



The MP270/500/52HK-A5 is suitable for 20 - 520 MHz high power linear applications. The amplifier employs linear LDMOS power devices that provide sufficient output power, wide dynamic range, and high gain.



Model: MP270/500/52HK-A5

1. Electrical Characteristics

Item	Value	Note
Frequency Range	20 ~ 520 MHz	
Power Gain	48 dB ± 1.0 dB	@ + 48 dBm Output
Gain Flatness	± 1.5 dB	Over Freq. Range
Gain Variation	± 1 dB	Over Temp. Range
Output Power Psat	+52 dBm (Min.)	
IP3	+54 dBm (Min.)	Two Tones @ +45 dBm per tone 12.5 KHz Spacing
Input / Output VSWR	≤ 1.5	
Harmonics	-15 dBc (Max.)	@ + 48 dBm Output
Spurious	-70 dBc (Max.)	@ +48 dBm Output
HPA Enable/Disable	TTL "Low or Open" ⇒ Disable TTL "High" ⇒ Enable	Pin 3
Switching On/Off Time @ 90% Power Output	3 μs (Max.)	TTL Control Signal: 1 KHz, 50% Duty Cycle
DC Input Voltage/Current	+28 VDC ± 2V / 7.0 A (Max.)	@ + 48 dBm Output
Efficiency	> 30%	@ + 48 dBm Output
Forward Coupling	50 dB ± 1.0 dB	≥ 18 dB Directivity
Reverse Coupling	50 dB ± 1.0 dB	≥ 18 dB Directivity
Power Monitor Flatness	± 0.75 dBm (Max.)	
Temperature Sensor	Vt +500mV, 10mV/C°	Pin 1
Current Sensor	100mV/A	Pin 2
Input / Output Impedance	50 Ω	
Input Max No. Damage	+10 dBm	
Load Conditions (No Damage)	6 : 1	

2. Mechanical Characteristics

Monitoring Connector	DB-9 Male	4 – 40 screw
RF IN/OUT Connector	SMA 4 Holes – Female	Sucoplate or Tri-Metal
DC Input	Pin 4,5,6 on DB-9	
Forward Coupling Connector	SMA 4 Holes / Female	Sucoplate or Tri-Metal
Reverse Coupling Connector	SMA 4 Holes / Female	Sucoplate or Tri-Metal
Dimensions	7.0" x 3.40" x 1.07"	
Weight	2.2 lb	
Paint Except for Base Plate Surface (Chemical Conversion Coating on Base Plate Surface)	Epoxy Gray F63A33	MIL-STD-24441D

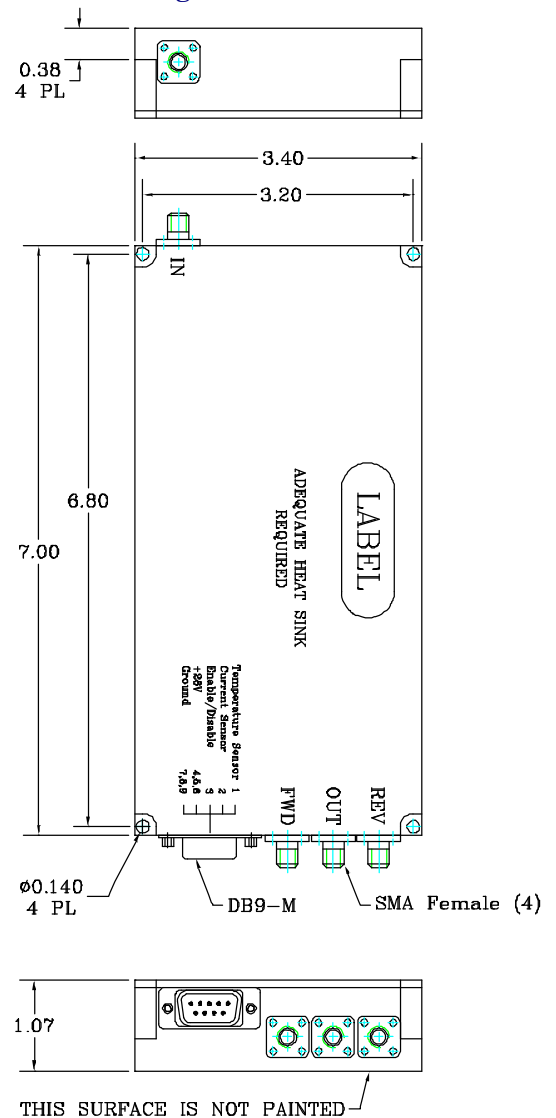
3. Environment Characteristics (Designed to meet)

Operating Temperature	-30°C ~ +75°C	Base Plate
Storage Temperature	-40°C ~ +95°C	
Cooling	External Heat-Sink	
Humidity (Non-condensing)	95% (Max.)	Designed to meet: IAW MIL-STD-810F
Operating Altitude	10,000 Feet	
Vibration and Shock	Vibration 6.06 gRMS	Designed to meet: IAW MIL-STD-810F

4. DB9 Pin Description

1	Temperature Sensor	
2	Current Sensor	
3	Enable/Disable	Enable: TTL High Disable: TTL Low or Open
4, 5, 6	+28V	
7, 8, 9	Ground	

5. Outline Drawing



Revision History

REV	Reason to Change	Date	Initialed by
	Initial approval	03/10/16	Y.Z