AMP4002P
SOLID STATE PULSE HIGH POWER AMPLIFIER

FEATURES

Small form factor rack mounted system
High power GaN 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	9.1 - 9.5 GHz	
Peak Output Power	500 Watt Min	20% Duty Cycle
Output Power Flatness	0 to +2 dB	Over operating & Temp Range
Input Power	0 - 5 dBm	Pulsed
Saturated Gain	58 dB Min	
Output Power Control	6 dB, 50 - 56 dBm, 1 dB steps	
Pulse Width	0.35 µSec - 50 µSec	Measured @ 50% pt.
Duty Cycle	20% Max	
Pulse Repetition Frequency (PRF)	5 KHz Max, ±5% staggering	
Rise / Fall Time	75 nSec	
Droop	<0.8 dB Max	50 µSec PW, 20% duty
Input / Output VSWR	1.5 : 1	Relative to 50 Ohm
Harmonics	-60dBc Max	Internal Harmonics Filter
Phase drift within pulse	7.5° Max (Linear)	
Out of Band Spurious levels	-65 dBc Max	
Over Temp. Alarm	ON: TTL Low >75°C OFF: TTL High <70°C	
Load VSWR	2.5 : 1	Without damage
Gate Control Inputs	PA OFF: TTL High PA ON: TTL Low	TTL pulse precedes RF by 2 µSec
AC Input Voltage	230 VAC, ±10%, 50 Hz ±3 Hz	<1kVA
Noise Figure	<10dB	
Detected RF Output	Pout = 0: V_{DET} = 0 - 5 VDC Pout = Max: V_{DET} = 4 - 4.5 VDC	Continuous DC Voltage
Phase Noise	-70 dBc/Hz @ 100 Hz from carrier	

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 Input Connector	SMA (F) Jack	
RF Output Connector	WR 90 UG 136B/U (Choke Flange)	Aluminum w threaded holes
RF Sample Port	SMA (F) Jack	0 – 6 dBm
Detected RF Power	BNC (F)	Pulsed DC
AC Power	Amphenol, 97 – 3102A-2209 P (3 pin)	or equivalent
Transmit Gating Signal	3 pin D38999 SERIES III (M) Circular connector	RS422, 1 rtn
Monitor & Control	Ethernet RJ-45 circular connector TCP/IP RS422/485 D-sub 9S port for redundancy	Remote Bluetooth application
Cooling	Built in Fan Cooling	

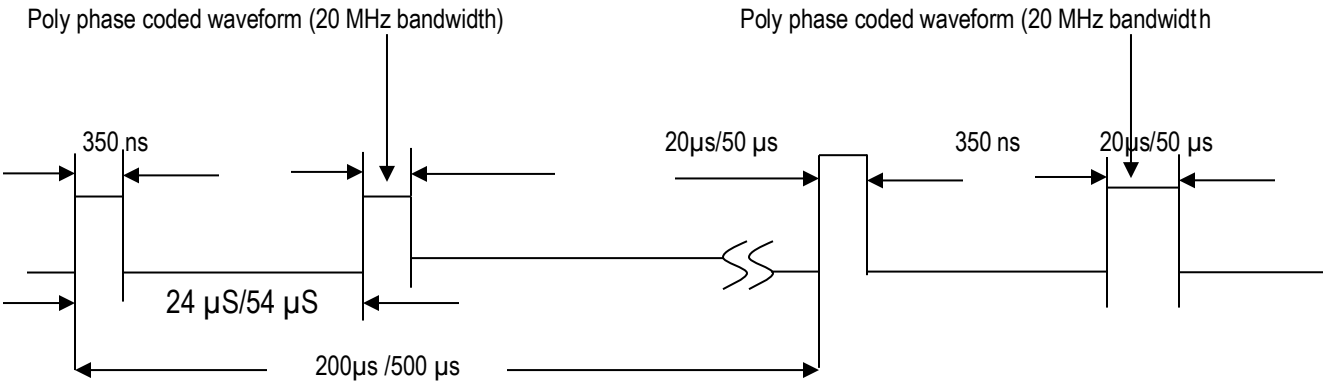

Fig.1 TYPICAL I/P RF WAVEFORM (DETECTOR O/P)

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OUTLINE DRAWING