BSTLN55-0812

8-12 GHz Low-Noise Amplifier

Data Sheet

I. Product Introduction

BSTLN55-0812 is an 8 to 12 GHz low noise amplifier chip, gain is 21.5dB, 1dB compression point output power is 13.5dBm, noise figure is 0.9dB.

II. Key Technical Indicators

- Frequency: 8 - 12GHz
- Gain: 21.5dB
- Noise Figure: 0.9dB
- 1dB compression point output power: 13.5dBm
- Voltage / Current: +5V/32mA
- Chip size: 1.80mm × 0.79mm

III. Application fields

- Communication

IV. Absolute Maximum Ratings

Table 1.

PARAMETER	MAXIMUM	UNIT
Operating voltage	+6	V
Maximum input power	+15	dBm
Operating temperature	-55 ~ +125	℃
Storage temperature	-65 ~ +150	℃

V. Electrical parameters (T_A = +25°C, Vdd = + 5V)

Table 2.

INDEX	MINIMUM	TYPICAL VALUES	MAXIMUM
Frequency (GHz)		8 – 12	
Gain (dB)		21.5	
Gain flatness (dB)		±0.7	
Input standing wave		1.4	
Output standing wave		1.4	
Noise Figure (dB)		0.9	
1dB Compression point output power (dBm)		13.5	
Quiescent current (mA)		32	

VI. Test Curve

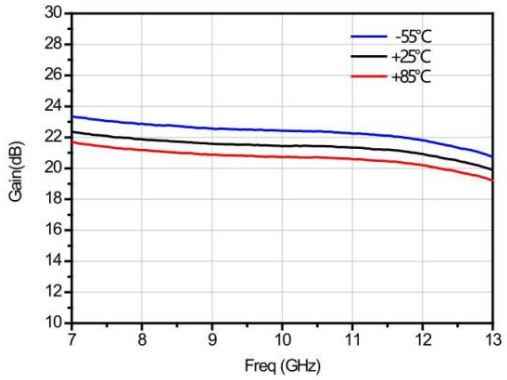

Figure 1. Gain

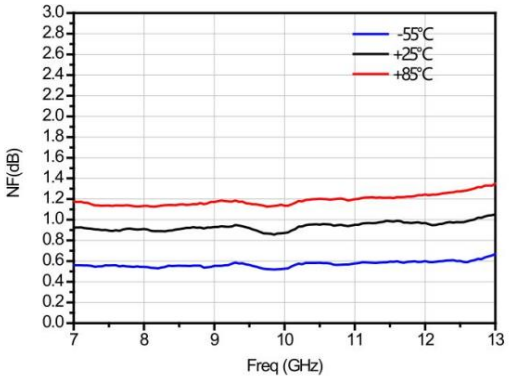

Figure 2. Noise Figure

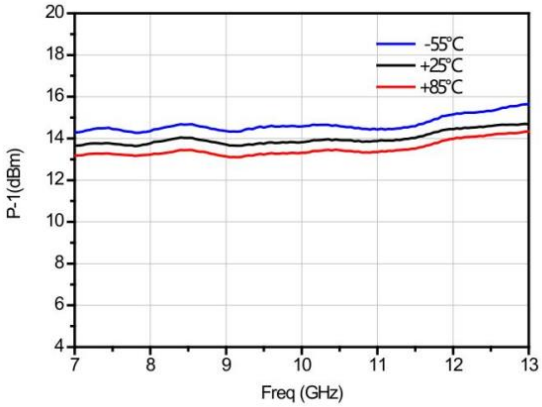

Figure 3. 1dB compression point output power

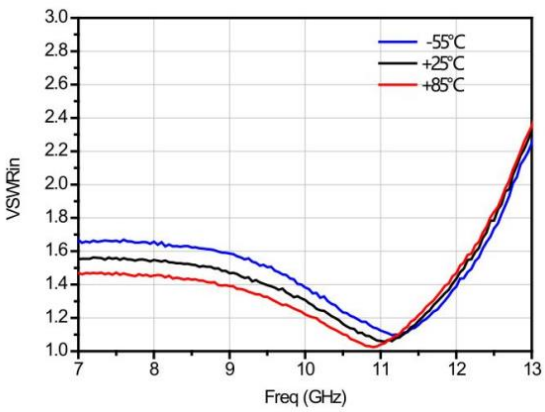

Figure 4. input standing wave

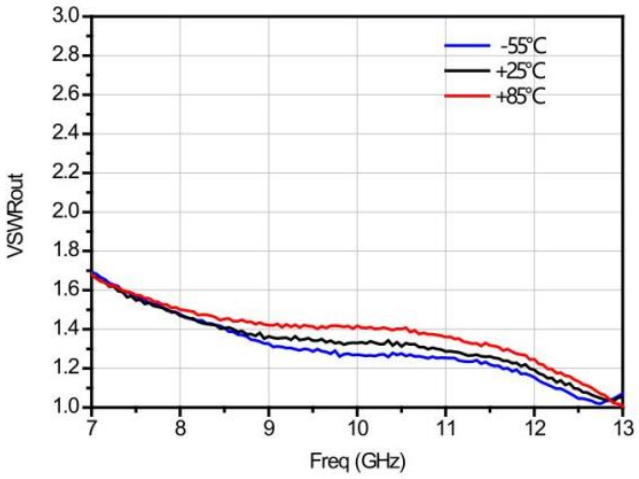

Figure 5. Output standing wave

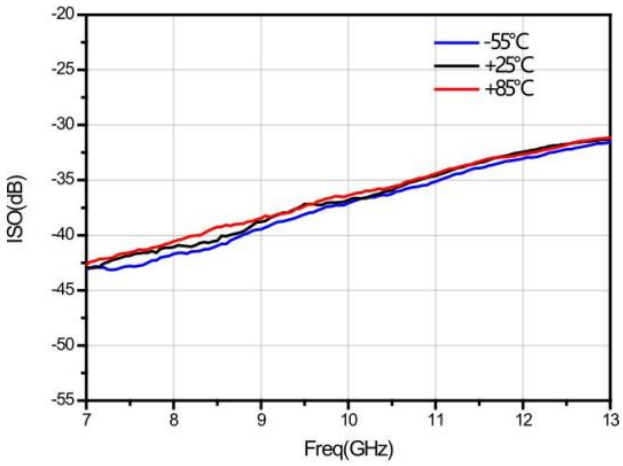

Figure 6. Reverse isolation

VII. Overall and Port Dimensions (mm)

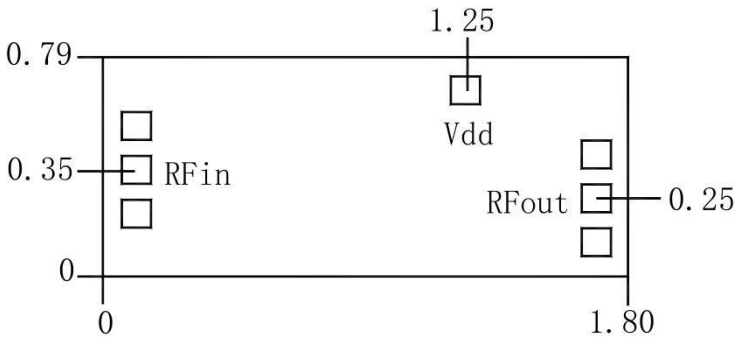

Figure 7.

VIII. Recommended Assembly Drawing

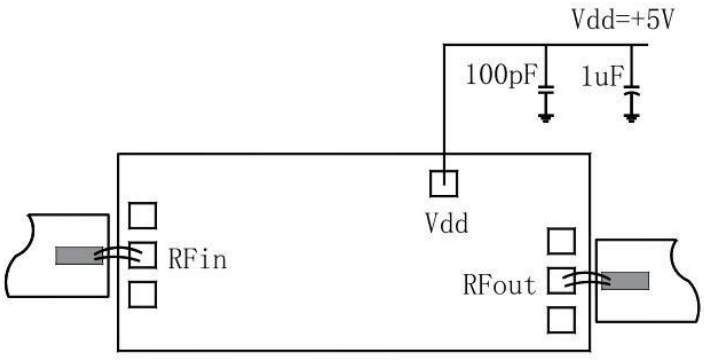

Figure 8.

IX. Notes

- The chip should be stored in a dry, nitrogen-filled environment and used in an ultra-clean environment.
- GaAs material is brittle and the chip surface cannot be touched. Be careful when using it.
- Sinter the chip with conductive glue or alloy (the alloy temperature cannot exceed 300 °C and the time cannot exceed 30 seconds) to ensure that it is fully grounded.
- The gap between the chip microwave port and the substrate should not exceed 0.05mm. Use 25μm double gold wire bonding. The recommended gold wire length is 250 to 400μm.
- There is a DC blocking capacitor at the microwave end of the chip.
- The chip is sensitive to static electricity. Please pay attention to anti-static measures during storage and use.