

MHW590

CASE 714-02

WIDEBAND HYBRID AMPLIFIER



MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Supply Voltage	V_{DC}	28	Vdc
Input Power	P_{in}	5.0	dBm
Operating Case Temperature Range	T_C	-20 to +90	°C
Storage Temperature Range	T_{stg}	-40 to +100	°C

ELECTRICAL CHARACTERISTICS ($V_{DC} = 24$ Vdc, $Z_0 = 50 \Omega$, $T_C = 25^\circ\text{C}$. All characteristics guaranteed over bandwidth listed under "Frequency Range," unless specified otherwise.)

Characteristic	Symbol	Min	Typ	Max	Unit
Frequency Range	BW	10	—	400	MHz
Power Gain	G_p	31.5	34	35.5	dB
Gain Flatness	F	—	—	± 1.5	dB
Voltage Standing Wave Ratio, In/Out (f = 10–300 MHz) (f = 300–400 MHz)	VSWR	— —	1.5:1 2:1	— —	—
1 dB Compression (f = 10 MHz) (f = 200 MHz) (f = 400 MHz)	P1	— 700 —	800 800 300	— — —	mW
Reverse Isolation	P_{RI}	43	50	—	dB
2nd Harmonic ($P_{out} = 10$ mW)	d_{so}	—	-66	—	dB
Third Order Intercept	I_{TO}	—	43	—	dBm
Peak Envelope Power for -32 dB Distortion	PEP	—	500	—	mW
Noise Figure (f = 60 MHz) (f = 300 MHz)	NF	— —	4.0 3.5	— 5.5	dB
DC Voltage	V_{DC}	—	24	28	V
DC Current	I_{DC}	—	300	340	mA

FIGURE 1 – POWER GAIN AND RETURN LOSS versus FREQUENCY

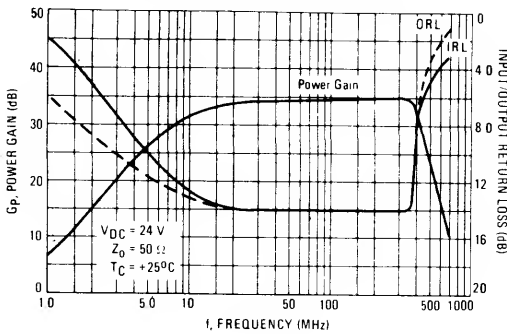


FIGURE 2 – POWER GAIN versus FREQUENCY

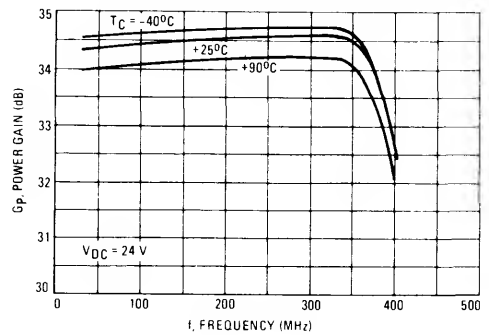


FIGURE 3 – POWER GAIN versus SUPPLY VOLTAGE

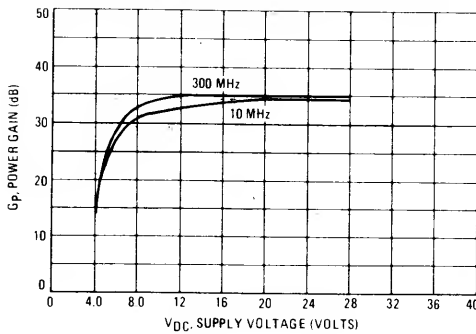


FIGURE 4 – NOISE FIGURE versus SUPPLY VOLTAGE

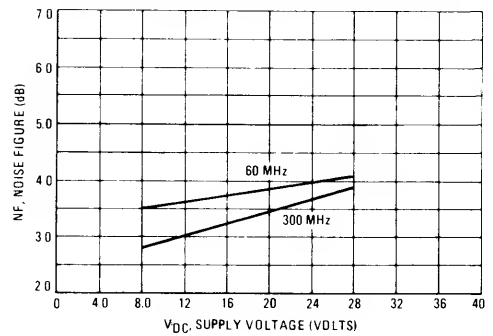


FIGURE 5 – OUTPUT POWER versus INPUT POWER

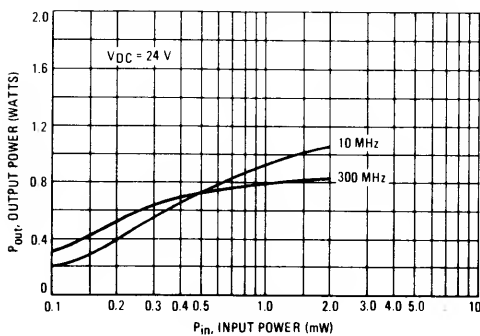


FIGURE 6 – OUTPUT POWER versus INPUT POWER

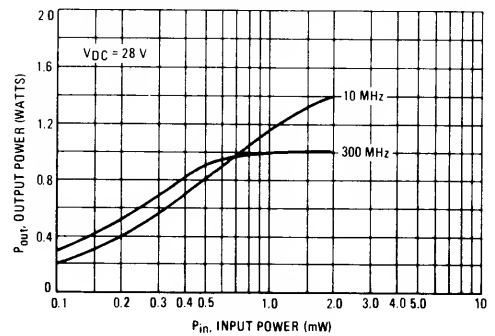


FIGURE 7 – INTERMODULATION DISTORTION – THIRD ORDER versus OUTPUT POWER

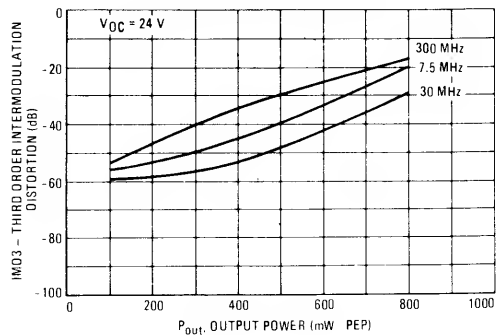


FIGURE 8 – INTERMODULATION DISTORTION – FIFTH ORDER versus OUTPUT POWER

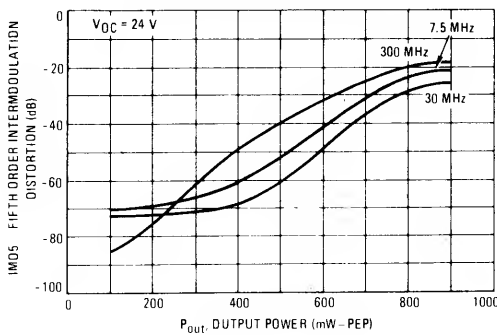


FIGURE 9 – INTERMODULATION DISTORTION – THIRD ORDER versus OUTPUT POWER

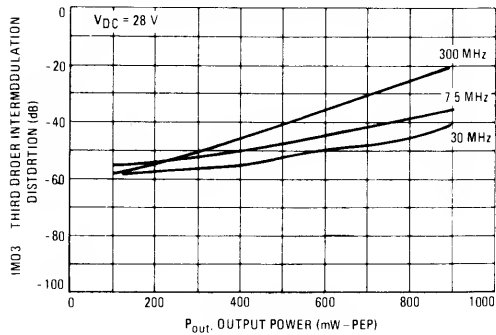


FIGURE 10 – INTERMODULATION DISTORTION – FIFTH ORDER versus OUTPUT POWER

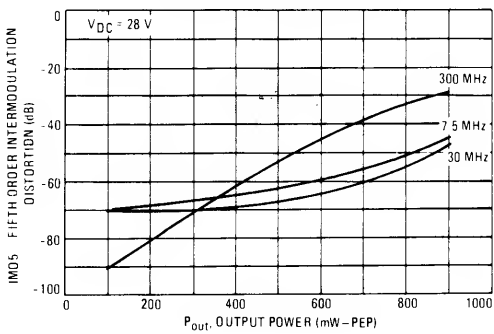


FIGURE 11 – DC CURRENT DRAIN versus SUPPLY VOLTAGE

