

BSTMU05-0611

26-44 GHz Active Quadrupler

Data Sheet

I. Product Introduction

BSTMU05-0611 is an active quadruple frequency multiplier chip with an output frequency of 26~44GHz. When the input power is 0dBm, the fundamental wave suppression is 55dBc.

II. Application Areas

- Radar
- Communication
- Instruments

III. Key Technical Indicators

- Input frequency: 6.5~11GHz
- Output frequency: 26~44GHz
- Typical input power: 0dBm
- Typical output power: 15dBm
- Working power supply: 100mA@5V
- Chip size: 1.45 mm×1.10 mm

IV. Absolute Maximum Ratings

Table 1

PARAMETER	LIMIT VALUE
Maximum input power	+10dBm
Maximum operating voltage	+5.5V
Operating temperature	-55 °C ~125 °C
Storage temperature	-65 °C ~150 °C

V. Electrical Performance Table ($T_A = +25\text{ }^{\circ}\text{C}$, $V_{dd} = +5\text{V}$, $P_{in} = 0\text{dBm}$)

Table 2

INDEX	MINIMUM	TYPICAL VALUES	MAXIMUM
Input frequency (GHz)	6.5~11		
Output frequency (GHz)	26~44		
Output power (dBm)	-	15	-
Input return loss (dB)	-	25	-
Output return loss (dB)	-	15	-
Fundamental harmonic suppression (dBc)	-	55	-
Third harmonic suppression (dBc)	-	25	-
Working current (mA)	-	100	-

VI. Typical Test Curve

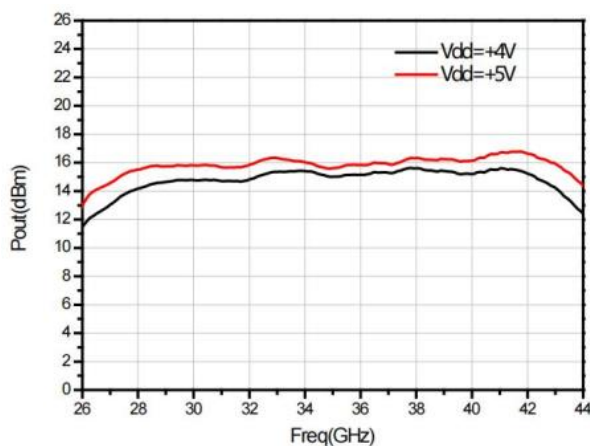


Figure 1. Output power

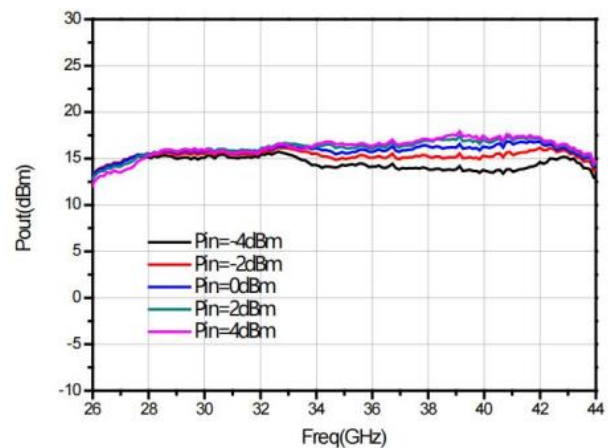


Figure 2. Output power

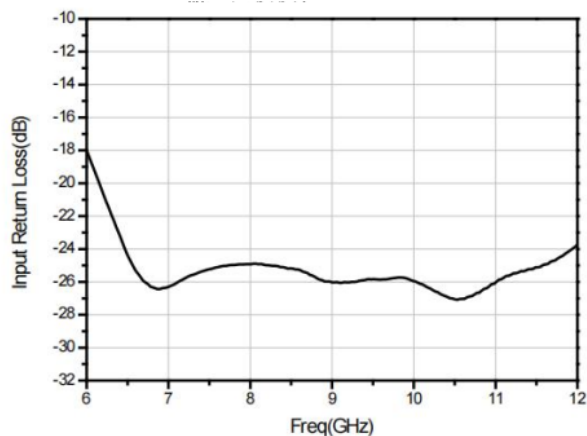


Figure 3. Input return loss ($P_{in} = 0\text{dBm}$)

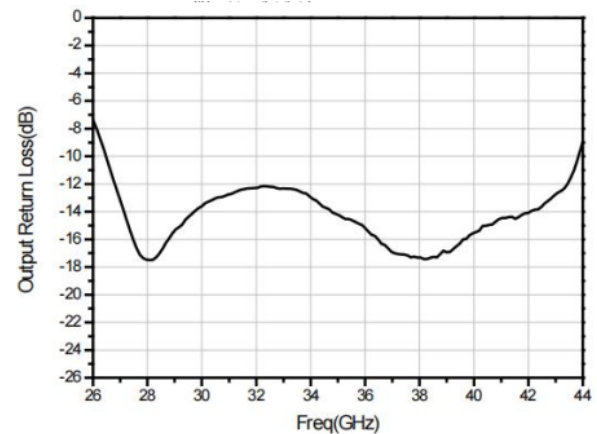


Figure 4. Output return loss ($P_{in} = 0\text{dBm}$)

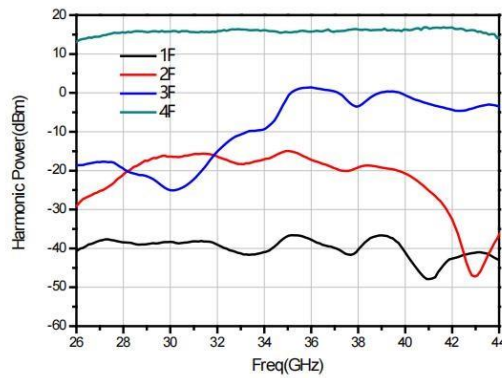


Figure 5. Harmonic power (Pin=0dBm)

VII. Outline and Port Dimensions (mm)

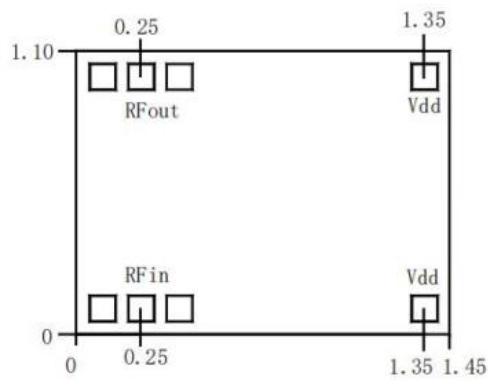


Figure 6.

VIII. Recommended Assembly Drawing

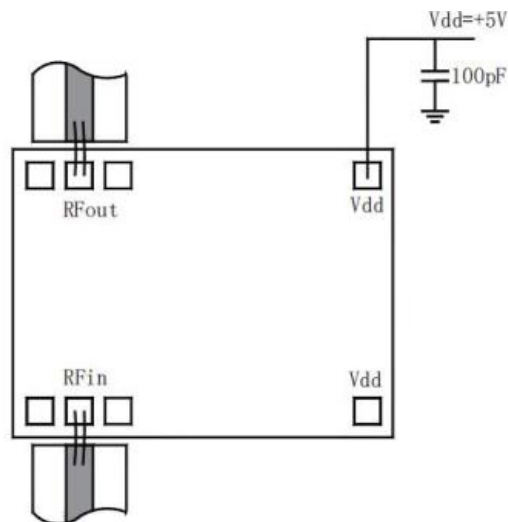


Figure 7.

Note: The two V_{DD} are internally connected, so you can add it at any point.

IX. Precautions

- 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;
- The microwave end of the chip has a DC blocking capacitor;
- The chip is sensitive to static electricity. Please pay attention to anti-static measures during storage and use.