

The RF Line

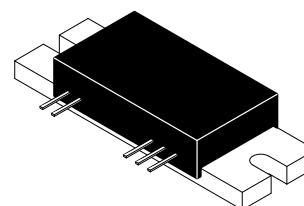
UHF Silicon FET Power Amplifier

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; $T_C = +25^\circ\text{C}$; 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; $f_i = f_c \pm 600$ 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; $T_C = -10^\circ\text{C}$ to 85°C)		All Spurious Outputs More than 70 dB Below Desired Signal			

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

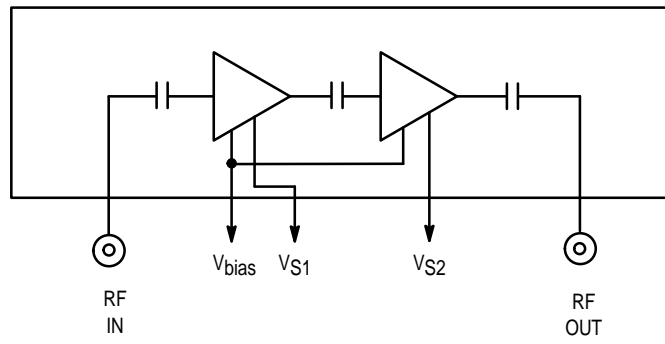
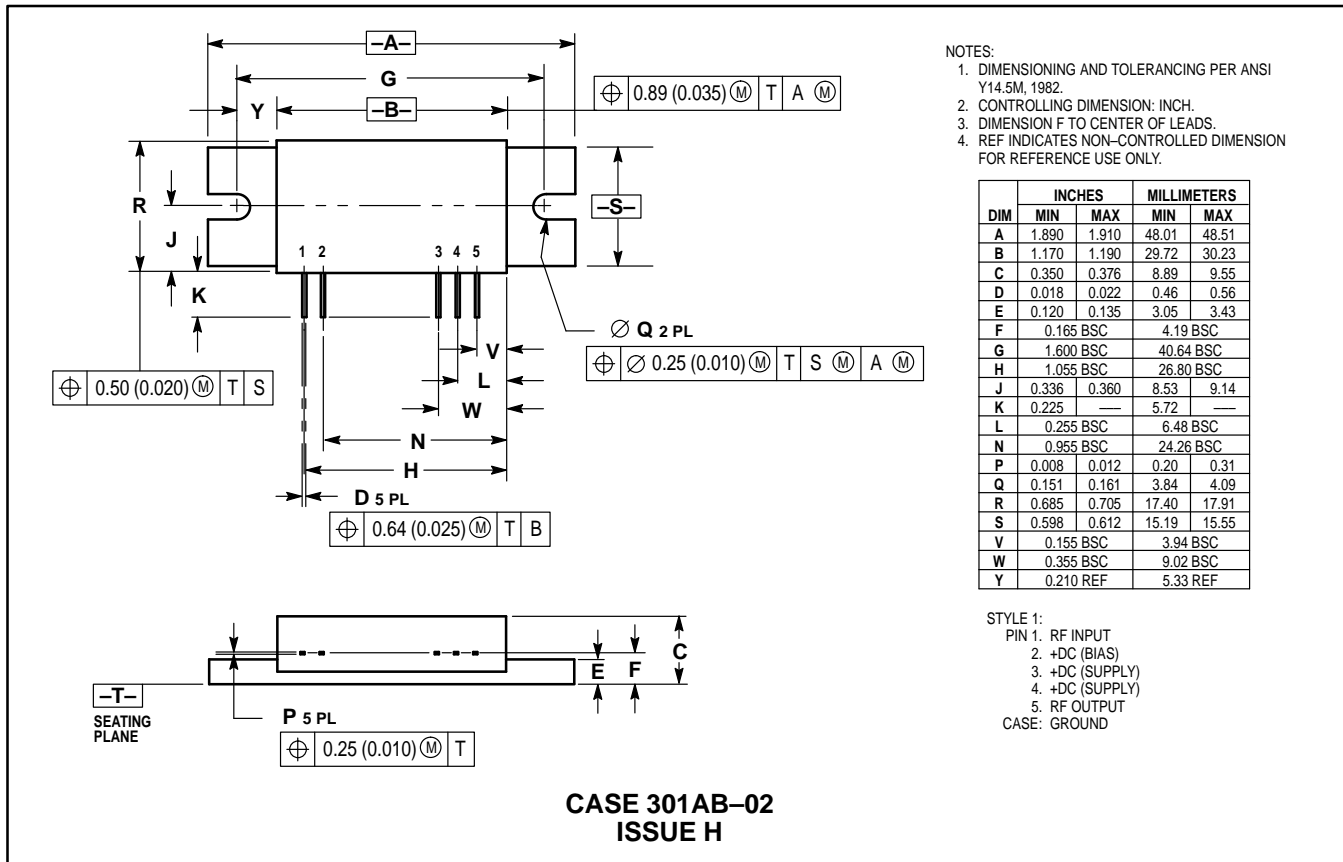


Figure 1. MHW930 Internal Diagram

PACKAGE DIMENSIONS



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USA/EUROPE/Locations Not Listed: Motorola Literature Distribution;
 P.O. Box 5405, Denver, Colorado 80217. 1-303-675-2140 or 1-800-441-2447

JAPAN: Nippon Motorola Ltd.: SPD, Strategic Planning Office, 4-32-1,
 Nishi-Gotanda, Shinagawa-ku, Tokyo 141, Japan. 81-3-5487-8488

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ASIA/PACIFIC: Motorola Semiconductors H.K. Ltd.; 8B Tai Ping Industrial Park,
 51 Ting Kok Road, Tai Po, N.T., Hong Kong. 852-26629298

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