

Product Features

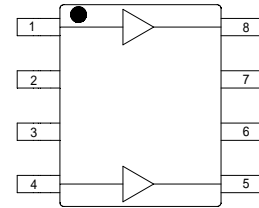
- 50 – 1000 MHz
- +25 dBm P-1dB
- +43 dBm Output IP3
- +76dBm Output IP2
- +5V Single Power Supply
- Matched amplifiers for Push-Pull operation.
- SOIC-8S Lead-Free/green package
- Available as bare die

Product Description

The GSF501-08 is a High Performance Amplifier that targets the cable TV market. The amplifier is designed with a slight gain upslope to help compensate for cable losses in the system.

The GSF501-08 is a pair of matched devices and is ideal for Push-Pull operation to achieve high second order linearity. A reliable GaAs HFET technology is used to maximize linearity at low power dissipation. It is in a lead free/green RoHS compliant SOIC-8S Surface Mount Transistor package.

Package



Function	Pin No.
Amp 1 Input	1
Amp 2 Input	4
Amp 2 Output	5
Amp 1 Output	8
Ground	2,3,6,7, Backside Paddle

Applications

- CATV Head End Equipment
- CATV Line Amplifiers
- FTTH Repeaters

Specifications (1)

Parameter	Units	Min	Typ	Max
Operational Bandwidth	MHz	50		1200
Test Frequency	MHz		800	
Gain	dB	17	18	
Pout @ -1dB GCP	dBm		+25	
Output IP3	dBm		41	
Device Voltage	V		5	
Operating Current	mA	130	160	180

1. Test conditions unless otherwise specified: 25°C, Supply Voltage = +5.00V, 800MHz on each individual single branch amplifier in a 75Ω test fixture

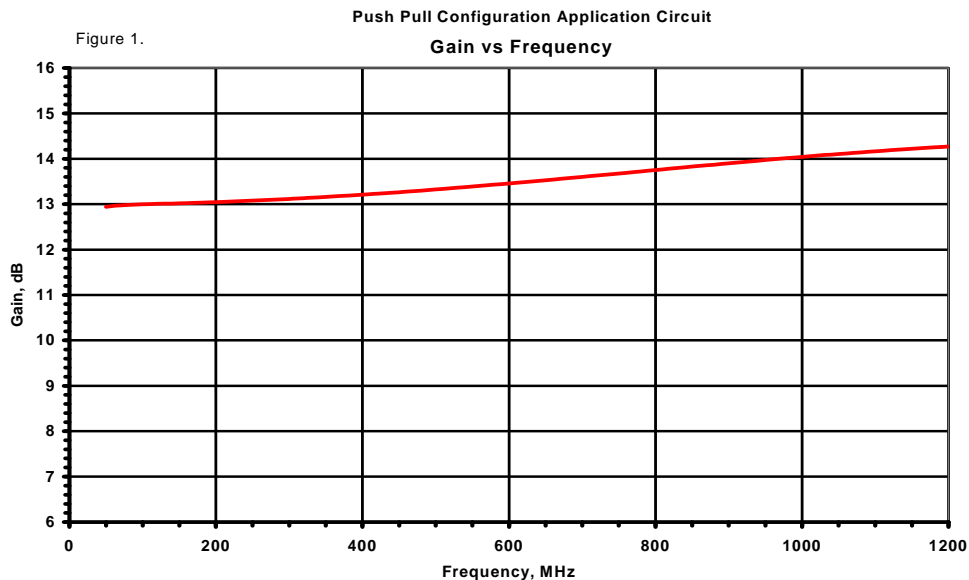


Figure 2. Return Loss vs Frequency

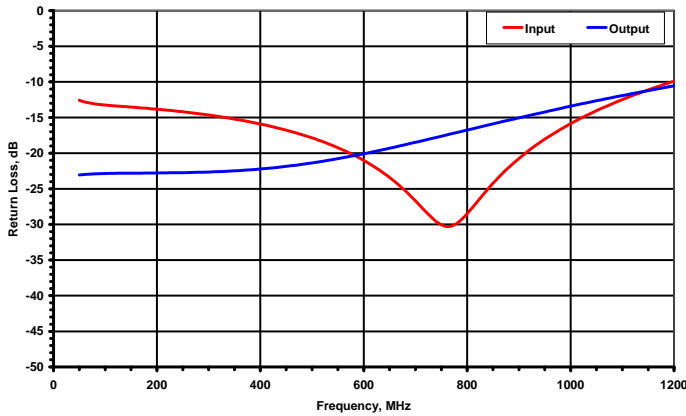


Figure 3. OIP3 vs Frequency

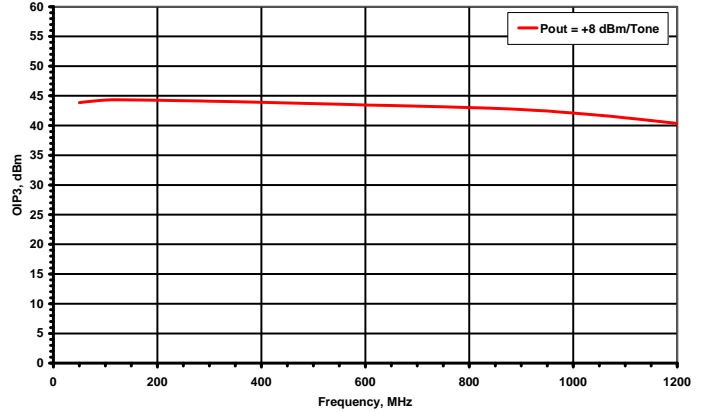


Figure 4. Noise Figure vs Frequency

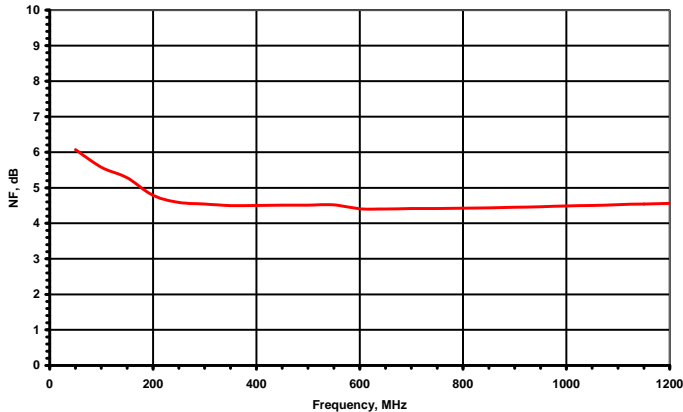
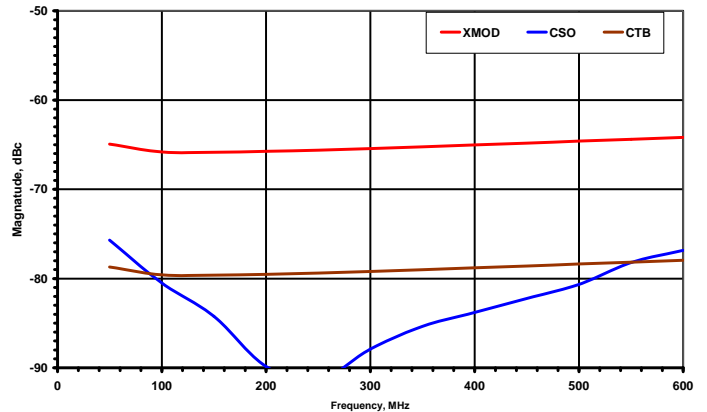


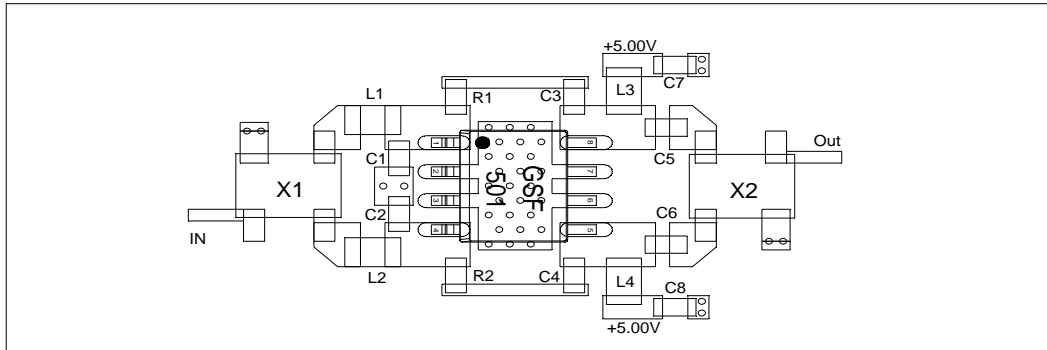
Figure 5. CSO, CTB, & XMOD



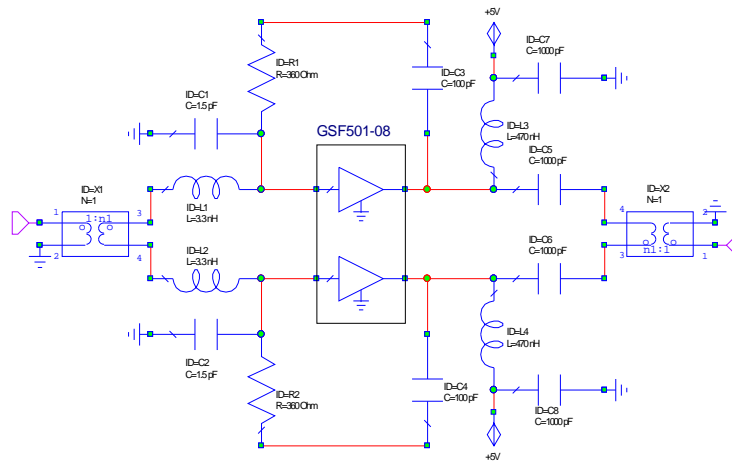
Absolute Maximum Ratings

Parameter	Rating
Case Temperature, Operating	-40 to +85 °C
Storage Temperature	-55 to +150 °C
Supply Voltage	+6
RF Input Power, continuous	+13 dBm
Junction Temperature	220 °C

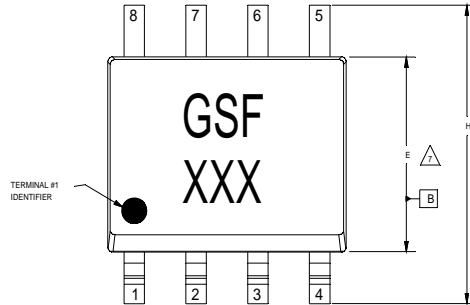
Operation of this device above any of these parameters will cause permanent damage.



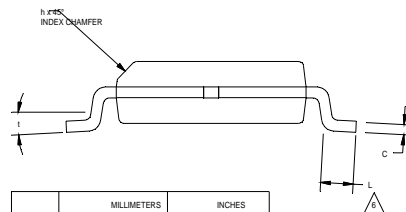
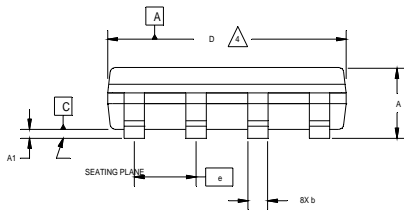
Evaluation Board



Application Schematic



- NOTES:
- EXCEPT WHERE NOTED, THIS PART OUTLINE CONFORMS TO JEDEC STANDARD MS-012, ISSUE C FOR SMALL OUTLINE (SO) PERIPHERAL TERMINALS 3.75mm BODY WIDTH (PLASTIC).
 - DIMENSIONING & TOLERANCING CONFORM TO ASME Y14.4M-1994.
 - ALL DIMENSIONS ARE IN MILLIMETERS. ANGLES ARE IN DEGREES.
- Δ DOES NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS, WHICH SHALL NOT EXCEED .15mm(.006in) PER SIDE.
 - Δ DEVIATION FROM JEDEC MS-012 STANDARD.
 - Δ LENGTH OF TERMINAL FOR SOLDERING TO A SUBSTRATE.
 - Δ DOES NOT INCLUDE INTER-LEAD FLASH OR PROTRUSIONS, WHICH SHALL NOT EXCEED 25mm(.010in) PER SIDE.



SYMBOL	MILLIMETERS		INCHES	
	MIN.	MAX.	MIN.	MAX.
A	1.30	1.40	.051	.055
A1	.10	.25	.004	.010
b	.41		.016	
C	.20		.008	
D	4.80	5.00	.189	.197
E	3.80	4.00	.150	.157
e	1.27 BSC		.050 BSC	
H	5.80	6.20	.228	.244
h	.25	.50	.01	.02
L	.40	1.27	.016	.050
t	0	8.8	0	8.8

SOIC-8S Package outline

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