



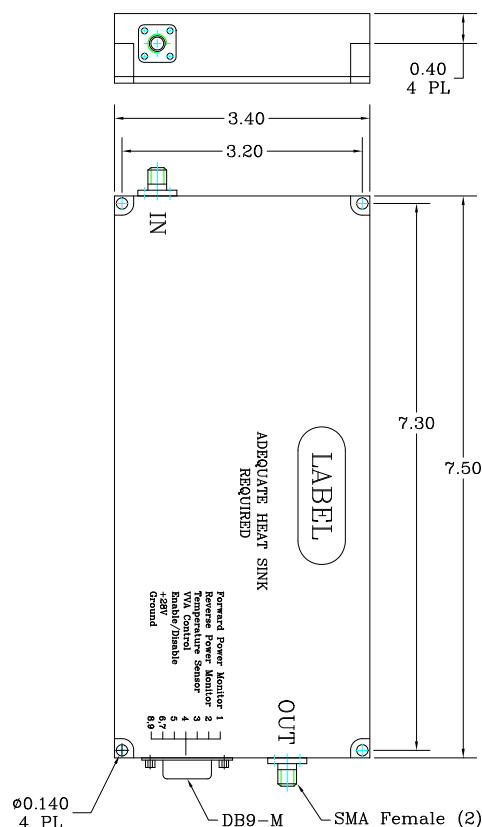
The MP270/500/52HK-A10 is suitable for 20 ~ 520 MHz high power linear applications. The amplifier employs linear LDMOS power devices that provide sufficient output power, wide dynamic range, and high gain.

**Model: MP270/500/52HK-A10**

1. Electrical Characteristics		
Item	Value	Note
Frequency Range	20 ~ 520 MHz	
Gain	45 dB (Min.)   50 dB (Max.)	
Gain Flatness	± 1.0 dB (Typ.)   ± 1.5 dB (Max.)	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	-25 dBc (Max.)	@ + 48 dBm Output
Spurious	-70 dBc (Max.)	@ +48 dBm Output
HPA Enable/Disable	TTL "Low or Open" ⇒ Enable TTL "High" ⇒ Disable	Pin 5
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 Power Monitor	2.5 ± 0.1 V @ +48 dBm	Pin1, RMS Detection
Reverse Power Monitor	2.5 ± 0.1 V @ +48 dBm	Pin2, RMS Detection
Power Monitor Flatness	± 0.75 dBm (Max.)	
Power Detect Range	25 dB (Min.)	
VVA Control	+5V: Maxim Gain 0V: Maxim Attenuation	
VVA Range	> 25 dB	
Temperature Sensor	Vt +500mV, 10mV/C°	Pin 3
Input / Output Impedance	50 Ω	
Input Max No. Damage	+15 dBm	
Load Conditions (No Damage)	6 : 1	

4. DB9 Pin Description		
1	Forward Power Monitor	
2	Reverse Power Monitor	
3	Temperature Sensor	
4	VVA Control	0-5V
5	Enable/Disable	Enable: TTL Low or Open Disable: TTL High
6, 7	+ 28V	
8, 9	Ground	

**5. Outline Drawing**



2. Mechanical Characteristics		
Monitoring Connector	DB-9-Male	4 – 40 screw
RF IN/OUT Connector	SMA 4 Holes – Female	
DC Input	Pin 6, 7 on DB-9	
Dimensions	8.4" x 3.48" x 1.06"	
Weight	2.2 lb	

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

Revision History			
REV	Reason to Change	Date	Initialed by
A	Production approved	10/12/15	Y.Z