

MHW591

The RF Line

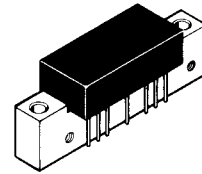
LOW DISTORTION WIDEBAND AMPLIFIER

... low-noise, high-gain, ultra-linear, thin-film hybrid. Designed for multi-purpose broadband 50 to 100 ohm system applications requiring superior gain and current stability with temperature.

- Supply Voltage = 13.6 V Nominal
- Broadband Power Gain –
G_p = 36.5 dB (Typ) @ f = 1-250 MHz
- Broadband Noise Figure –
NF = 3.7 dB (Typ) @ f = 30 MHz
- Ideal for Low Level Wideband Linear Amplifiers and AM Modulators in HF/SSB, VHF Communications Equipment and RF Instrumentation Applications

1.0–250 MHz

HIGH GAIN AMPLIFIER

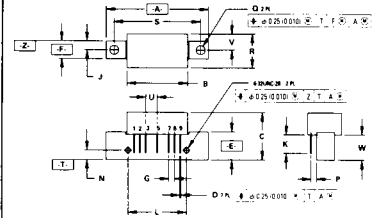


MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Supply Voltage	V _{DC}	16	Vdc
Input Power	P _{in}	3.0	dBm
Operating Case Temperature Range	T _C	-20 to +90	°C
Storage Temperature Range	T _{stg}	-40 to +100	°C

ELECTRICAL CHARACTERISTICS (V_{DC} = 13.6 Vdc, Z₀ = 50 Ω, T_C = 25°C. All characteristics guaranteed over bandwidth listed under "Frequency Range", unless specified otherwise.)

Characteristic	Symbol	Min	Typ	Max	Unit
Frequency Range	BW	1.0	—	250	MHz
Power Gain	G _p	34.5	36.5	38	dB
Gain Flatness	F	—	—	±1.5	dB
Voltage Standing Wave Ratio, In/Out (f = 1.0–30 MHz) (f = 30–250 MHz)	VSWR	—	1.5:1	—	—
1 dB Compression (f = 30 MHz) (f = 100 MHz) (f = 250 MHz)	P ₁	650	800	—	mW
Peak Envelope Power (IMD3 = -30 dB, f = 30 MHz) (IMD3 = -30 dB, f = 100 MHz) (IMD3 = -30 dB, f = 250 MHz)	PEP	700	850	—	mW
Noise Figure (f = 30 MHz) (f = 100 MHz) (f = 250 MHz)	NF	—	3.7	5.0	dB
DC Voltage	V _{DC}	—	13.6	16	V
DC Current	I _{DC}	—	300	340	mA



STYLE 1
PA: 1 RF IN/PLT
2 GROUND
3 GROUND
4 DELETED
5 VDC
6 DELETED
7 GROUND
8 GROUND
9 RF OUTPUT

NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	—	45.08	—	1.775
B	26.42	26.92	1.040	1.060
C	20.57	21.34	0.810	0.840
D	0.46	0.56	0.018	0.022
E	11.81	12.95	0.465	0.510
F	7.62	8.25	0.300	0.325
G	—	2.54 BSC	—	0.100 BSC
J	—	3.96 BSC	—	0.156 BSC
K	8.00	8.50	0.315	0.335
L	—	25.40 BSC	—	1.00 BSC
N	—	4.19 BSC	—	0.166 BSC
P	—	2.54 BSC	—	0.100 BSC
Q	3.75	4.27	0.148	0.168
R	—	15.11	—	0.595
S	—	38.10 BSC	—	1.500 BSC
U	—	5.08 BSC	—	0.200 BSC
V	—	7.11 BSC	—	0.280 BSC
W	11.05	11.43	0.435	0.450

CASE 714-04

FIGURE 1 – POWER GAIN versus FREQUENCY

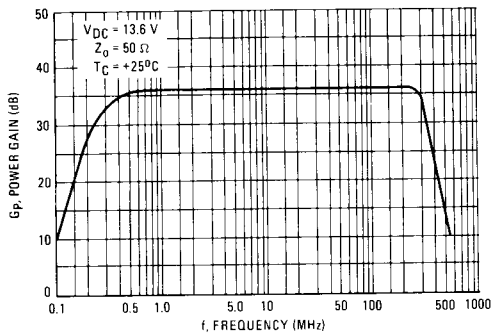


FIGURE 2 – POWER GAIN versus FREQUENCY

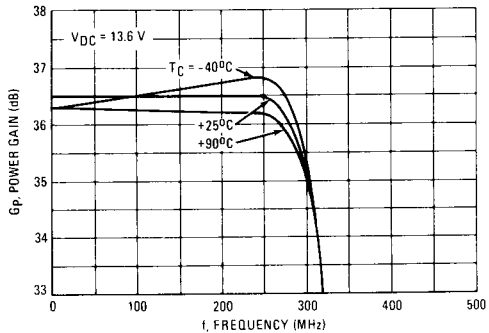


FIGURE 3 – POWER GAIN versus SUPPLY VOLTAGE

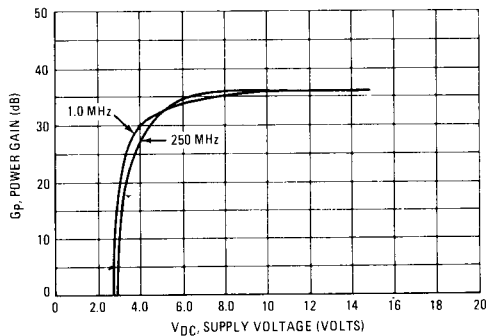


FIGURE 4 – NOISE FIGURE versus SUPPLY VOLTAGE

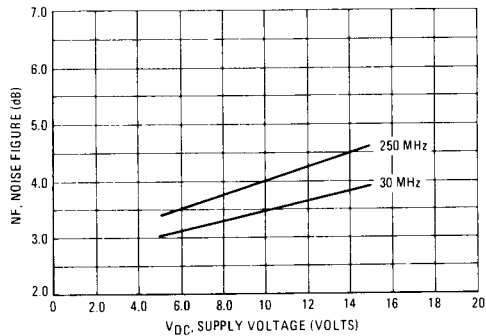


FIGURE 5 – OUTPUT POWER versus INPUT POWER

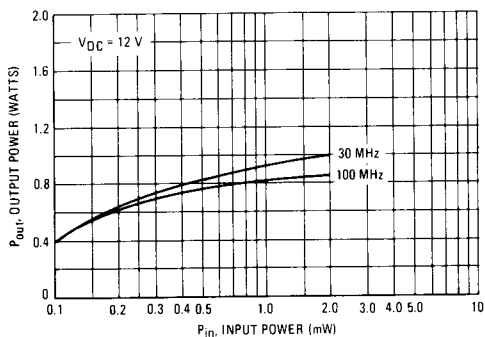


FIGURE 6 – OUTPUT POWER versus INPUT POWER

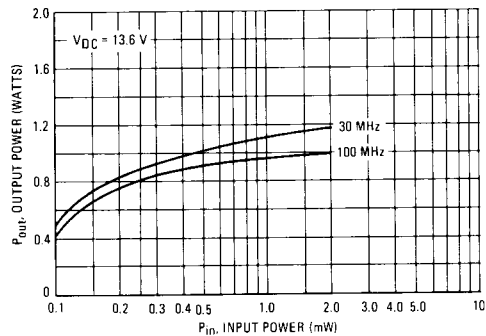


FIGURE 7 – INTERMODULATION DISTORTION versus OUTPUT POWER

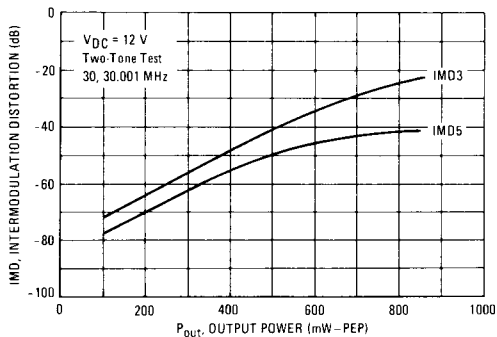


FIGURE 8 – INTERMODULATION DISTORTION versus OUTPUT POWER

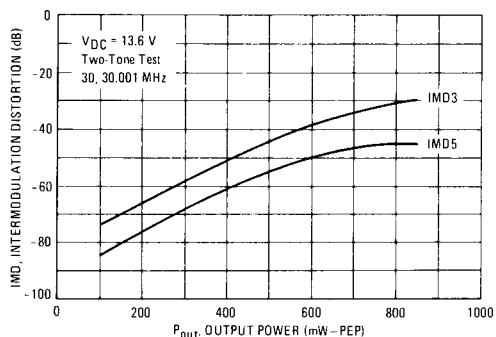


FIGURE 9 – DC CURRENT DRAIN versus SUPPLY VOLTAGE

