

FEATURES

- High Linearity: +35dBm OIP3
- High Output Power: +22dBm P1dB
- Wide Bandwidth: 50–1000MHz
- Low Noise Figure: 2.2dB
- SOT89 Package
- MTBF > 100 Years



Application

- PA Driver Amplifier
- CATV Amplifier

Product Description

F226 is a monolithic IC intended for use in applications requiring high linearity such as Cellular Telephone Base Station Driver Amplifiers, CATV Fiber Receivers, Distribution Amplifiers and CATV Drop Amplifiers.

F226 is RoHS compliant and manufactured with green molding compounds that contain no antimony trioxide nor halogenated fire retardants.

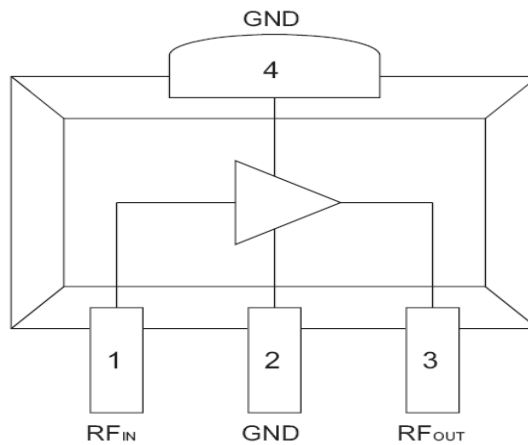


Figure 1 SOT-89 Pinout

Table 1 Pin Description

Pin	Name	Description
1	RF _{in}	RF Input
2	GND	Ground
3	RF _{out}	RF Output/Bias
4	GND	Ground

Electrical Characteristics

Table 2 Absolute Minimum and Maximum Ratings

PARAMETER	MIN	MAX	UNIT
Supply	0	+12	V
RF Power at Input	-	+10	dBm
Storage Temperature	-65	+150	°C

Stresses in excess of the absolute ratings may cause permanent damage. Functional operation is not implied under these conditions. Exposure to absolute ratings for extended periods of time may adversely affect reliability.

Table 3 Operating Ranges

PARAMETER	MIN	TYP	MAX	UNIT
RF Input/Output Frequency	50	-	1000	MHz
Supply Voltage (V_{DD})	5	8	10	V
Case Temperature	-55	-	+85	°C

Table 4 Electrical Specification

($T_A=+25^\circ\text{C}$, $V_{DD}=+8\text{ V}$, 75Ω system, see Figures 2)

PARAMETER	MIN	TYP	MAX	UNIT
CSO ⁽¹⁾	-	65	-	dBc
CTB ⁽¹⁾	-	75	-	dBc
Gain	-	16	-	dB
Noise Figure	-	2.2	-	dB
IIP2 ⁽²⁾	-	41	-	dBm
IIP3 ⁽³⁾	-	22	-	dBm
Current	-	150	-	mA

Notes:

(1) 80 channels, 30 dBmV per channel.

(2) $f_p=55.25\text{ MHz}$, $f_q=805.25\text{ MHz}$, 6 dBm output power per tone; measured at $f_p+f_q=860.5\text{ MHz}$.

(3) Two tones, 1 MHz spacing, +8 dBm per tone at output.

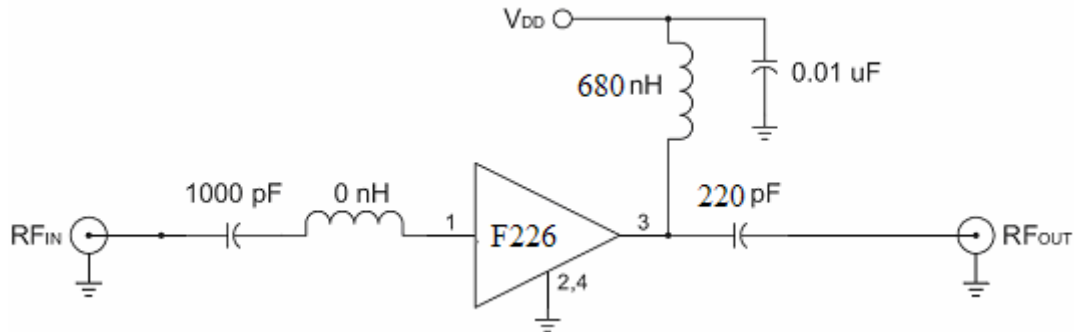


Figure2: Test Circuit Diagram(75Ω terminations)

PERFORMANCE DATA

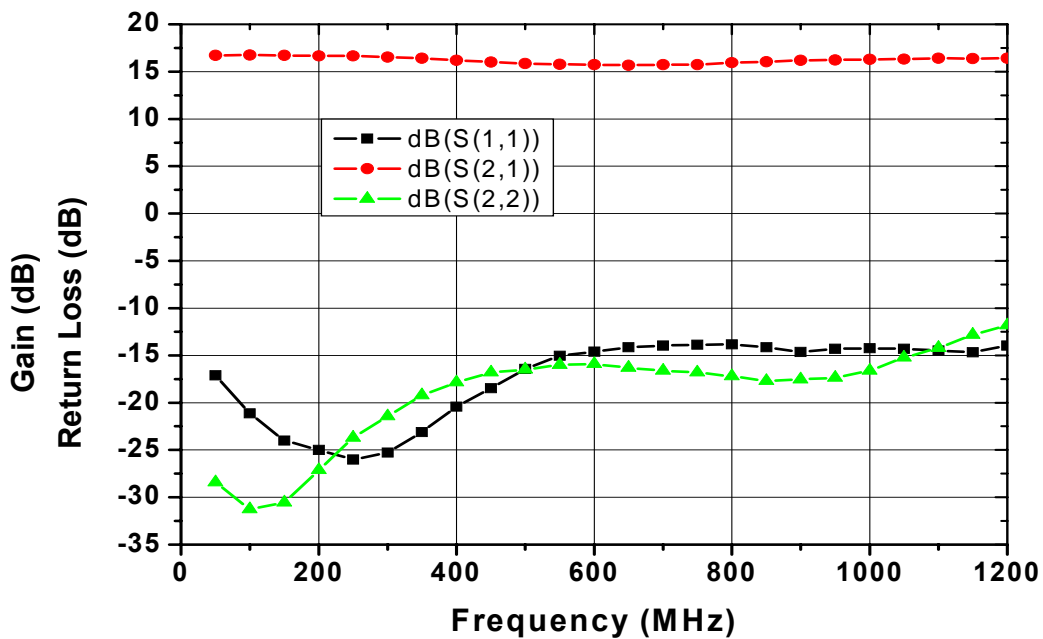


Figure 3 Gain , Input Return Loss and Output Return Loss vs Frequency (TA=+25°C, VDD=+8 V ,75Ω system)

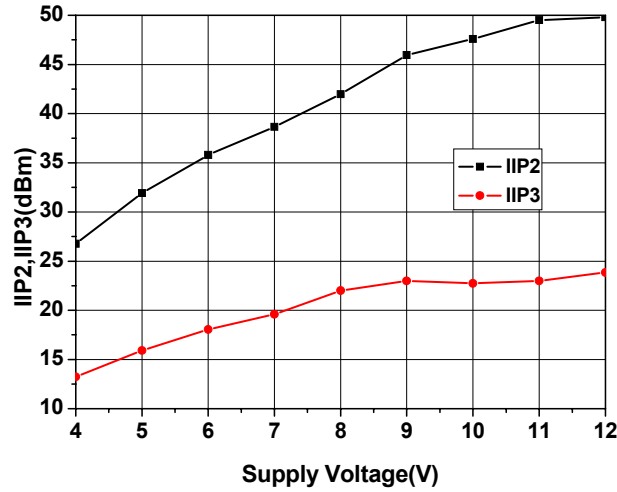


Figure 4 IIP2, IIP3 vs Supply Voltage ($T_A=+25^{\circ}\text{C}$, $V_{DD}=+8\text{V}$, 75Ω system)

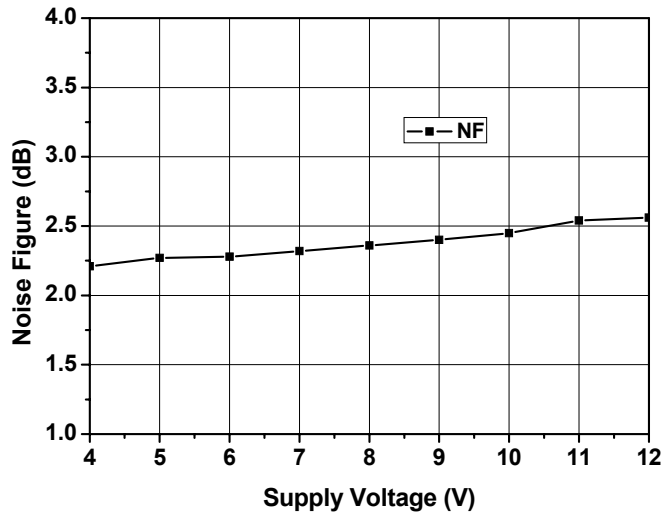


Figure 5 Noise Figure vs Supply Voltage ($T_A=+25^{\circ}\text{C}$, $V_{DD}=+8\text{V}$, 75Ω system)

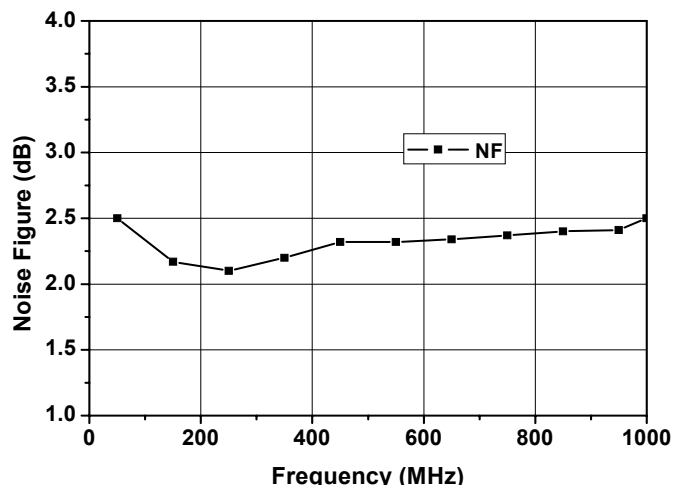
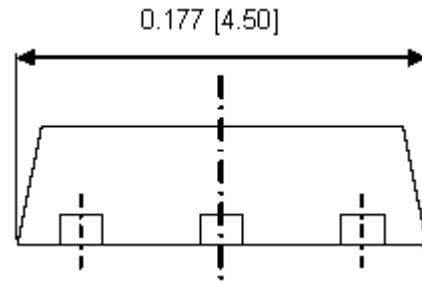
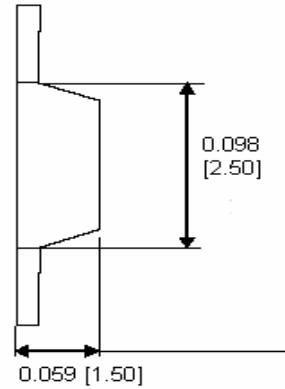
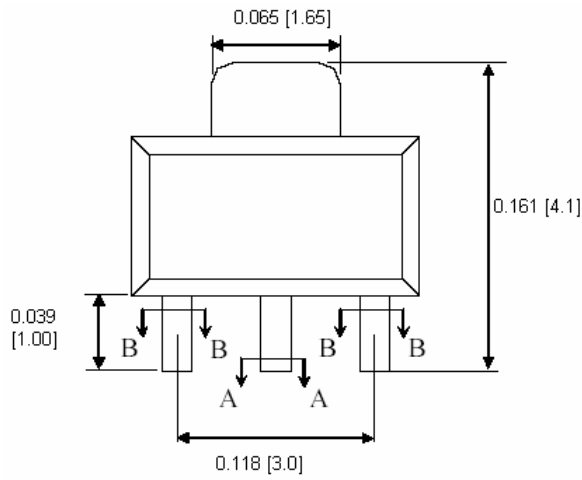


Figure 6 Noise Figure vs Frequency ($T_A=+25^{\circ}\text{C}$, $V_{DD}=+8\text{V}$, 75Ω system)

SOT89 PACKAGE OUTLINE

Unit: inch[mm]



Symbol	inch	mm
A	0.016	0.42
B	0.019	0.5

