

## The RF Line

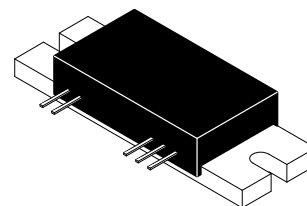
# UHF Silicon FET Power Amplifier

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

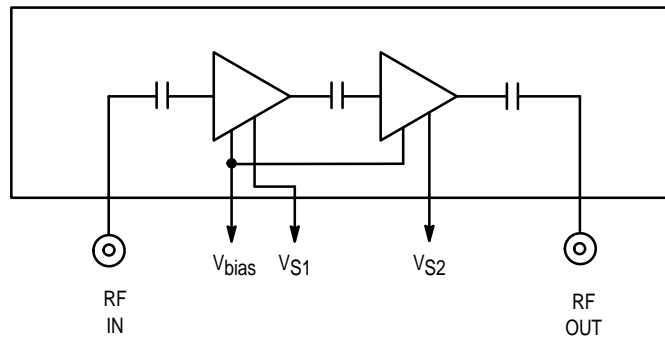
### MAXIMUM RATINGS

Rating	Symbol	Value	Unit
DC Supply Voltage	V <sub>S</sub>	28	Vdc
DC Bias Voltage	V <sub>B</sub>	28	Vdc
RF Input Power	P <sub>in</sub>	22	dBm
RF Output Power	P <sub>out</sub>	50	W
Operating Case Temperature Range	T <sub>C</sub>	-10 to +100	°C
Storage Temperature Range	T <sub>stg</sub>	-30 to +100	°C

### ELECTRICAL CHARACTERISTICS (V<sub>S</sub> = 26 Vdc; V<sub>BIAS</sub> = 26 Vdc; T<sub>C</sub> = +25°C; 50 Ω system)

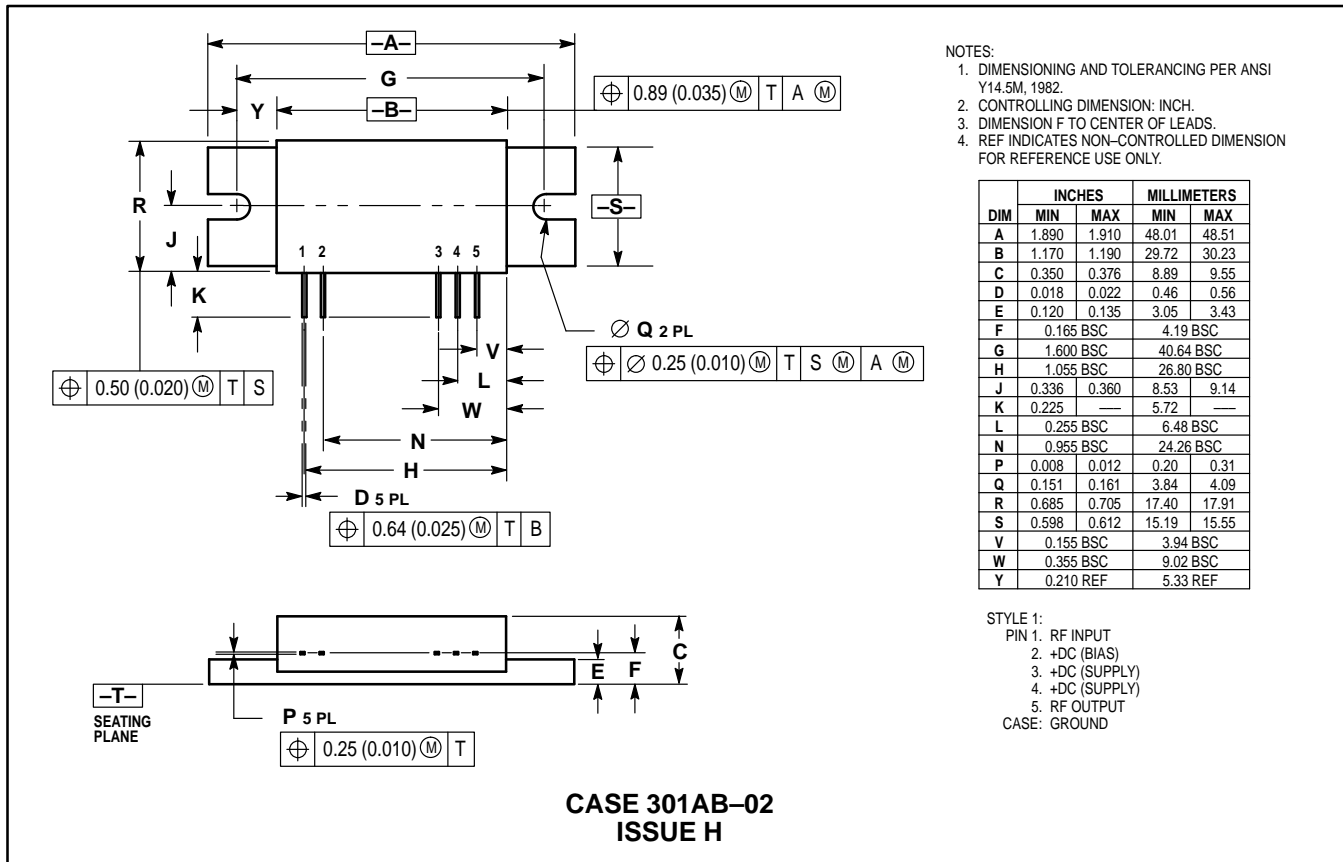
Characteristic	Symbol	Min	Typ	Max	Unit
Frequency Range	BW	925	—	960	MHz
V <sub>S1</sub> Quiescent Current (P <sub>in</sub> = 0 mW)	I <sub>qs1</sub>	—	65	—	mA
V <sub>S2</sub> Quiescent Current (P <sub>in</sub> = 0 mW)	I <sub>qs2</sub>	—	130	—	mA
Power Gain (P <sub>out</sub> = 30 W) (1)	G <sub>p</sub>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

(1) Adjust P<sub>in</sub> for specified P<sub>out</sub>.



**Figure 1. MHW930 Internal Diagram**

# PACKAGE DIMENSIONS



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