



RACK MOUNT MSP90100P50A
9~10GHz
100 WATTS
X-BAND PULSED POWER AMPLIFIER SUBSYSTEM

Advantages:

- Operating Frequency :9~10GHz
- Power Gain:50dB Typical
- Psat:100W Typical
- Supply Voltage:+220VAC
- 50 Ohms Input and Output Matched

ELECTRICAL SPECIFICATIONS @ +220VAC, 25°C, 10µS, 10%, 50Ω

Parameter	Symbol	Min	Typ	Max	Units
Operating Frequency	BW	9		10	GHz
RF Output Power @Pin=0dBm	P _{PK}		100		Watt
Duty Cycle	Duty Cycle			10	%
Pulse Width	P _{WIDTH}			10	µS
PRI	PRI			100	µS
Harmonics @ Pout = 80W	H		-35		dBc
Spurious Signals	Spur		-55		dBc
Input Return Loss @ Pout =100W	S ₁₁		-10		dB
Rise /Fall time (Pulse Performance) (10-90%)	TRISE/FALL/OFF		50		ns
Power droop@ Pout =100W	Droop		0.8		dB
Input/Output Impedance	Impedance		50		dBc
Operating Voltage (1-phase)	V _{AC}	180	220	240	Volt
Power Consumption@Pout =100W	P _D		250		Watt

MECHANICAL SPECIFICATIONS

Parameter	Value	Notes
Dimensions (W x H x D) – Bench Top/Rack Mount	482.6 x 88.1 x 445 mm [19x3.47x17.52 inch] (2U)	Maximum
Weight	30kg [66 lbs]	Maximum
RF Connectors Input	Type-N, Female	
RF Connectors Output	Type-N, Female	
Cooling	Built-in internal forced air-cooling system	

ENVIRONMENTAL CHARACTERISTICS (Design to Meet)

Parameter	Minimum	Typical	Maximum	Units	Notes
Operating Ambient Temperature	-20		50	°C	
Non-operating Temperature	-45		85	°C	Storage
Relative Humidity (non-condensing)			95	%	



ABSOLUTE MAXIMUM RATING

Input RF drive level without damage	+5 dBm (Max)
VSWR Protection@80W	3:1 @ PA output power will degrade to a safe operation level, and system will still work. >3:1 @ protection will make system shutdown.
Thermal Overload	Power will Gracefully Degrade, when Ambient Temp >85°C

AVAILABLE OPTIONS (Selected options refer to the factory)

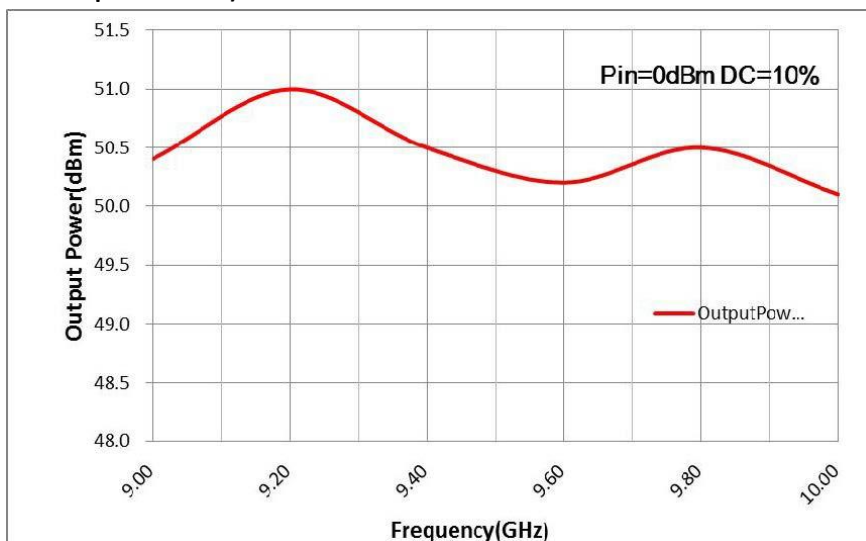
Name	Description	LCD
RS422	Serial management of device /local operator access	D-Sub 9-Pin, Male
Status Monitor	LCD Controller	Digital Display, including FWD/REV Power indication (dBm or Watt scale), Standby mode, Fault indication
WAN	Serial management of device /local operator access	Internet access

I/O CONNECTOR-Monitor Display or RS422

Pin #	Description	Specifications
1	ENABLE	Amplifier Enable: TTL Logic High (3.3V-5V) (Internally Pulled-Low)
2	TEMP SENSE	Analog voltage relative to temperature@0.5+10mV /°C
3	ALARM	Amplifier Alarm indicator: Normally TTL Low
4	Reserved	Reserved
5	RS422-T+	Transmit data-TxD
6	RS422-T-	Transmit data-TxD
7	RS422-R+	Transmit data-RxD
8	RS422-R-	Transmit data-RxD
9	GND	GND

TYPICAL PERFORMANCE PLOTS (FOR REFERENCE ONLY)

Output Power (Normal temp. +25 ± 3°C)



Note: Air-cooled heat dissipation.

Version. 1.0_2024.11.07