# S51000 Series
# 12/16/25 Watt C-Band Solid State Power Amplifier (SSPA)

## General Information

Locus Microwave, Inc., designed the C-Band Solid State Power Amplifer modules to provide a combination of superior performance, reliability and cost effectiveness in a slim and compact package. All units are carefully designed with consideration for the electrical, mechanical and thermal requirements.

Specifications included are for standard products. Please contact the factory for your custom/ specific performance needs.

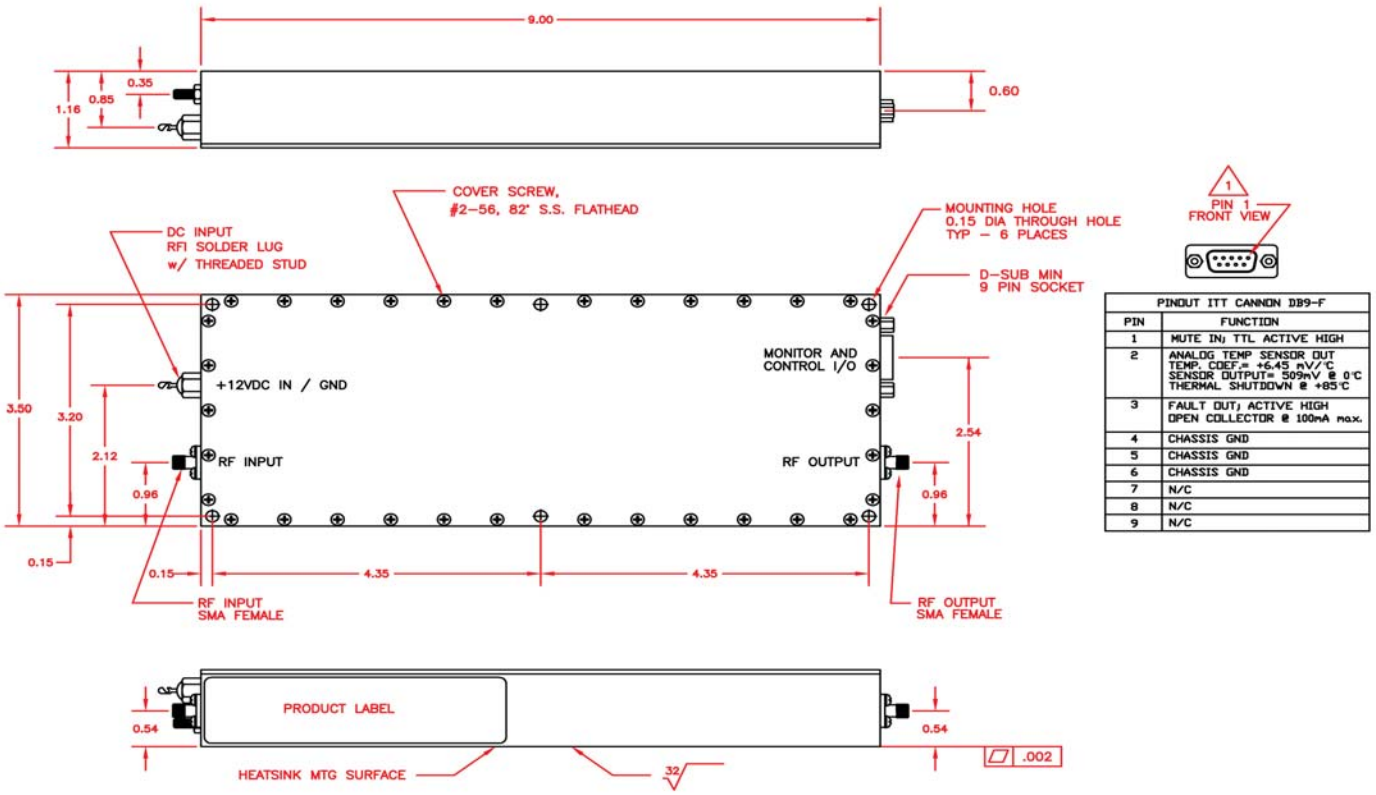
## Features:

- Efficient module packaging
- Choice of 41, 42 or 44 dBm output
- Temperature Compensation of Gain
- Input/Output Isolators
- Regulator & Bias Sequencing

## Options:

- Power Mute
- Analog Temperature Sense
- Fault Alarm

## Outline Drawing




| PINOUT ITT CANNON DB9-F | |
|---|---|
| PIN | FUNCTION |
| 1 | MUTE IN; TTL ACTIVE HIGH |
| 2 | ANALOG TEMP SENSOR OUT<br>TEMP. COEF.= +6.45 mV/°C<br>SENSOR OUTPUT= 509mV @ 0°C<br>THERMAL SHUTDOWN @ +85°C |
| 3 | FAULT OUT; ACTIVE HIGH<br>OPEN COLLECTOR @ 100mA max. |
| 4 | CHASSIS GND |
| 5 | CHASSIS GND |
| 6 | CHASSIS GND |
| 7 | N/C |
| 8 | N/C |
| 9 | N/C |

176 Technology Dr., Suite 200, Boalsburg, PA 16827 USA • Tel: +1 814 466 6275 • Fax: +1 814 466 1104
www.locusmicrowave.com

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# 12/16/25 Watt
# C-Band SSPA

| | Range | Units | Notes |
|---|---|---|---|
| **Electrical Specifications** | | | |
| Frequency[1] | 5.850-6.425 | GHz | |
| Gain | 44 min. | dB | |
| Gain Flatness | | | |
| Full Band | +/-1.0 max. | dB | |
| Per 40 MHz Segment | +/-0.20 | dB | |
| Gain Stability vs. Temperature | +/-2.0 | dB | |
| $P_{1dB}$[1,2] | | | |
| -041 | +40 min., 40.8 typ. | dBm | |
| -042 | +41 min., 41.5 typ. | dBm | |
| -044 | +43 min., +43.5 typ. | dBm | |
| $P_{sat}$[1,2] | | | |
| -041 | +41 typ. | dBm | |
| -042 | +42 typ. | dBm | |
| -044 | +44 typ. | dBm | |
| Third Order Intermodulation Distortion | -25 max. | dBc | @3 dB backoff relative to rated $P_{1dB}$ |
| Input VSWR | 1.30 max. | :1 | |
| Output VSWR | 1.25 max. | :1 | |
| Power Requirement | | | |
| Input Voltage -041/-042/-044 | +11.5 to +13 | vdc | |
| Current -041/-042/-044 | 6.2 / 7.4 / 10.2 nom. | A | |
| **Mechanical Specifications** | | | |
| Outline | 3.5 x 9.0 x 1.16 | inches | L X W X H |
| | (88.9 x 228.6 x 29.5) | (mm) | |
| Weight (approximate) | 2.5 (1.14) | lbs. (kg) | |
| Connectors | | | |
| RF Input | SMA | Female | N option |
| RF Output | SMA | Female | N option |
| Power | Solder Lug RFI Filter | | |
| **Environmental** | | | |
| Operating Temperature | -40 to +60 | °C | |
| Humidity | 100 | % | without condensation |

Notes:
1.Extended band (5.85-6.725 GHz, S51400 series) available.
2. Linearly derate by 1.0 dB from 6.425 to 6.725 GHz with extended band option.



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