



AMP4001P SOLID STATE PULSE HIGH POWER AMPLIFIER

FEATURES

- Small form factor rack-mounted system
- High power LDMOS pulse devices
- Instantaneous bandwidth
- Suitable for high power S-Band linear pulse applications
- Standard MPU with local and remote interface
- Built-in protection circuits
- High reliability and ruggedness



ELECTRICAL SPECIFICATIONS: 50Ω, 25°C

Parameter	Specification	Notes
Operating Frequency Range	3.1 - 3.5 GHz	
Peak Output Power	1300 Watt Min	up to and @ 5% Duty Cycle
Output Power Flatness	0 to 2 dB	Over operating band
Input Power	24 dBm ±1.0dB	
Saturated Gain	38 dB Min	
Pulse Width	2 μSec - 64 μSec	
Duty Cycle	up to 5%	
Rise / Fall Time	<250 nSec / <150 nSec	
Droop	<0.8 dB	
Input / Output VSWR	1.5 : 1	Relative to 50 Ohm
Harmonics	-30 dBc 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	Non harmonics
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: VDET = 0 - 0.1 VDC Pout = Max: VDET = 3.0 - 3.3 VDC	Continuous DC Voltage
ON/OFF Isolation	120 dB Min	Little or no RF Leakage in OFF Period
STANDARD: Digital Control FWD, REV, VSWR, GAIN, V, I, TEMP	Ethernet RJ-45 TCP/IP, RS422/485, USB	

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

Note: All Environmental specifications are designed-to-meet, actual tests are quoted separately.

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MECHANICAL SPECIFICATIONS

Parameter	Specification	Notes
Dimensions W x H x D	430 x 560 x 133.3 mm	3U - excluding handles
Weight	21 Kg. Max	
RF Connectors In/Out	SMA Female / Type-N Male	Rear panel standard
RF Output Monitoring	SMA Female	Coupled Port
Gate Control Input	BNC Female	Front panel standard
Detected RF Output	BNC Female	Front panel standard
AC Power	MS3102E-22-09	Front Panel MS connector
Interface Connector	9-Pin D-Sub	Front Panel
Cooling	Built in Fan Cooling	Back-to-Front Airflow

D SUB CONNECTOR

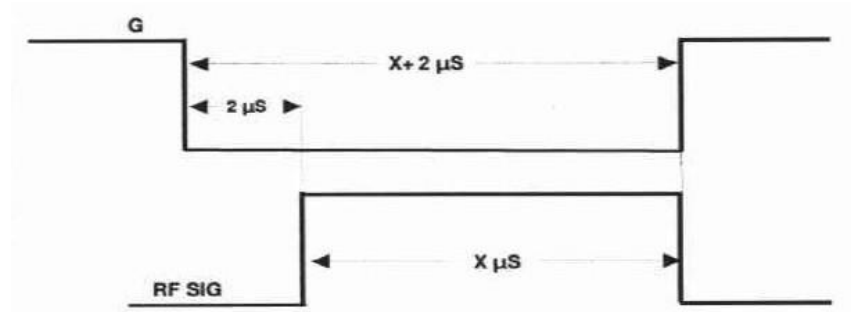
PIN	CONNECTOR
1	AMP ENABLE (TTL)
2	GND
3-7	N/C
8	HIGH TEMP ALARM (TTL)
9	GND

GATE CONTROL PULSE TIMING REQUIREMENT

Gated control input 2 μ Sec - 64 μ Sec

PA OFF: TTL High

PA ON: TTL Low



- Starting control pulse 2 μ Sec 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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REFERENCE OUTLINE DRAWING FOR EXAMPLE ONLY

