

AMP1029 SOLID STATE HIGH POWER AMPLIFIER

FEATURES

Class AB linear GaN design
Instantaneous wide bandwidth
Suitable for all modulations standards
Small form factor & light weight
Built-in protection circuits
High reliability and ruggedness



ELECTRICAL SPECIFICATIONS

Parameter	Specification	Notes
Operating Frequency Range	2.0 - 6.0 GHz	
Power Output	50 Watt Min / 70 Watt Typ	CW
Power Output @ P1dB	25 Watt Typ	CW
Power Gain	47 dB Min	
Power Gain Flatness	3.0 dB p-p Max	Constant input power
Input / Output Return Loss	10 dB Min	Relative to 50 Ohm
2-Tone Intermodulation (IMD)	>30 dBc Typ	37dBm/Tone, $\Delta = 1$ MHz
Harmonics	>20 dBc Typ	At rated Pout
Non Harmonics Spurious	>60 dBc	
Operating Voltage	28 - 30 VDC	
Current Consumption	12 Amp Max	At rated Pout
Max Input Power	+8 dBm	Without damage
Load VSWR Protection	$\infty : 1$	1 Minute any Phase & Angle
Turn On / Off Speed	5 μ Sec Max	

ENVIRONMENTAL CHARACTERISTICS

Parameter	Specification	Notes
Operating Case Temperature	-20 to +75 °C	
Storage Temperature	-40 to +85 °C	
Relative Humidity	5 to 95 %	Non Condensing

MECHANICAL SPECIFICATIONS

Parameter	Specification	Notes
Dimensions	230 x 106 x 27 mm	Excluding Connectors
Weight	0.8 Kg.	
RF Connectors In/Out	SMA female	
DC Power / Interface Connector	9-Pin D-Sub	
Cooling	External Heatsink	Forced air required



Pin	Function	Description
1	FWD	OPTION 101 - Forward power detect
2	VVA	OPTION 103 - Variable Voltage Attenuator
3	CURRENT SENSOR	I _D @20mV/100mA Typ
4	TEMP SENSOR	V _T @10mV/°C + 500mV Typ
5	SHUTDOWN	TTL
6, 7	VDD	28VDC
8, 9	GND	Ground

The drawing shows the PCB layout with the following dimensions and features:

- Overall Dimensions:**
 - Length: 230 mm
 - Width: 106 mm
- Component Locations and Dimensions:**
 - RF INPUT:** Located at the top left, 85.22 mm from the top edge and 3.8 mm from the left edge.
 - RF OUTPUT:** Located at the top right, 89.6 mm from the right edge and 46.65 mm from the bottom edge.
 - Connectors:**
 - Top left: 19 mm wide.
 - Bottom left: 12.65 mm high.
 - Bottom right: 12.65 mm high.
 - Right side: 25 mm wide, with a 3.8 mm offset from the right edge.
 - Pin Headers:**
 - Left side: 23.63 mm high.
 - Right side: 98.4 mm high.
 - Pin Labels:**
 - N/C
 - N/C
 - CURRENT MONITOR
 - TEMP. MONITOR
 - SHUTDOWN
 - VDD
 - VDD
 - GND
 - GND
 - Other Dimensions:**
 - 53 mm: Distance from the bottom edge to the center of the RF OUTPUT connector.
 - 5x- Ø4.4 THRU: Hole pattern in the top right corner.