The **MP836/25/54HK-A4** is suitable for single and multi carrier applications in 824-849 MHz 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: MP836/25/54HK-A4

## 1. Electrical Characteristics

| Item | Value | Note |
|---|---|---|
| **Frequency Range** | 824 ~ 849 MHz | |
| **Gain** | 58 ± 1 dB | |
| **Gain Flatness** | ± 0.5 dB | Over Freq. Range |
| **Gain Variation** | ± 1.0 dB | Over Temp. Range |
| **Power Output P1** | +54 dBm (Min.) | |
| **Power Output Psat** | +55 dBm (Min.) | |
| **Output IP3** | +69 dBm (Min.) | 2 Tones @ +47.0 dBm/tone, 1 MHz spacing |
| **ACLR @ +53.5 dBm** | **- 30 dBc @ ± 200 KHz offset from F0 (Max.) (RBW = 30 kHz)**<br>**-60 dBc @ ± 400 KHz offset from the F0 (Max.) (RBW = 30 kHz)** | **Signal Source:**<br>**1 GSM** |
| **ACLR @ +50.5 dBm** | **- 30 dBc @ ±5 MHz offset from F0 (Max.) (RBW = 30 kHz)**<br>**-45dBc @ ±10 MHz offset from the F0 (Max.) (RBW = 30 kHz)** | **Signal Source:**<br>**1 WCDMA 64 DPCH PAR=7.5 dB @ 0.01% Probability on CCDF** |
| **ACLR @ +47.5 dBm** | **- 30 dBc @ ±5 MHz offset from F0 (Max.) (RBW = 30 kHz)**<br>**-45dBc @ ±10 MHz offset from the F0 (Max.) (RBW = 30 kHz)** | **Signal Source:**<br>**1FA 10MHz LTE PAR=9.6 dB @ 0.01% Probability on CCDF** |
| **Input / Output VSWR** | ≤ 1.2 | |
| **VVA Control Range** | > 25 dB | Voltage Input 0-5V |
| **VVA Control Voltage** | +5V: Maxim Gain<br>0V: Minimum Gain | |
| **Over Temperature Protection** | Shutdown @ +85°C ± 5°C | Auto Recover @ +75°C ± 5°C |
| **HPA Enable/Disable** | TTL "Low or Open" ⇒Enable<br>TTL "High" ⇒Disable | |
| **Input Power Monitor** | 2.4 ± 0.1V @ +20.0 dBm | RMS Detection |
| **Forward Power Monitor** | 2.4 ± 0.1V @ +53.5 dBm | RMS Detection |
| **Reverse Power Monitor** | 2.4 ± 0.1V @ +53.5 dBm | RMS Detection |
| **Power Monitor Flatness over frequency range** | ±0.2 dBm (Max.) | |
| **Spurious** | -70 dBc (Max.) | |
| **Harmonics @ +53 dBm** | -40 dBc (Max.) | |
| **DC Input Voltage / Current** | +28 VDC ± 1V / 26.0A (Max.) | DC Input Voltage / Current @ +54.0 dBm |
| **Input / Output Impedance** | 50 Ω | |
| **Input Max** | +20 dBm | |
| **Reverse Power Max.** | +53 dBm | |

## 2. Mechanical Characteristics

| | | |
|---|---|---|
| **Monitoring Connector** | D7W2 Male | 4 – 40 screw |
| **RF IN/OUT Connector** | SMA/ N-Type 4 Holes Female | |
| **DC Input** | Pin 6,7 on DB-9 | |
| **Dimensions** | 8.0" x 6.98" x 1.07" | |
| **Weight** | 3.3 lb | |

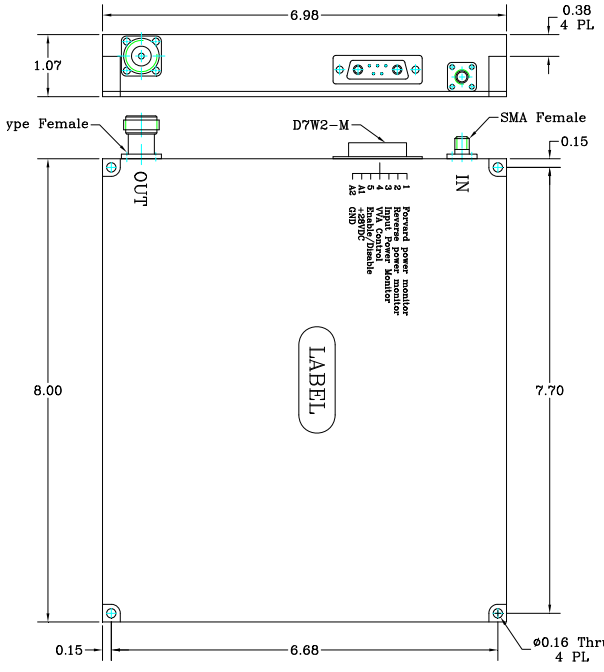
## 3. Environment Characteristics

| | | |
|---|---|---|
| **Operating Temperature** | -20°C ~ +75°C | Base Plate |
| **Storage Temperature** | -40°C ~ +95°C | |
| **Cooling** | External Heatsink | |
| **Humidity (Non-condensing)** | 95% (Max.) | Designed to meet: IAW MIL-STD-810F |

## 4. D7W2 Male Pin Description

| | | |
|---|---|---|
| **1** | Forward Power Monitor | |
| **2** | Reverse Power Monitor | |
| **3** | Input Power Monitor | |
| **4** | VVA Control | 0-5V |
| **5** | Enable / Disable | Enable: TTL Low or Open<br>Disable: TTL High |
| **A1** | +28VDC | |
| **A2** | GND | |

## 5. Outline Drawing




## Revision History

| REV | Reason to Change | Date | Initialed by |
|---|---|---|---|
| | *Initial release* | *09/02/16* | *Y.Z.* |
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