



The MP275/500/46MK-A10 is suitable for 30-520 MHz high power linear applications. The amplifier employs linear LDMOS power devices that provide sufficient output power, wide dynamic range, and high gain.

## Model: MP275/500/46MK-A10

### 1. Electrical Characteristics

Item	Value	Note
Frequency Range	30 ~ 520 MHz	
Gain	43 dB (Min.), 46 (Max.)	
Gain Flatness	± 1.5 dB (Typ.)   ± 1.8 dB (Max.)	Over Freq. Range
Gain Variation	± 1 dB	Over Temp. Range
Output Power Psat	+46 dBm (Min.)	
IP3	+52 dBm (Min.)	Two Tones @ +40 dBm per tone 12.5 KHz Spacing
Input / Output VSWR	≤ 1.5	
Harmonics	-15 dBc (Max.)	@ +43 dBm Output
Spurious	-70 dBc (Max.)	@ +43 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 / 3.8 A (Max.)	@ +43 dBm Output
Efficiency	> 20%	@ +43 dBm Output
Forward Power Monitor	2.5 ± 0.1 V @ +43 dBm	Pin1, RMS Detection
Reverse Power Monitor	2.5 ± 0.1 V @ +43 dBm	Pin2, RMS Detection
Power Monitor Flatness	± 0.75 dBm (Max.)	Reflected Power Phase Dependent
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	
Max. Input Signal (Without Damage)	+15 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	
DC Input	Pin 6,7 on DB-9	
Dimensions	6.4" x 3.40" x 1.07"	
Weight	1.2 lb	

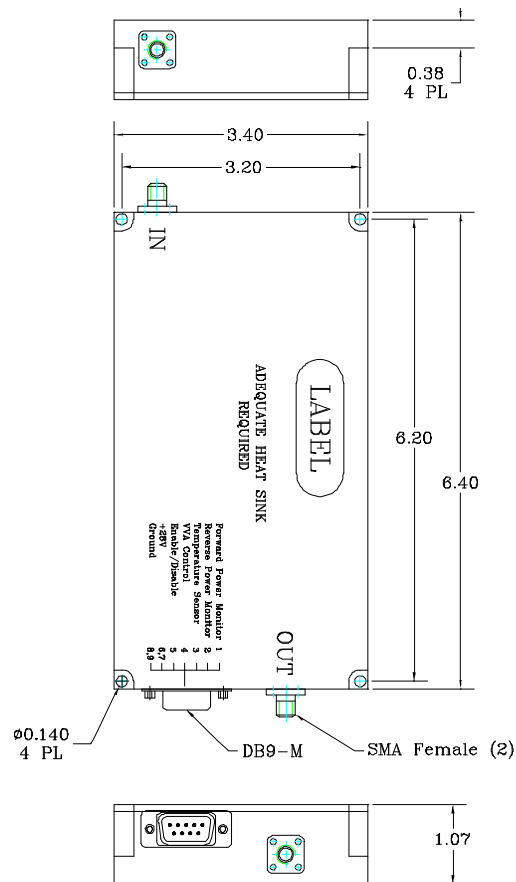
### 3. Environment Characteristics (Designed to meet)

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

### 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



### Revision History

REV	Reason to Change	Date	Initialed by
	Production Approved	12/04/15	Y.Z