



The MP270/500/49MK-A1 is a broadband high power amplifier for VHF-UHF applications. The amplifier supports signal amplification in the 20-520 MHz frequency band, and is protected against over-temperature and excessive current draw. This amplifier integrates a Bi-directional power coupler for forward and VSWR protection as well as an ALC loop for over power protection.

Model: MP270/500/49MK-A1

1. Electrical Characteristics

Item	Value	Note
Frequency Range	20 ~ 520 MHz	
Gain	52 dB (Min.)	
Gain Flatness	± 2.0 dB (Typ.)	Over Freq. Range
Output P1	+49 dBm (Min.)	
Output Psat	+50 dBm (Min.)	
Input / Output VSWR	2:1 (Max.)	
Spurious	-70 dBc (Max.)	
2 nd / 3 rd Harmonics	-35 / -20 dBc (Typ.)	Pout @ 100 Watts
HPA Enable/Disable	TTL "0 V or Open" ⇒ Enable TTL "5 V" ⇒ Disable	
VSWR Alarm	If Output Reflect Power ≥ +47dBm ±1 dBm	TTL High at Pin 1
Temperature Sensor Output	10 mV/°C	
Forward Power Monitor	4.0 ± 0.2 V @ +49 dBm	RMS Detection
Reverse Power Monitor	4.0 ± 0.2 V @ +49 dBm	RMS Detection
ALC ON/OFF	TTL "High or 5V" : Disable TTL "Low " : Enable	Default ALC ON
ALC Default Level	+51 dBm ± 0.5 dBm	
ALC Accuracy	± 0.5 dBm	
DC Input Voltage	+ 28 V ± 2V	
Current Consumption	13.0 A (Typ.)	Pout @ 100 Watts
Input / Output Impedance	50 Ω	
Max. Input Signal (Without Damage)	+5 dBm	

2. Mechanical Characteristics

Monitoring Connector	DB-9 Male	4 – 40 screw
RF IN/OUT Connector	SMA – 4 Holes Female	
DC Input	Pin6 and Pin7 at DB-9	
Dimensions	8.4" x 3.48" x 1.06"	

3. Environment Characteristics

Operating Temperature	-40°C ~ +80°C	Base Plate
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Revision History			
REV	Reason to Change	Date	Initialed by
	Production Approved	01/06/16	Y.Z.

4. DB9-Female Pin Description

1	VSWR Alarm	
2	Current Monitor	275 mV/Amp
3	Temperature Monitor	10 mV/°C
4	ALC ON/OFF	TTL Low: ON
5	Enable/Disable	0V or Open: Enable 5V: Disable
6, 7	+28 V	
8	Fwd. Monitor Output	
9	Rev. Monitor Output	

5. Outline Drawing

