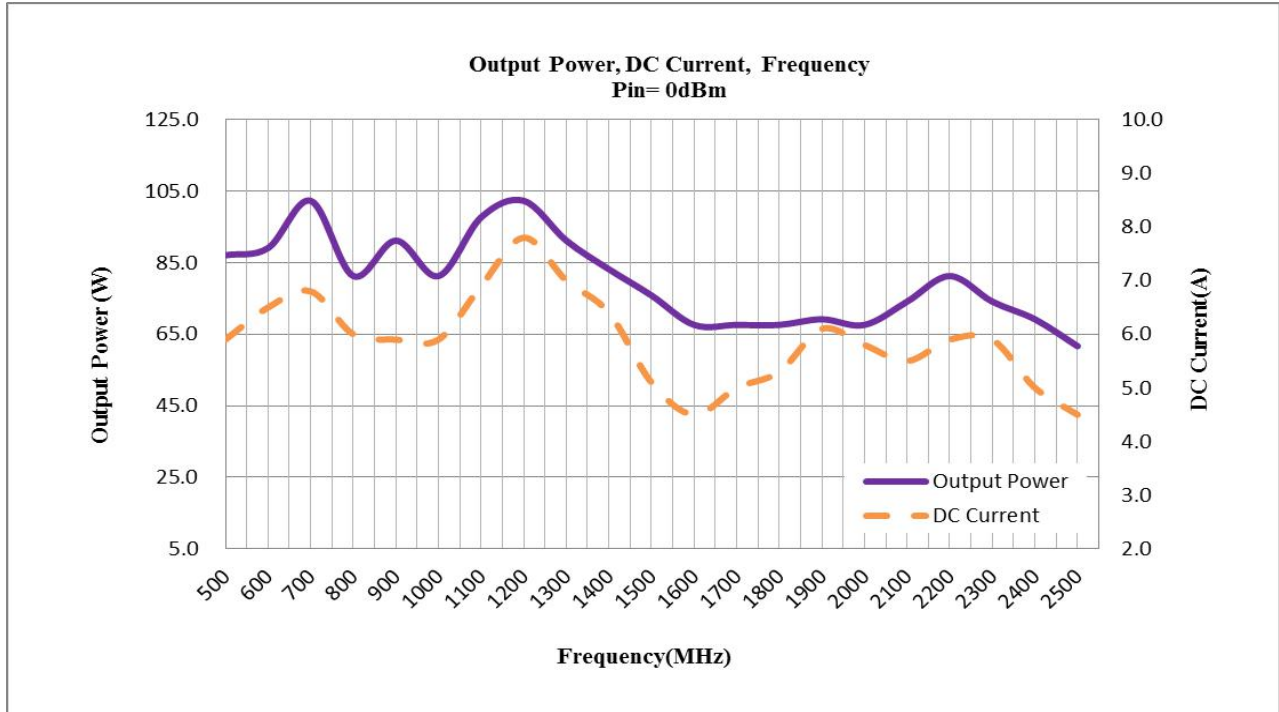
Graph2: Output Power (High temp. +60±3°C)



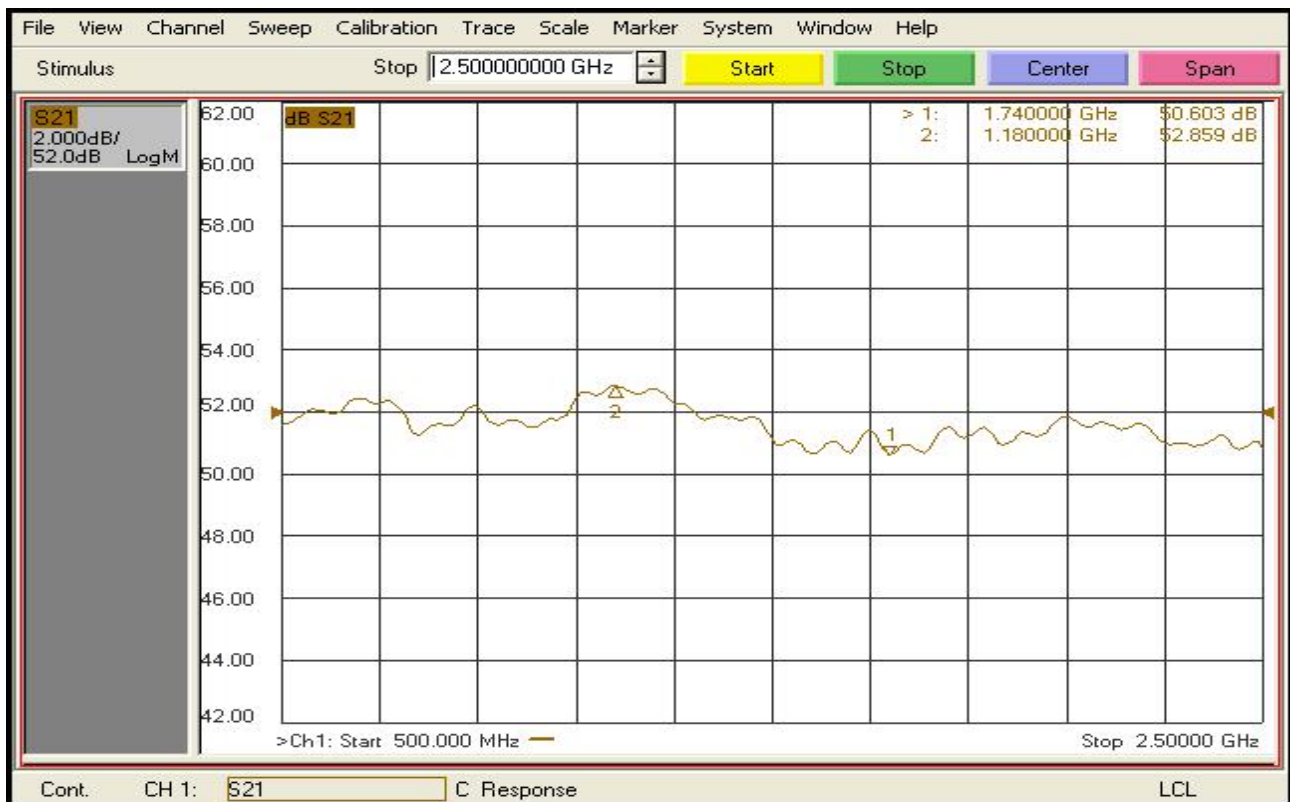
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Graph3: Output Power (Normal temp. +25±3 °C)



Power Gain:



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Input Return Loss:



**Note:** Adequate heatsink required.