



The MP940/1840/52HK-A is suitable for single and multi carrier applications in 925 ~ 960 MHz and 1805 ~ 1880 MHz dual band high power linear applications. The amplifier employs linear LDMOS power devices that provide significant linear output power, wide dynamic range, and high gain.

## Model: MP940/1840/52HK-A



### 1. Electrical Characteristics

Item	Value	Note
Frequency Range	925 ~ 960 MHz	Low Band J1 ~ J2
	1805 ~ 1880 MHz	High Band J3 ~ J4
Gain	38 ± 1 dB	
Gain Flatness	± 0.5 dB	Over Freq. Range
Gain Variation	± 1.0 dB	Over Temp. Range
Power Output Psat	+52 dBm (Min.)	
Output IP3	+62 dBm (Min.)	2 Tones @ +40.0 dBm/tone, 1 MHz spacing
Input / Output VSWR	≤ 1.3	Output Isolators included
ALC Range	> 20 dB	Input Level +15 ~ +35 dBm
ALC Setting	+51.5 ± 0.2 dBm	
PA Enable/Disable	TTL "High" ⇒ Enable TTL "Low or Open" ⇒ Disable	Both Low & High Band
Dual Band Input Sampling	- 40 dB ± 1 dB	J5
Reverse Power Monitor	2.0 ± 0.1V @ +51.5 dBm	RMS Detection
Temperature Monitor	Vt +500mV, 10mV/°C	
DC Voltage Input Monitor	1.92V @ +28V Input	
Spurious	-70 dBc (Max.)	
Harmonics @ +51.5 dBm	-45 dBc (Max.)	
DC Input Voltage / Current	+28 VDC ± 1V / 10 A (Max.) < 9.6 (Typ.)	DC Input Voltage / Current @ ALC Setting
Input / Output Impedance	50 Ω	
Input Max. Power	+40 dBm	
Reverse Power Max.	150 Watts	

### 2. Mechanical Characteristics

Monitoring Connector	Micro DB-9 Male J6	4 – 40 screw
RF IN & Input Sampling Connectors	SMA 4 Hole Flange Female	J1, J3, J5
RF OUT Connector	N-Type 4 Hole Flange Female	J4, J2
DC Input	2W2CP	+28 @ Pin A1 GND @ Pin A2
Dimensions	8.7" x 4.80" x 1.2"	
Weight	2.6 lb	

### 3. Enable/Disable Control Logic (Micro DB-9)

Control Input Level			PA Module	High Band PA	Low Band PA
Pin 2	Pin 7	Pin 9			
L	X	X	OFF	OFF	OFF
H	L	L	ON	OFF	OFF
H	L	H	ON	OFF	ON
H	H	L	ON	ON	OFF
H	H	H	ON	OFF	OFF

### Revision History

REV	Reason to Change	Date	Initialed by
A	Approved location of J5 Connector	03/30/16	G.D.
B	Specs modified to reflect actual performance.	10/17/16	G.D.
C	Mounting holes and connectors changed.	01/16/17	T.B

### 4. Environment Characteristics

Operating Temperature	-20°C ~ +80°C	Base Plate
Storage Temperature	-40°C ~ +95°C	
Cooling	External Heatsink	
Humidity (Non-condensing)	95% (Max.)	Designed to meet: IAW MIL-STD-810F

### 5. Micro DB-9 Male Pin Description (P/N 380-009-113L001)

1	GND	
2	PA's Enable/Disable	Both Bands TTL "Low or Open" ⇒ Disable TTL "High" ⇒ Enable
3	High Band Reverse Power Monitor	
4	Low Band Reverse Power Monitor	
5	NC	
6	DC Voltage Input Monitor	
7	High Band Enable/Disable	See Logic Table
8	Temperature Monitor	
9	Low Band Enable/Disable	See Logic Table

### 6. Outline Drawing (Inch/mm)

