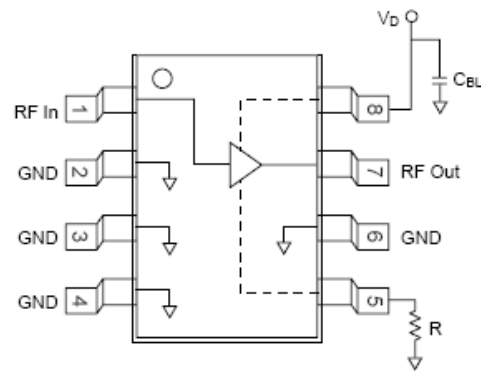


Product Features

- IP₃=34dBm @ 900MHz
- OIP₃=+18dBm
- 1.8dB Noise Figure
- Operation from Single Supply
- Matching 50Ω with Output and Input
- Lead Free, RoHS Compliant
- SOT8-EDP Plastic Package



Add V_D, Connect with Bypass Capacitance C_{BL}

Product Description

F103 is a GaAs low noise amplifier that has high dynamic scope at 900MHz . Only a single 5V positive supply voltage, a bias resistor are required for operation.

it is intended to be used as low noise driver amplifier in wireless base station at 900MHz.

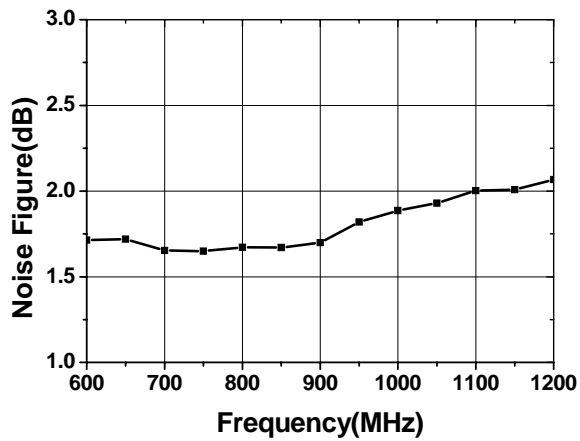
Typical Electrical Characteristics at 25°C

Symbol	Unit	Frequency	Min.	Typ.	Max.
Gain	dB	800-960MHz	13	13.8	
Output P _{1dB}	dBm	900MHz	17.4	18.9	
Output IP ₃	dBm	900MHz	31	33	
Input VSWR	Ratio	800-960MHz		1.5	
Output VSWR	Ratio	800-960MHz		1.5	
NF	dB	800-960MHz		1.8	2.4
S12	dB	800-960MHz		-22	
Test Condition: V _D =+5V I _D =80mA Typ OIP ₃ Tone Spacing=1MHz, Pout per ton=6 dBm R _{BIAS} =15 Ohms T _L =25°C Z _S =Z _L =50 Ohms					

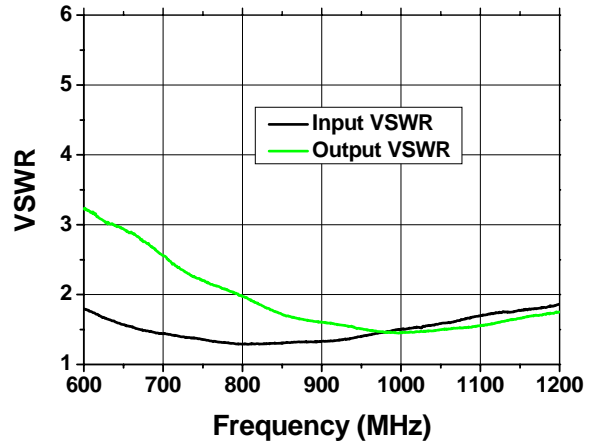
Typical Electrical Characteristics

Test condition: $V_D=5V$, $R_{bias}=15\ \Omega$, $I_D=80mA$, $Temp=+25^\circ C$

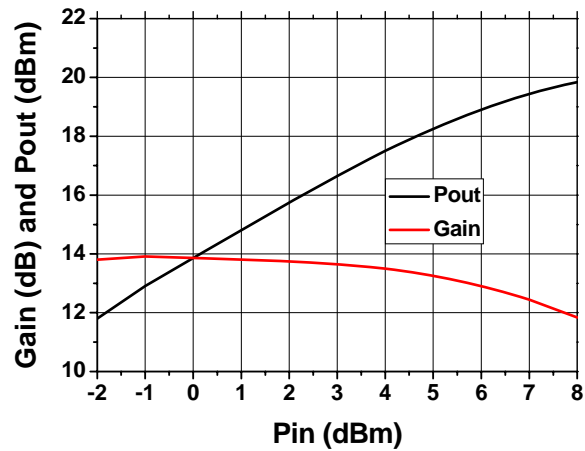
Noise Figure vs. Frequency



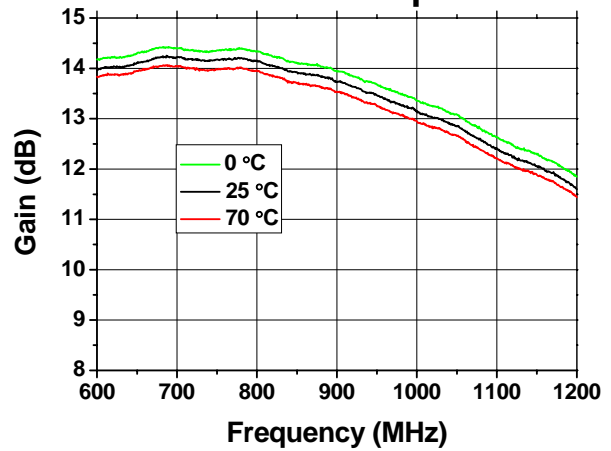
VSWR vs. Frequency



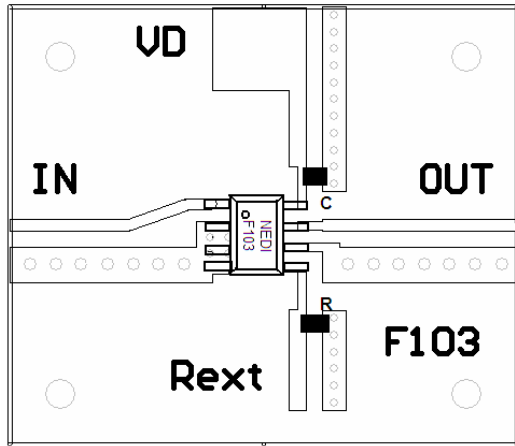
Gain and Pout vs. Pin 900MHz



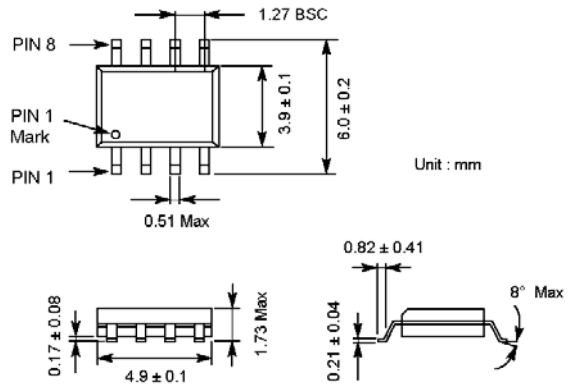
Gain vs. Temp



Test Circuit Diagram



S01C8-EDP Package Outline



1. Solder the copper pad on the backside of the device package to the ground plane.
2. Use a large ground pad area with many plated through-holes as shown.
3. Measurement for this data sheet is made on 0.254 mm thick PCB board with 2.65 dielectric constant.
4. V_D is +5V. The 200pf bypass capacitance C_{BL} is near the pin. The bias resistor of port 5 decided the amplifier's operation current. The scope is between 60 to 110mA. Recommended $R=15\text{ Ohm}$, operation current=80mA.