



The MP20/10/45MK-A is a broadband high power amplifier for HF-VHF applications. The amplifier supports signal amplification in the 15 ~ 25 MHz frequency band. It is protected against over-temperature and ALC loop for over power protection. This amplifier integrates a Bi-directional power coupler for forward and reverse power monitoring and VSWR Alarm indication.



Model: MP20/10/45MK-A

1. Electrical Characteristics

Item	Value	Note
Frequency Range	15 ~ 25 MHz	
Gain	45 dB (Min.)	
Gain Flatness	± 0.5 dB	Over Freq. Range
Output P1	+ 44.8 dBm (Typ.)	
Output Psat	+ 45 dBm (Min.)	
Input / Output VSWR	2:1 (Max.)	
Spurious	- 60 dBc (Max.)	
Efficiency	20% (Min.)	Pout @ 30 W over full Frequency Range
HPA Enable/Disable	TTL "0 V or Open" ⇒ Enable TTL "5 V" ⇒ Disable	
Temperature Sensor	10 mV/°C	
Forward Power Monitor	4.0 ± 0.2 V @ + 44.8 dBm	RMS Detection
Reverse Power Monitor	4.0 ± 0.2 V @ + 44.8 dBm	RMS Detection
ALC ON/OFF	TTL "High or Open" : Disable TTL "Low " : Enable	Pin 4 On DB9 Default: OFF
ALC Default Level	+45.5 dBm ± 0.5 dBm	
ALC Accuracy	± 0.5 dBm	
Switching speed ON/OFF	1 μSec	
VSWR Alarm	If REV power ≥ + 40 ± 1dBm Alarm: TTL High	Pin 1 on DB9
DC Input Voltage	+ 28 V	
Current Consumption	5.6 A (Max.)	Pout @ 30 W
Input / Output Impedance	50 Ω	
Max. Input Power (without Damage)	+5 dBm	With ALC Enabled

2. Mechanical Characteristics

Monitoring Connector	DB-9 Male	4 – 40 screw
RF IN/OUT Connector	SMA 4 Holes Female	
DC Input	Pin 6 and Pin 7 at DB-9	
Dimensions	8.4" x 3.48" x 1.06"	

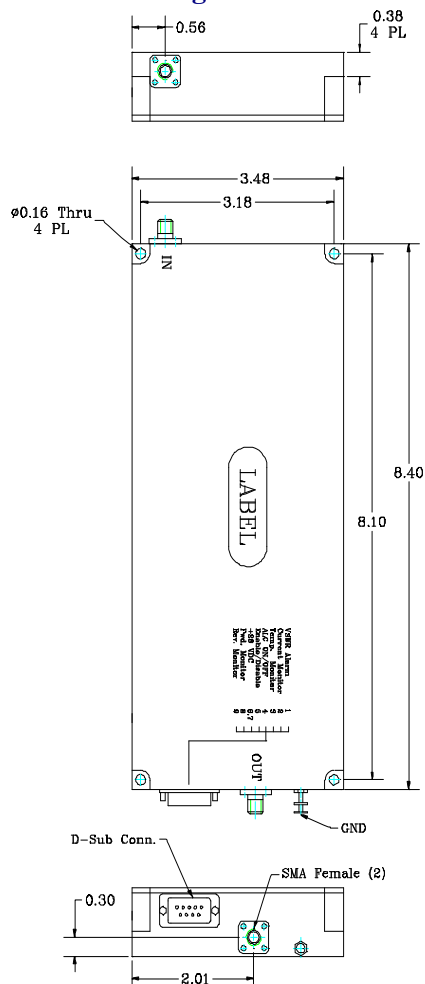
3. Environment Characteristics

Operating Temperature	-40°C ~ +80°C	Base Plate
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4. DB9 Pin Description

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

5. Outline Drawing



Revision History

REV	Reason to Change	Date	Initialed by
	Production Released	05/23/12	YZ