

## Product Features

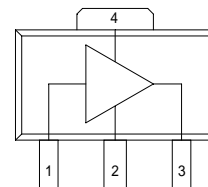
- 0.1 to 4GHz Frequency Range
- +26 dBm P-1dB at 2GHz
- +42 dBm OIP3 at 2GHz
- 21 dB Gain at 2GHz
- 3.5 dB Noise Figure

## Product Description

The GSH904-89 is an unmatched General Purpose Medium Power Amplifier that covers the 100MHz to 4GHz frequency range with 22 dB nominal matched gain at 2GHz. It also has superior Third Order Intermodulation Distortion characteristics.

The GSH904-89 is an amplifier fabricated with high reliability HFET process. It requires external, bandwidth optimized matching for operation. The amplifier is ideal for predriver and wide dynamic range Low Noise Amplifiers in wireless Base Station, WLAN and WiMAX transceivers. It is in an industry standard SOT-89 plastic package.

This amplifier can be used for current and next generation equipment wireless applications to 4GHz



Pin	Function
1	Gate
2,4	Ground
3	Drain

## Applications

- Mobile infrastructure
- ISM
- WLAN
- RFID
- WiMAX/WiBRO

## Specifications (1)

Parameter	Units	Min	Typ	Max
Frequency Range	MHz	100		4000
Test Frequency (2)	MHz		2000	
Gain (2)	dB	19	21	
Pout @ -1dB GCP	dBm	25	27	
OIP3 (2)	dBm	39	42	
Noise Figure (2)	dB		3.5	
Operating Current	mA		150	

1. Test conditions unless otherwise specified: 25°C, Supply Voltage = +8.00V
2. Measured at 2000MHz with precision tuners.

### Absolute Maximum Ratings

Parameter	Rating
Case Temperature, Operating	-40 to +85 °C
Storage Temperature	-55 to +150 °C
Device Voltage, Vdd	10 Vdc
Device Current	200mA DC
DC Power Dissipation,	1.8 Watts
RF Input Power, continuous	+20 dBm
Junction Temperature	175 °C

**Operation of this device above any of these parameters will cause permanent damage.**

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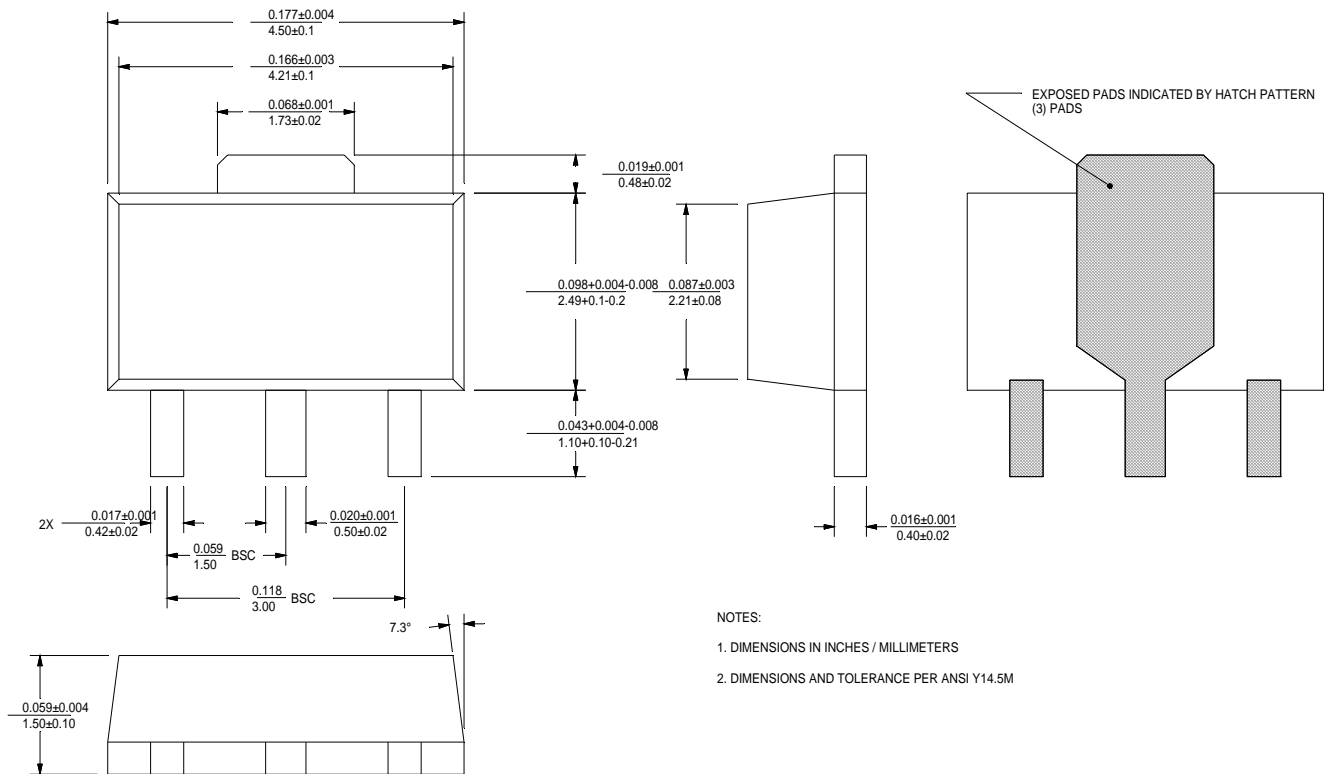
!GSH904-89

!Vdd=8.00Vdc, Idd=150mA

# GHz S MA R 50

!Freq	MagS11	AngS11	MagS21	AngS21	MagS12	AngS12	MagS22	AngS22
0.5	0.994	-43.54	10.76	150.80	0.030	63.77	0.363	-32.54
1.0	0.979	-87.32	9.93	121.64	0.055	37.56	0.297	-69.74
1.5	0.959	-129.49	8.57	93.58	0.071	12.48	0.231	-117.06
2.0	0.943	-166.82	6.98	68.19	0.077	-9.92	0.222	-170.49
2.5	0.934	162.62	5.51	46.30	0.075	-28.84	0.271	149.60
3.0	0.931	138.66	4.31	27.67	0.070	-44.49	0.334	124.97
3.5	0.930	120.06	3.39	11.66	0.064	-57.52	0.393	109.02
4.0	0.932	105.49	2.70	-2.37	0.058	-68.57	0.447	97.85
4.5	0.934	93.90	2.18	-14.92	0.052	-78.13	0.496	89.47
5.0	0.937	84.50	1.78	-26.33	0.046	-86.55	0.541	82.81

## S-Parameters



## -89 Package Outline

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