






## Broadband High Power Amplifier Module (SSPA)

### 800-1000MHz/200Watt/Module

Model Number: MCW0810M53A

The model MCW0810M53A is a high power amplifier operating between 800MHz and 1000MHz and offering a wide dynamic Range with 200Watts typical saturated power. The employment of LDMOS 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 jamming, EMC, test and measurement applications.

#### FEATURES:

-  Small Size and Light Weight
-  Instantaneous Ultra-broadband
-  50 Ohms Input and Output Matched
-  Built-In Control and Protection Circuits
-  Class AB

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

| Parameter                  | Symbol            | Minimum | Typ | Maximum | Units |
|----------------------------|-------------------|---------|-----|---------|-------|
| Operating Frequency        | BW                | 800     |     | 1000    | MHz   |
| RF Output Power            | P <sub>out</sub>  |         | 200 |         | Watt  |
| Power Gain                 | G                 |         | 53  |         | dB    |
| Small Signal Gain Flatness | Δ G <sub>SS</sub> |         | ±1  |         | dB    |
| Input Return Loss          | S <sub>11</sub>   |         |     | -10     | dB    |
| Harmonics @100W            | H                 |         | -10 |         | dBc   |
| Spurious Signals           | Spur              |         | -60 |         | dBc   |
| In/Output Impedance        |                   |         | 50  |         | Ω     |
| Operating Voltage          | V <sub>DC</sub>   | 24      | 28  | 32      | Volt  |
| DC Current @200W           | I <sub>DD</sub>   |         | 23  |         | Amp   |

#### MECHANICAL SPECIFICATIONS

| Parameter              | Value                            | Units     | Limits  |
|------------------------|----------------------------------|-----------|---------|
| Dimensions             | 200x150x30 [7.87x5.91x1.18]      | mm [inch] | Maximum |
| Weight                 | 2 [4.4]                          | kg [lbs]  | Maximum |
| RF Connectors Input    | SMA, Female                      |           |         |
| RF Connectors Output   | SMA, Female                      |           |         |
| DC Interface Connector | Hybrid,D-Sub 7-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 | +10 dBm   | Maximum |
| Load VSWR @ P <sub>OUT</sub> =50W   | ∞ @ all load phase & amplitude for duration of 1 minute;<br>3:1 @ all load phase & amplitude continuous |         |
| Thermal Overload                    | 85°C ±5°C shutdown  | Maximum |

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**Broadband High Power Amplifier Module (SSPA)**

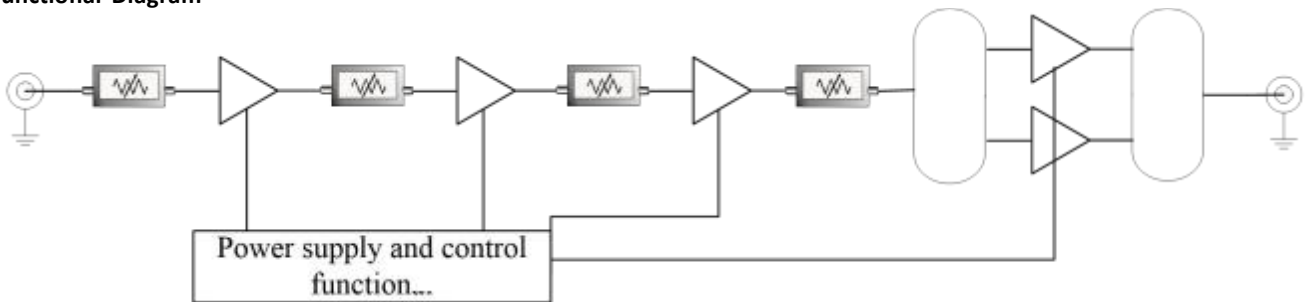
**800-1000MHz/200Watt/Module**

Model Number: MCW0810M53A

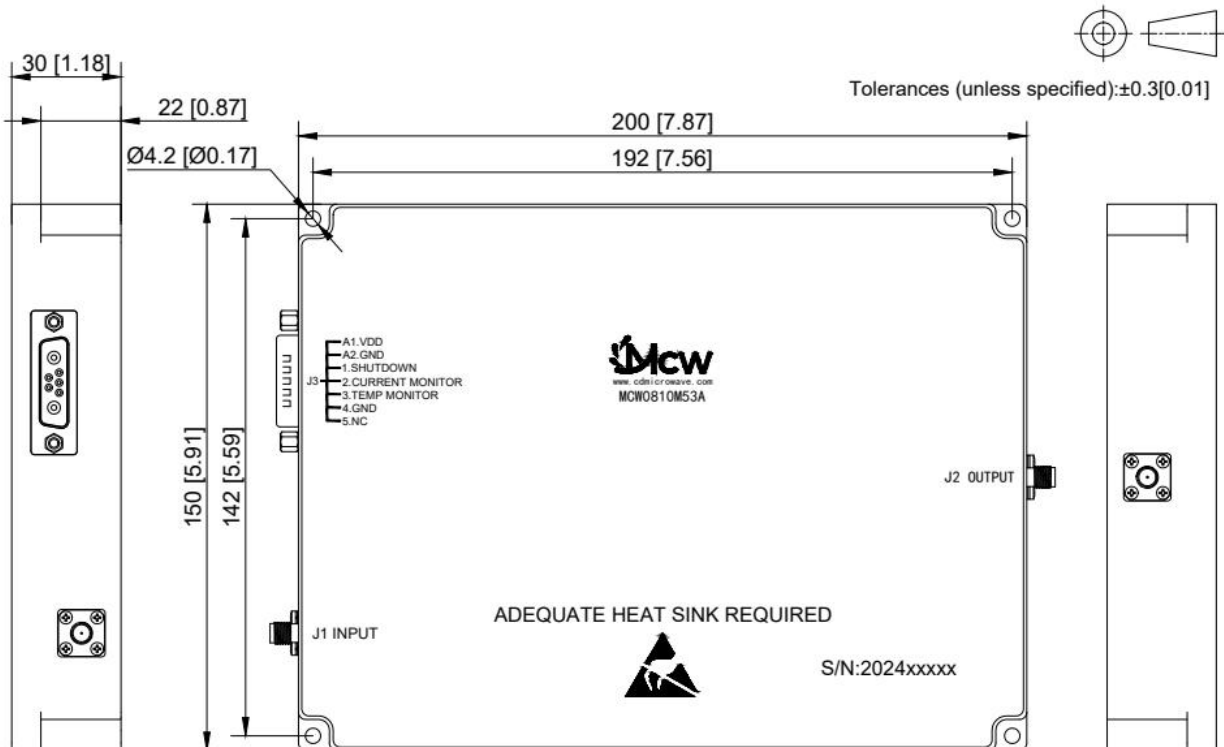
**DC INTERFACE CONNECTOR**

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

**Functional Diagram**



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



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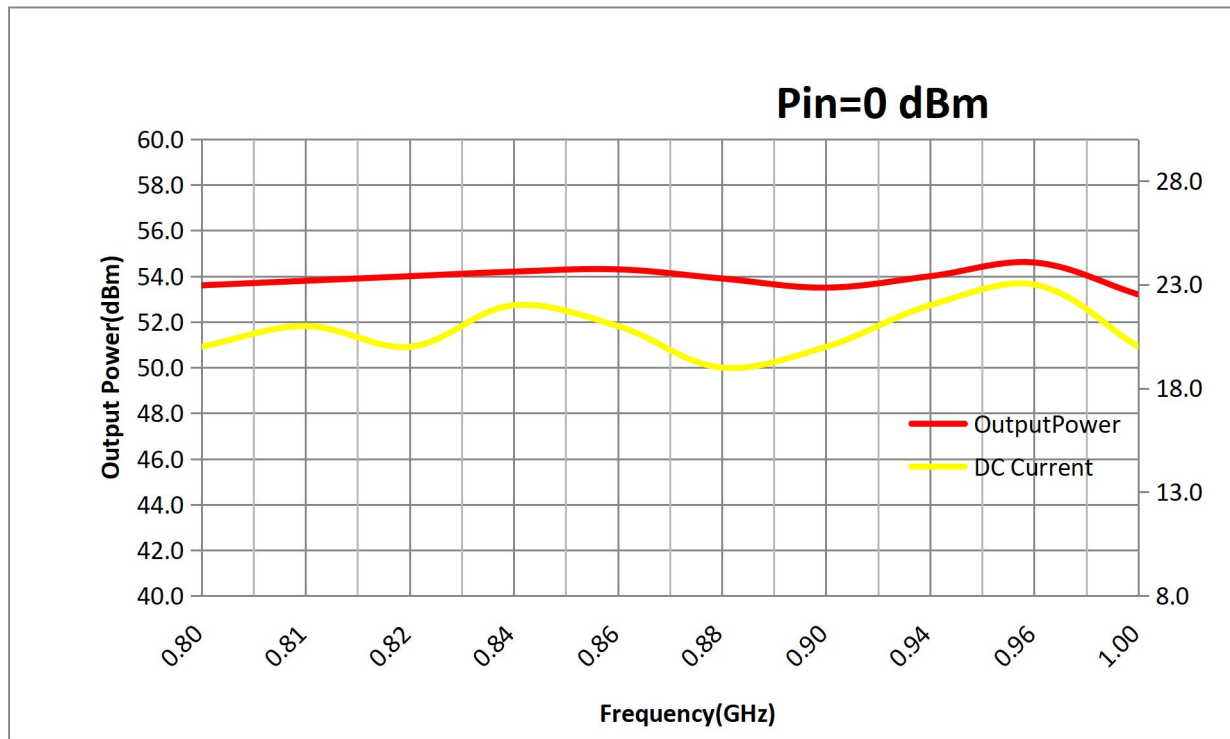
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## 800-1000MHz/200Watt/Module

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



### Important Note:

1. Adequate heatsink required.
2. This product will be developed upon contract/order. All the above specs are for reference only. Actual product may be different. Please check with Chengdu Microwave Technology Co., Ltd sales team or E-mail to [info@cdmicrowave.com](mailto:info@cdmicrowave.com) if you have any more questions.

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