



## AMP4036P 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	2.7 - 2.9 GHz			
Peak Output Power	1000 Watt Min			@ 10 % Duty Cycle
Output Power Flatness	0 to 2 dB			Over operating band
Input Power	0 dBm Nom			
Saturated Gain	60 dB Min			
Pulse Characteristics	<b>Width</b>	<b>Duty</b>	<b>PRF</b>	
	200 $\mu$ S Max	10 % Max	500 Hz $\pm$ 5%	
Rise / Fall Time	<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	<-65 dBc @ 100 Hz away from carrier. Input Source <-80 dBc/Hz			Amplifier adds less than 10dB noise components
Spurious	-65 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 $\mu$ Sec - 200 $\mu$ Sec
AC Input Voltage	180 - 260 VAC, 50/60 Hz			
Efficiency	20 % Typical			
Detected RF Output	Pout = 0: VDET = 0 - 5 VDC Pout = Max: VDET = 4 - 4.5 VDC			Continuous DC Voltage
ON/OFF Isolation	120 dB Min			Little or no RF Leakage in OFF Period

### ENVIRONMENTAL CHARACTERISTICS

Parameter	Specification	Notes
Operating Ambient Temperature	0 to +55°C	MIL-STD 810F, 502.4/501.4
Storage Temperature	-20 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 <sup>2</sup> from 20 -50 Hz 2m/S <sup>2</sup> 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

### PROTECTIONS

Parameter	Specification	Notes
General Protection	AC overload, Over temperature, Load VSWR	
Pulse protection	Pulse width, Duty cycle	

### 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	Type-N Female / CPR284F Waveguide	Rear panel
RF Output Monitoring	SMA Female	50dB $\pm$ 1dB coupled Port
Pulse Gating Connector	BNC Female	Rear panel
AC Power	IEC 60320-C14	
Interface Connector	9-Pin D-Sub	
Cooling	Built in Fan Cooling	

### D SUB CONNECTOR

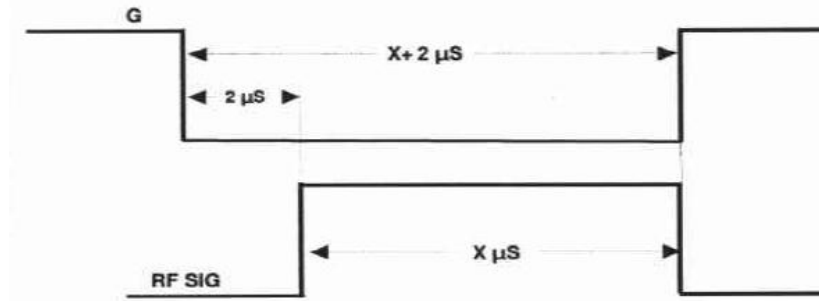
PIN	CONNECTOR
1	AMP ENABLE (TTL)
2	GND
3-7	N/C
8	HIGH TEMP ALARM (TTL)
9	GND

### GATE CONTROL PULSE TIMING REQUIREMENT

Gated control input 4  $\mu$ Sec - 200  $\mu$ Sec

PA OFF: TTL High

PA ON: TTL Low



- Starting control pulse 2  $\mu$ 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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## OUTLINE DRAWING

