



MP585/830/52HK-A is a broadband high power amplifier for VHF-UHF applications. Amplifier supports signal amplification in the 170 ~ 1000 MHz frequency band. The amplifier employs linear LDMOS power devices that provide sufficient output power, wide dynamic range, and high gain.



Model: MP585/830/52HK-A

1. Electrical Characteristics		
Item	Value	Note
Frequency Range	170 ~ 1000 MHz	
Power Gain	16.0 ± 1.0 dB @ 170 - 400 MHz	@ 140 Watts
	13.0 ± 1.0 dB @ 400 - 100 MHz	
Power Gain Flatness	± 2.7 dB (Max.), 2.5 (Typ.)	Across Pass-Band
Output P _{sat}	+53 dBm (Min.)	
IMD	-24 dBc (Max.)	Up to +45.5 dBm/Tone, 10 - 200 KHz Spacing
Input VSWR	2.0:1 (Max.)	
Spurious	-70 dBc (Max.)	@ 140 Watts
2 nd / 3 rd Harmonics	-25 / -24 dBc (Max.) 170 - 350 MHz	@ 140 Watts
	-25 / -14 dBc (Max.) 350 - 1000 MHz	
HPA Enable/Disable	TTL Low ⇒ Enable TTL High or Open ⇒ Disable	
Switch On/Off Time	3 μS (Max.)	
Temperature Sensor	Vt +500mV, 10 mV/°C	
Current Sensor	100 mV/A	
DC Input Voltage	+27 ~ +29 V	
Current Consumption	14.5 A (Max.)	@ 140 Watts
Drain Efficiency	35% (Min.)	@ 140 Watts
Input / Output Impedance	50 Ω	
Max. RF Input Signal (No damage)	+43 dBm	
Load Conditions (No Damage)	6 : 1	
Module to Module Gain Matching	± 0.5 dB	
Module to Module Phase Matching	± 10°	

2. Mechanical Characteristics		
Monitoring Connector	D7W2 Male	4 – 40 screw
RF Input Connector	SMA 4 Holes Female	Sucoplate or Tri-Metal
RF Output Connector	N Type Female	Sucoplate or Tri-Metal
DC Input	A1 @ D7W2	
Dimensions	7.98" x 4.98" x 1.19"	
Weight	2.5 lb	
Paint: Except for Base Plate Surface (Chemical Conversion Coating on Base Plate)	Epoxy Gray F63A33	MIL-DTL-24441D
Environmentally Sealed	Except Connectors	*Lacquer on board

Revision History			
REV	Reason to Change	Date	Initialed by
	Customer Approved	11/19/18	G.D.

3. Environment Characteristics		
Operating Temperature	-40°C ~ +80°C	Base Plate
Storage Temperature	-40°C ~ +85°C	
Cooling	External Heatsink	
Humidity (Non-condensing)	95% (Max.)	Designed to meet: IAW MIL-STD-810F
Operating Altitude	10,000 Feet (Max.)	
Vibration and Shock	Vibration 6.06 gRMS	Designed to meet: IAW MIL-STD-202F method 214

4. D7W2 Pin Description		
1	N/C	
2	Current Monitor	100 mV/Amp
3	Temperature Monitor	Vt +500mv, 10 mV/°C
4	N/C	
5	Enable/Disable	
A1	+28 V	
A2	GND	

5. Outline Drawing

