AMP4001P
SOLID STATE PULSE HIGH POWER AMPLIFIER

FEATURES

Small form factor rack mounted system
High power LDMOS pulse devices
Instantaneous bandwidth
Suitable for linear pulse applications
Built-in protection circuits
High reliability and ruggedness

ELECTRICAL SPECIFICATIONS

Parameter	Specification	Notes
Operating Frequency Range	3.1 – 3.5 GHz	
Peak Output Power	1300 Watt Min	20% Duty Cycle
Output Power Flatness	0 to 2 dB	Over operating band
Input Power	24 dBm ±1.0dB	
Saturated Gain	38dB Min	
Pulse Width	2 µSec – 64 µSec	
Duty Cycle	5%	
Rise / Fall Time	<250nSec / <150nSec	
Droop	<0.8 dB	
Input / Output VSWR	1.5 : 1	Relative to 50 Ohm
Harmonics	-30dBc Max	At rated Output Power
Near Carrier Noise	<-70 dBc @ 100 Hz away from carrier. Input Source <-80 dBc/Hz	Amplifier adds less than 10dB noise components
Spurious	-70 dBc Max	
Over Temp. Alarm	ON: TTL Low >75°C OFF: TTL High <70°C	
Over Voltage Protection	Built In	
Load VSWR	Output Short or Open	No damage
Gate Control Inputs	PA OFF: TTL High PA ON: TTL Low	2 µSec – 64 µSec
AC Input Voltage	180 – 260 VAC, 50/60 Hz	
Efficiency	20 % Typical	
Detected RF Output	Pout = 0: V_{DET} = 0 – 5 VDC Pout = Max: V_{DET} = 4 – 4.5 VDC	Continuous DC Voltage
ON/OFF Isolation	120dB Min	Little or no RF Leakage in OFF Period

ENVIRONMENTAL CHARACTERISTICS

Parameter	Specification	Notes
Operating Ambient Temperature	-20 to +55°C	MIL-STD 810F, 502.4/501.4
Storage Temperature	-30 to +70°C	MIL-STD 810F, 502.4/501.4
Relative Humidity	95% @ 40°C	MIL-STD 810F, Method 507.4
Shock (Bump)	25 g for 6 mSec, 2-3 Bumps/Sec. 400 Bumps	MIL-STD 810F, Method 516.5
Vibrations	$2m/S^2$ from 20 -50 Hz $2m/S^2$ from 20 -500 Hz	MIL-STD 810F, Method 514.5
Altitude	5160 m	MIL-STD 810F, Method 500.4
EMI/EMC	Conducted Susceptibility, Radiated Emissions	MIL STD 461E, Method CS101 MIL STD 461E, Method RE102

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MECHANICAL SPECIFICATIONS

Parameter	Specification	Notes
Dimensions W x H x D	430 x 560 x 133.3 mm	Standard 3U
Weight	20 Kg. Max	
RF Connectors In/Out	SMA Female / Type-N Female	
RF Output Monitoring	SMA Female	Coupled Port
AC Power	IEC 60320-C14	
Interface Connector	9-Pin Dsub	
Cooling	Built in Fan Cooling	

D SUB CONNECTOR

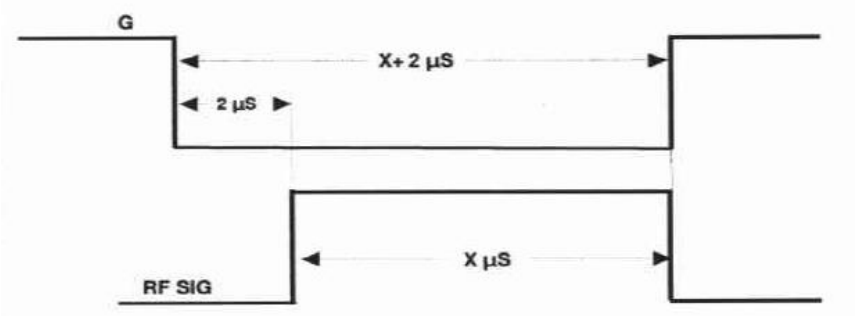
PIN	CONNECTOR	
1	AMP ENABLE (TTL)	
2	GND	
3-7	N/C	
8	HIGH TEMP ALARM (TTL)	
9	GND	

GATE CONTROL PULSE TIMING REQUIREMENT

Gated control input 4 µSec – 66 µSec

PA OFF: TTL High

PA ON: TTL Low



- Starting control pulse 2 µSec before the RF pulse allows more time for the bias to stabilize thus allowing more stable pulse.
- Switching off the control pulse and RF pulse simultaneously reduces noise from the receiver.

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OUTLINE DRAWING