



AMP5039P SOLID STATE HIGH POWER PULSE AMPLIFIER

FEATURES

Class AB linear GaN design
High dynamic range
Suitable for airborne and phase array X-Band pulse applications
Built-thermal, load VSWR, pulse width, duty cycle protections
High reliability and ruggedness



ELECTRICAL SPECIFICATIONS: 50Ω, 25°C

Parameter	Specification			Notes	
Operating Frequency Range	9.1 - 9.9 GHz				
Output Power @ Pulse	1000 Watt Min			Peak Pulse	
Power Gain @ Peak Power	60 dB Min			0dBm or less for rated Pout	
Pulse Characteristics (Max values)	Width	Duty	PRF	Rise/Fall	Droop
	100 μS	10 %	500 KHz	60 nS Typ	0.8 dB Max
Power Gain Flatness	3.0 dB p-p Max			Constant Pin	
Input VSWR	1.5 : 1 Max				
Output VSWR	2.0 : 1 Max				
Harmonics	-35 dBc Max @ Psat			At Rated Pout	
Spurious	-60 dBc Max			Non-harmonics	
Switching Delay Time (Td)	300 nS Typical				
Operating Voltage	42 VDC Nom				
Current Consumption	17 Amp Avg Typ			At 10% Duty-Cycle	
Input Power Protection	+5 dBm Max			<10 Sec without damage	
Load VSWR Protection	∞ : 1 (output isolator)			<1 minute @ rated Pout	

ENVIRONMENTAL CHARACTERISTICS¹

Parameter	Specification	Notes
Operating Case Temperature	-40 to +75 °C	
Storage Temperature	-40 to +85 °C	
Relative Humidity	up to 95 %	Non-condensing
Altitude	3000 meters	
Shock & Vibration	Normal transport	

¹ MIL Spec available for quotation

MECHANICAL SPECIFICATIONS

Parameter	Specifications	Note
Dimensions	250 x 175 x 50 mm	Excluding Connectors
Weight	4 Kg. Max	
Cooling	External Heatsink	Forced air required
Input / Output Connectors	SMA-F / WR90	Type-N optional

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I/O INTERFACE

Pin	Function	Typical Test Results
A1	VDD	+42VDC
A2	GND	Ground
P1	GND	Ground
P2	GATING SIGNAL	Enable = TTL High; Disable = TTL Low @ 300 nS delay
P3	CURRENT MONITOR:	I _b @ 25mV/100mA Typ
P4	TEMP. MONITOR:	10mV/°C + 500mV Typ
P5	SHUTDOWN	Enable = TTL High or Open; Disable = TTL Low or Open

OUTLINE DRAWING (mm)

