



MODEL MPM2731P60A
2.7~3.1GHz
1000 Watt
X-BAND GAN PULSED POWER AMPLIFIER

Advantages:

- Operating Frequency :2.7~3.1GHz
- PPK:1000W Typical
- Supply Voltage:+48V
- 50 Ohms Input and Output Matched

ELECTRICAL SPECIFICATIONS @ +48.0VDC, 25° C, 50Ω, 100 μ S, Duty Cycle=25%

Parameter	Symbol	Min	Typ	Max	Units
Operating Frequency	BW	2.7		3.1	GHz
RF Output Power	PPK	800	1000		Watt
Duty Cycle	Duty Cycle			10	%
Pulse Width	P _{WIDTH}	2		100	μs
PRI	PRI	70		1000	μs
2 nd Harmonics @ Pout = 1000W	H		-20		dBc
Spurious Signals	Spur		-55		dBc
RF Input Power @ Pout = 1000W	P _{IN}	-1	0	1	dBm
Input Return Loss	S ₁₁			-10	dB
Rise/Fall time(Pulse performance)	T _{RISE/FALL/OFF(10-90)}		100		ns
Switching Speed	T _{ON/OFF}		2	5	μs
Power droop	Droop		1		dB
In/Output Impedance	Impedance		50		Ω
Operating Voltage	V _{DC}	46	48	50	Volt
Peak Current Consumption @Pout=1000W	I _{DD}			20	Amp
Average Current Consumption@Pout=100W	I _{DD}		8		Amp
Power Added Efficiency	Efficiency		25		%

MECHANICAL SPECIFICATIONS

Parameter	Value	Units	Notes
Dimensions	300x250x30 [11.81x9.84x1.18]	mm [inch]	Maximum
Weight	8.0 [17.64]	kg [lbs]	Maximum
RF Connectors Input	Type-SMA, Female		
RF Connectors Output	Type-N, Female		
DC Interface Connector	Hybrid, D-Sub 7-Pin, Male		
Cooling	External Heatsink		

ENVIRONMENTAL CHARACTERISTICS (Design to Meet)

Parameter	Minimum	Typical	Maximum	Units	Notes
Operating Temperature	-40		60	°C	
Non-operating Temperature	-45		85	°C	Storage
Relative Humidity (non-condensing)			95	%	



ABSOLUTE MAXIMUM RATING

Input RF drive level without damage	+10 dBm (Max)
Load VSWR @ P _{OUT} =1000W	∞ @ all load phase & amplitude for duration of 1 minute; 3:1 @ all load phase & amplitude continuous.
Thermal Overload	85°C shutdown

POWER INTERFACE CONNECTOR

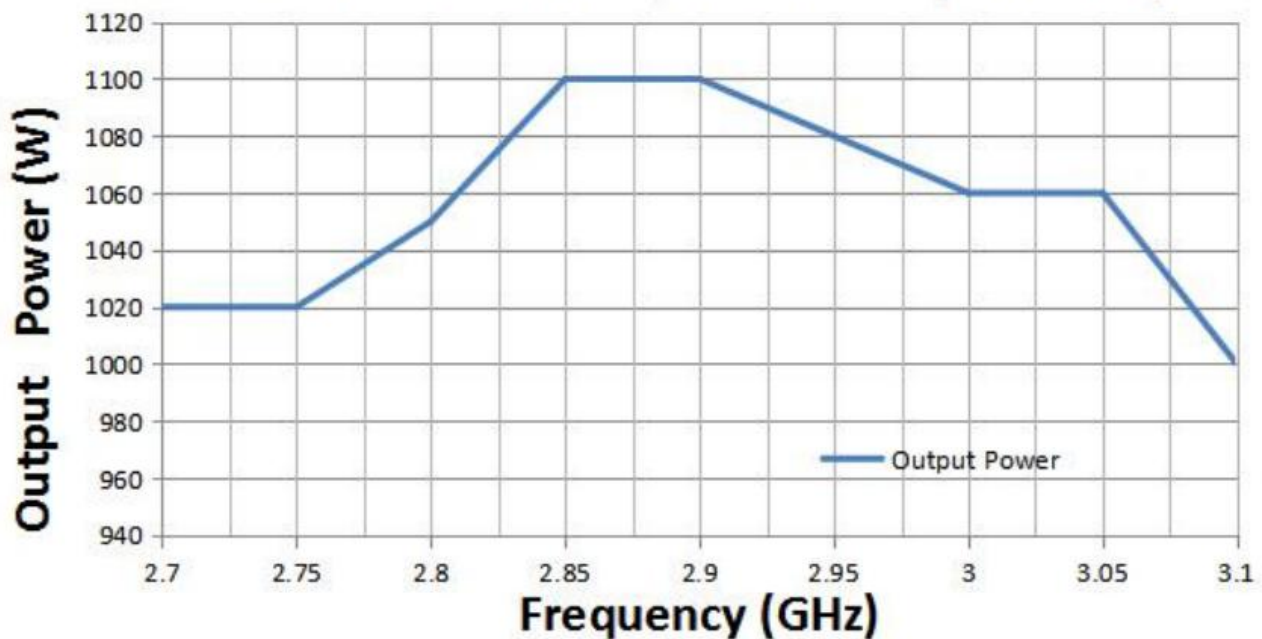
Male D-Sub is on the housing

Pin#	Name	Specifications
A1	VDD	48V _{DC}
A2	GND	Ground
1	TX-GATE	Enable:TTL Logic High(3.3V)
2	CURRENT SENSE	Analog voltage relative to I _{DD} @ 100mV per Ampere
3	TEMP SENSE	Analog voltage relative to Module's Temperature @0.5V+10 mV/°C
4	RF ON/OFF	RF Switch On: TTL Logic High (3.3V)
5	GND	Ground

TYPICAL PERFORMANCE PLOTS (FOR REFERENCE ONLY)

Output Power (Normal temp. +25±3°C)

Psat (W) 100us pulse width , 10% duty



Note: Adequate heatsink required.