

The RF Line

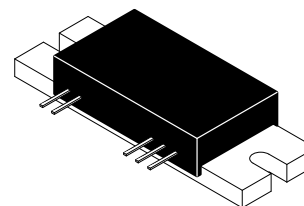
UHF Silicon FET Power Amplifier

Designed specifically for the Pan European Digital Extended EGSM base station applications at 925 – 960 MHz. The MHW930 operates from a 26 volt supply and requires 60 mW of RF input power.

- Specified 26 Volt and 25 °C Characteristics:
 - RF Input Power: 60 mW Max
 - RF Power Gain: 27 dB Min at 30 W Output Power
 - RF Output: 30 Watts Min at 1.0 dB Compression Point
 - Efficiency: 44% Min at 30 Watts Output Power
- 50 Ohm Input/Output Impedances

MHW930

30 W
925–960 MHz
RF POWER AMPLIFIER



CASE 301AB-02, STYLE 1

MAXIMUM RATINGS

| Rating | Symbol | Value | Unit |
|----------------------------------|------------------|-------------|------|
| DC Supply Voltage | V _S | 28 | Vdc |
| DC Bias Voltage | V _B | 28 | Vdc |
| RF Input Power | P _{in} | 22 | dBm |
| RF Output Power | P _{out} | 50 | W |
| Operating Case Temperature Range | T _C | -10 to +100 | °C |
| Storage Temperature Range | T _{stg} | -30 to +100 | °C |

ELECTRICAL CHARACTERISTICS (V_S = 26 Vdc; V_{BIAS} = 26 Vdc; T_C = +25°C; 50 Ω system)

| Characteristic | Symbol | Min | Typ | Max | Unit |
|---|--------------------|---|-----|-----|-------|
| Frequency Range | BW | 925 | — | 960 | MHz |
| V _{S1} Quiescent Current (P _{in} = 0 mW) | I _{qs1} | — | 65 | — | mA |
| V _{S2} Quiescent Current (P _{in} = 0 mW) | I _{qs2} | — | 130 | — | mA |
| Power Gain (P _{out} = 30 W) (1) | G _p | 27 | — | 31 | dB |
| Output Power at 1 dB Compression | P _{1dB} | 30 | 35 | — | Watts |
| Efficiency (P _{out} = 30 W) (1) | η | 44 | 49 | — | % |
| Input VSWR | VSWR _{IN} | — | — | 2:1 | |
| Harmonic 2 f _o (P _{out} = 30 W) (1) | H ₂ | — | — | -35 | dBc |
| Harmonic 3 f _o (P _{out} = 30 W) (1) | H ₃ | — | — | -45 | dBc |
| Reverse Intermodulation Distortion (P _{carrier} = 30 W; P _{interferer} at -70 dBc; f _i = f _c ± 600 kHz) (1) | IMR | — | — | -80 | dBc |
| Load Mismatch Stress (P _{out} = 30 W; Load VSWR = 10:1; All Phase Angles) | ψ | No Degradation in Output Power | | | |
| Stability (P _{out} = 10 mW – 30 W; Load VSWR = 3:1; All Phase Angles; T _C = -10°C to 85°C) | | All Spurious Outputs More than 70 dB Below Desired Signal | | | |

(1) Adjust P_{in} for specified P_{out}.

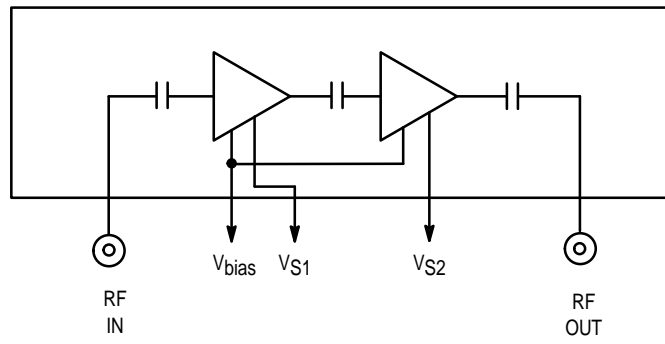
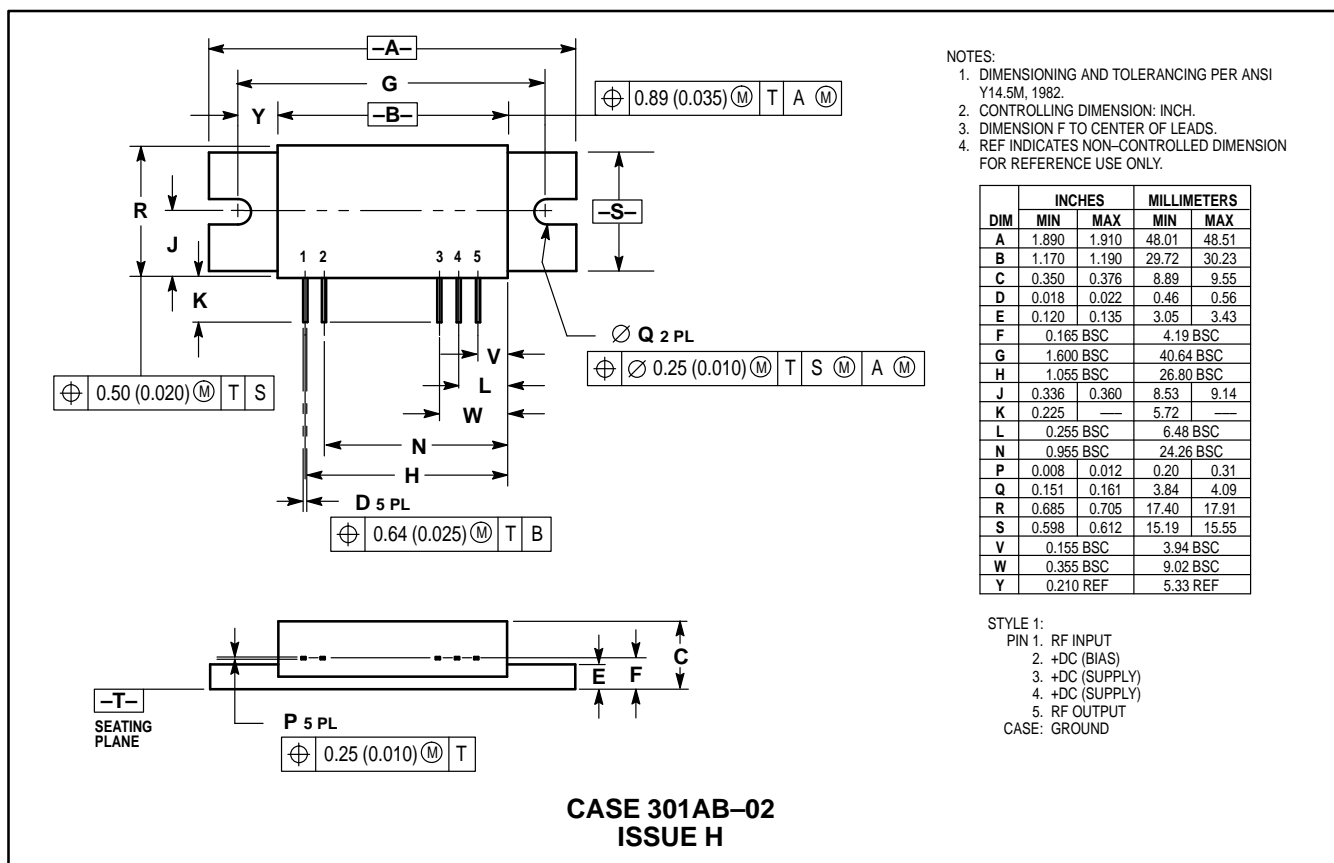


Figure 1. MHW930 Internal Diagram

PACKAGE DIMENSIONS



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