BSTMX16-1828

18-28 GHz I/Q Mixer

Data Sheet

I. Product Introduction

BSTMX16-1828 is an I/Q image rejection mixer chip that integrates two passive double-balanced mixers and a 90° quadrature bridge.

The output of the intermediate frequency signal with the same amplitude and 90° phase difference is achieved by using

The image rejection function can be achieved by using a low-frequency quadrature coupler.

II. Key Technical Indicators

- RF & LO frequency: 18~28GHz
- IF frequency: DC-6GHz
- Local oscillator power: 17dBm
- Conversion loss: 9dB
- LO/RF isolation: 35dB
- Image suppression: 25dBc
- Chip size: 1.4mmx1.1mm

III. Application Areas

- Radar
- Communications
- Instruments

IV. Absolute Maximum Ratings

Table 1

PARAMETER	LIMIT VALUE
Maximum input power	+20dBm
Storage temperature	-65 ℃～ +150 ℃
Operating temperature	-55 ℃～ +125 ℃

V. Electrical Performance Table (T_A = 25 ℃)

Table 2

INDEX	MINIMUM	TYPICAL VALUES	MAXIMUM
RF & LO frequency (GHz)	18 ~ 28		
IF frequency (GHz)	DC ~ 6		
Conversion loss (dB)	—	9	—
LO~RF isolation (dB)	—	35	—
LO~IF isolation (dB)	—	20	—
RF~IF isolation (dB)	—	29	—

VI. Overall and Port Dimensions (mm)

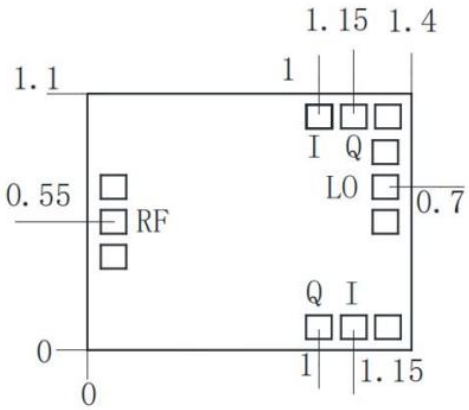

Figure 1

VII. 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;
- There are no DC blocking capacitors at the chip input and output terminals;
- The chip is sensitive to static electricity. Please pay attention to anti-static measures during storage and use.