



MP310/180/44MK-BDBP-A amplifier module is suitable for 220 ~ 400 MHz applications. Amplifier employs linear LDMOS power devices that provide sufficient output power, wide dynamic range, and high gain. It integrates high power switch for TDD application.

Model: MP310/180/44MK-BDBP-A

1. Electrical Characteristics

Item	Value	Note
Frequency Range	225 ~ 400 MHz	
Tx Gain	44 ± 1.0dB	
Tx Gain Flatness	± 1.0 dB	Over Freq. Range
Tx Gain Variation	± 1 dB	Over Temp. Range
Tx Out Band Rejection	F ≤ 175 MHz	
	F ≥ 450 MHz	
	45 dBc (Min.)	50 dBc (Min.)
Tx Output Power P1	+44 dBm (Min.)	
Tx Output Power Psat	+45 dBm (Min.)	
Insertion Loss of Rx Path	≤ 1.5 dB	
TX Input VSWR	≤ 1.2	
Rx Input VSWR	≤ 2.0	
Tx Harmonics	-65 dBc (Max.) -70 dBc (Typ.)	@ +44 dBm Output
Spurious	-70 dBc (Max.)	@ +44 dBm Output
Standby Mode	Rx	Power On
Tx/Rx Switch Control	TTL "0" ⇒ Tx On TTL "1" ⇒ Rx On	Pull Up in TTL High Pin 4
Tx/Rx Switching Time	5 μs (Max.)	TTL Control Signal: F = 1 KHz, 50% DC
Tx/Rx Isolation	100 dB (Min.)	
DC Input Voltage	+28VDC ± 1V	18 - 32 VDC No Damage
DC Current	5.0A	@ +44 dBm Output
Temperature Sensor	Vt + 500mV, 10mV/°C	Pin 3
VSWR Protection	If Tx Reflected Power ≥ +42 ± 1 dBm, Shutdown	Pin 5 Indicates: TTL High: Alarm
Input / Output Impedance	50 Ω	
Input Max without Damage	+4 dBm	In Open/Short load condition.
Reverse DC Voltage Protection	With TVS Diode 30V	Up to 600 Watts

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	6.40" x 2.95" x 0.93"	
Weight	1.2 lb	

3. Environment Characteristics (Designed to meet)

Operating Temperature	-40°C ~ +80°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	< 30,000 Feet	
Vibration and Shock	Vibration 6.06 gRMS	Designed to meet: IAW MIL-STD-810F

Revision History			
REV	Reason to Change	Date	Initialed by
	Released to Production. Harmonics specs changed .	11/30/18	Y.Z.

4. DB9 Pin Description

1, 2	+ VDC	
3	Temperature Sensor	
4	Tx/Rx Control	Tx On: TTL Low Rx On: TTL High
5	VSWR Alarm	Alarm: TTL High Normal: TTL Low
6	+ VDC	
7, 8, 9	Ground	

5. Outline Drawing

