



The **MP315/170/45MK-A** is a broadband and high power amplifier for 230-400 MHz frequency band. It is suitable for Jamming or communication operation. The amplifier employs advance LDMOS power devices that provide ample output power, wide dynamic range, broad band, and high efficiency. It integrates a Bi-directional power coupler for forward and VSWR protection.

Model: MP315/170/45MK-A

1. Electrical Characteristics		
Item	Value	Note
Frequency Range	230 ~ 400 MHz	
Power Gain	45 ± 1.0 dB	
Gain Flatness	± 1.0 dB (Max.)	
Output Power P1	+44 dBm (Min.)	
Output Power Psat	+45 dBm (Min.)	
Input VSWR	1.5:1 (Max.)	
IP3	+57 dBm (Typ.)	2 Tones @ +37 dBm/ Tone, 100 KHz Spacing
Harmonics	-30 dBc (Max.)	Pout @ 25 watts
Spurious	-70 dBc (Max.)	Pout @ 25 Watts
Enable/Disable	TTL "0V or Open" ⇒ Enable TTL "5V" ⇒ Disable	
Temperature Monitor	V _t + 500 mV, 10 mV / °C	Pin 3
Forward Power Monitor	4.0 ± 0.2 V @ +44.8 dBm	RMS Detection Range > 25 dB
Reflect Power Monitor	4.0 ± 0.2 V @ +44.8 dBm	RMS Detection Range > 25 dB
Power Monitor Flatness Over Frequency Band	± 1.0 dB (Max.)	
VVA Control	+0V: Maxim Gain 5V: Maxim Attenuation	
VVA Range	> 25 dB	
Thermal Shutdown	+85°C ±5°C	Auto Recover at +70°C ±5°C
VSWR Protection	Shutdown if Output Reflect Power ≥ 39 dBm ±1dBm	
DC Input	24VDC ± 2V	
DC Current	4.0 A (Max.)	Pout @ 25 Watts
In/Output Impedance	50 Ω	
Load Mismatch	6:1	
Max. Input Power without Damage	+5 dBm	

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	7.5" x 3.8" x 1.0"	
Weight	1.7 lb	

Revision History			
REV	Reason to Change	Date	Initialed by
A	1. +24VDC: P1dB, Psat updated. 2. Add VSWR Protection	11/24/14	Y.Z.

3. Environment Characteristics		
Operating Temperature	-20°C ~ +85°C	Base Plate
Cooling	External Heat Sink	
Humidity (Non-condensing)	95% (Max.)	
EMI		Designed to meet: IAW MIL-STD-461C

4. DB9 Pin Description		
1	Forward Power Monitor	
2	Reverse Power Monitor	
3	Temperature Monitor	
4	VVA Control	0-5V
5	Enable / Disable	Enable: TTL Low or Open Disable: TTL High
6, 7	+ 24V	
8, 9	Ground	

5. Outline Drawing

