MHW592

The RF Line

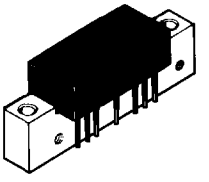
LOW DISTORTION WIDEBAND AMPLIFIER

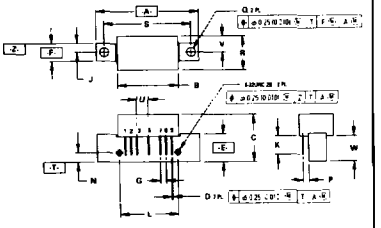
. . . low-noise, high-gain, ultra-linear, thin-film hybrid. Designed for multi-purpose broadband 50 to 100 ohm system applications requiring superior gain and current stability with temperature.

- Supply Voltage = 24 V Nominal
- Broadband Power Gain –
  G_p = 35 dB (Typ) @ f = 1-250 MHz
- Broadband Noise Figure –
  NF = 3.6 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





STYLE 1
PIN 1 RF INPUT
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 MIN	MILLIMETERS MAX	INCHES MIN	INCHES 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	8.56	0.315	0.355
L	25.40 BSC		1.00 BSC	
N	4.19 BSC		0.165 BSC	
P	2.54 BSC		0.100 BSC	
Q	3.76	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

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_o = 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	33.5	35	36.5	dB
Gain Flatness	F	–	–	±1.0	dB
Voltage Standing Wave Ratio, In/Out	VSWR				
(f ≈ 1.0-30 MHz)		–	1.5:1	–	
(f ≈ 30-250 MHz)		–	2:1	–	
1 dB Compression	P1				mW
(f ≈ 30 MHz)		750	900	–	
(f ≈ 100 MHz)		–	900	–	
(f ≈ 250 MHz)		–	750	–	
Peak Envelope Power	PEP				mW
(IMD3 = -30 dB, f = 30 MHz)		700	850	–	
(IMD3 = -30 dB, f = 100 MHz)		–	850	–	
(IMD3 = -30 dB, f = 250 MHz)		–	600	–	
Noise Figure	NF				dB
(f ≈ 30 MHz)		–	3.6	5.0	
(f ≈ 100 MHz)		–	3.7	–	
(f ≈ 250 MHz)		–	3.9	–	
DC Voltage	V_{DC}	–	24	28	V
DC Current	I_{DC}	–	300	340	mA

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FIGURE 1 – POWER GAIN versus FREQUENCY

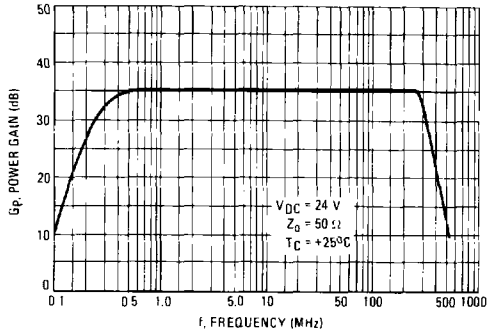


FIGURE 2 – POWER GAIN versus FREQUENCY

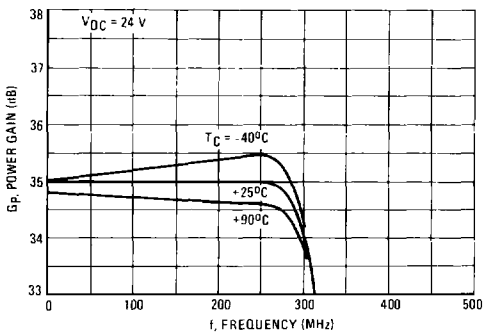


FIGURE 3 – POWER GAIN versus SUPPLY VOLTAGE

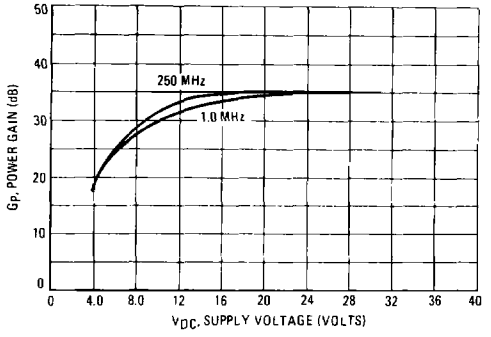
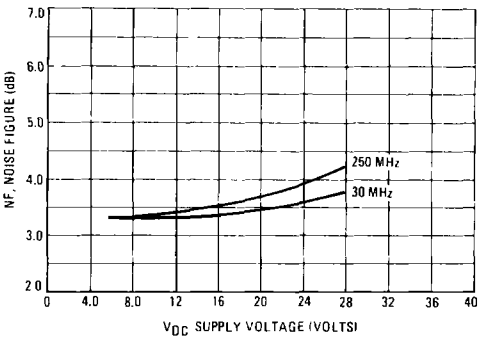


FIGURE 4 – NOISE FIGURE versus SUPPLY VOLTAGE



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FIGURE 5 – OUTPUT POWER versus INPUT POWER

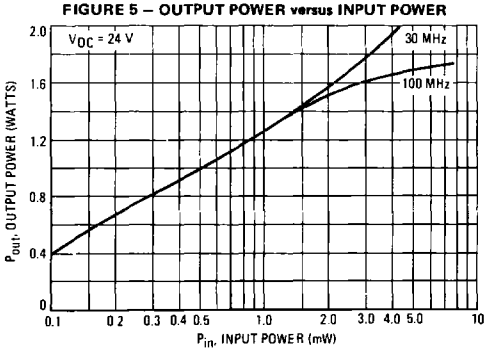


FIGURE 6 – OUTPUT POWER versus INPUT POWER

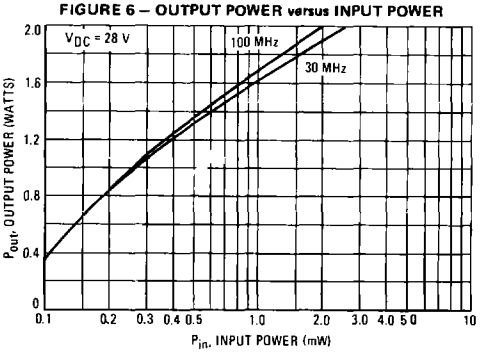


FIGURE 7 – INTERMODULATION DISTORTION versus OUTPUT POWER

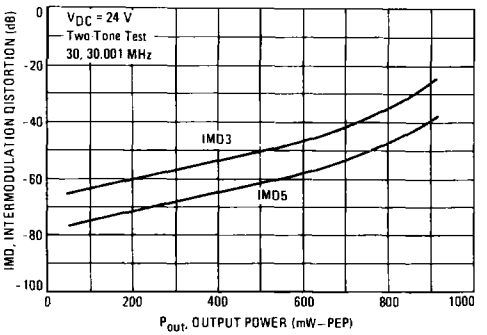


FIGURE 8 – INTERMODULATION DISTORTION versus OUTPUT POWER

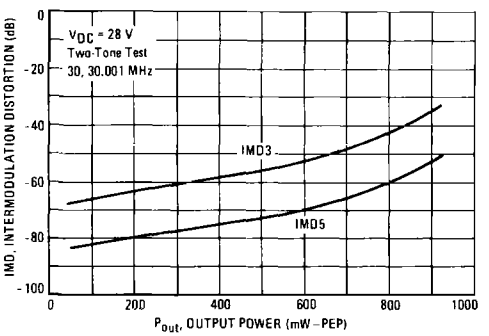
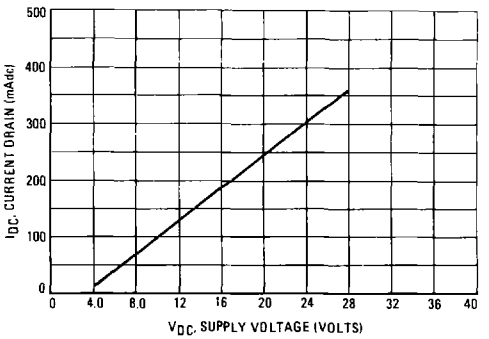


FIGURE 9 – DC CURRENT DRAIN versus SUPPLY VOLTAGE



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