



The MP270/500/49MK-CP-A2 is a broadband high power amplifier for VHF-UHF applications. The amplifier supports signal amplification in the 20-512 MHz frequency band. It is protected against over-temperature, excessive current draw. This amplifier integrates a Bi-directional power coupler for forward and reverse power monitoring.

Model: MP270/500/49MK-CP-A2

1. Electrical Characteristics

Item	Value	Note
Frequency Range	20 ~ 512 MHz	
Gain	52 dB (Min.)	
Gain Flatness	ALC ON	Over Freq. Range
	ALC OFF	
	± 0.75 dB	± 2.0 dB
Output P1	+49 dBm (Typ.)	
Output Psat	+50 dBm (Min.)	
IMD@ 3 Tones	-5 dBc (Max.)	3 CW Tones @ +48 dBm , 100 KHz spacing
Input / Output VSWR	2:1 (Max.)	
Spurious	-70 dBc (Max.)	
2 nd / 3 rd Harmonics	-30 / -20 dBc (Typ.)	Pout @ +48 dBm
VSWR Protection	Shutdown if Output Reflect Power ≥ 42 dBm	
HPA Enable/Disable	TTL "0 V or Open" ⇒ Enable TTL "5 V" ⇒ Disable	
Temperature Sensor	10 mV/°C	
Forward Power Monitor	4.0 ± 0.3V @ +49 dBm, 250MHz Power Monitor Flatness: ±1dBm	RMS Detection
Reverse Power Monitor	4.0 ± 0.3V @ +49 dBm, 250MHz Power Monitor Flatness: ±1dBm	RMS Detection
ALC ON/OFF	TTL Low: ON TTL High: OFF	Pin 1
ALC Level	ALC Setting Range > 15 dB	0-5V Input Via Pin 4
HPA Switching ON/OFF Speed	2 μsec (Typ.)	
DC Input Voltage	+ 28 V ± 2V	
Current Consumption	10 A (Max.)	Pout @ 60 Watts
Input / Output Impedance	50 Ω	
Max. Input Signal (without Damage)	+5 dBm	With ALC On

2. Mechanical Characteristics

Monitoring Connector	DB9-Male	4 – 40 screw
RF IN/OUT Connector	SMA 4 Holes - Female	
DC Input	Pin6 and Pin7 at DB9	
Dimensions	8.4" x 3.48" x 1.06"	
LED Indication	ALC ON	

3. Environment Characteristic

Operating Temperature	-40°C ~ +80°C	Base Plate
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Revision History

REV	Reason to Change	Date	Initialed by
	Production Approved	07/25/16	YZ

4. DB9 Pin Description

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

5. Outline Drawing

