

XPA Series

20 – 520MHz 100W RF Power Amplifier

Features

- Frequency Range: 20-520MHz
- Gain: 50dB
- P_{1dB}: +46dBm
- P_{SAT}: +50dBm
- DC Power: +28V @ 8A
- SMA/Type N-female

Description

XPA-520M-100W is 50dB gain 100W high performance RF Power Amplifier, with standard frequency range of 20 to 520MHz on a single +28V DC power.

Electrical Specifications @+25 °C, Z_{in}=Z_{out}=50 Ω, DC Supply = +28VDC

Parameter	Unit	Minimum	Typical	Maximum
Frequency Range	MHz	20		520
Gain S ₂₁	dB	50	53	
Gain Flatness	dB		±1.0	±1.5
Output Power P _{1dB}	dBm		+46	
Output Power P _{SAT}	dBm	+50	+51	
Output IP3	dBm		+56	
Noise Figure	dB		7	10
Harmonics @ P _{OUT} =100W	dBc	-10	-15	
Spurious	dBc	-60	-70	
Switching Time @10KHz TTL 50% Duty Cycle	µS		1	
Input VSWR S ₁₁			1.5:1	2.0:1
DC Power Supply - voltage	V	+26	+28	+30
DC Power Supply - current	A		8	12

Mechanical Specifications

Parameter	Unit	Value
Input/Output RF Connector		SMA/Type N Female
DC Bias/Control Connector		D-SUB-9 Female
Size	mm	180(L)x115(W)x25(H)
Weight	g	250

Heatsink required for normal operation

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DC Power Input DB-9 Female

Pin #	Pin Name	Type	Function Detail
1	+28V	Input	DC Input Positive +26 to +30V
2	+28V	Input	DC Input Positive +26 to +30V
3	+28V	Input	DC Input Positive +26 to +30V
4	+28V	Input	DC Input Positive +26 to +30V
5	+28V	Input	DC Input Positive +26 to +30V
6	GND	Input	DC Input Negative
7	GND	Input	DC Input Negative
8	GND	Input	DC Input Negative
9	GND	Input	DC Input Negative

Control Signal DB-9 Female

Pin #	Pin Name	Type	Function Detail
1	PA On/Off Control	Input	Logic High (or open): PA=On, Logic Low: PA=Off
2	VSWR Alarm	Output	Output VSWR>5:1, PA Shutdown Alarm=High, VSWR<5:1, Alarm=Low
3	Temperature Alarm	Output	Case Temperature >+70°C, PA Shutdown Alarm=High, Temperature <+60°C, Alarm=Low PA in Normal Operation Mode
4	Reset	Input	When VSWR Alarm Shutdown PA, PA will be locked, provide a 10μS reset pulse to restart PA
5	Power Control	Input	Control Voltage input 0-7V for attenuation 30dB-0dB Control Voltage input 2-7V for attenuation 10dB-0dB
6	NC		Internal No Connection
7	NC		Internal No Connection
8	NC		Internal No Connection
9	GND	Input	Ground

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Absolute Maximum Ratings

Parameter	Absolute Maximum
Supply Voltage	+38V
RF Input Power	+5dBm
Operating Temperature	-45 °C to +70 °C
Storage Temperature	-55 °C to +125 °C

ESD Sensitive Material



Outline

(mm)

