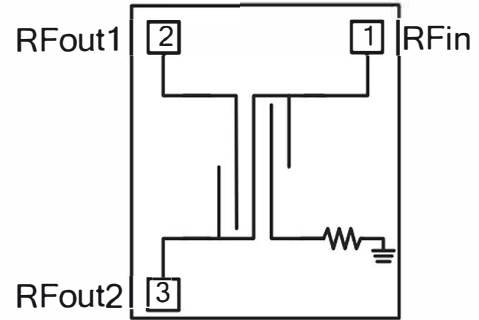


### Performance Characteristics

- Frequency range: 28GHz~55GHz
- Insertion loss: 0.6dB
- Input/output standing wave: 1.3/1.6
- Chip size: 0.80mm x 1.18mm x 0.10mm

### Functional Block Diagram



### Product Introduction

This chip adopts an on-chip parallel coupled microstrip line structure. The chip operates at a frequency range of 28GHz to 55GHz, with an insertion loss of less than 0.6dB and a port standing wave of less than 1.6.

### Microwave Electrical Parameters (TA = +25°C, 500 system)

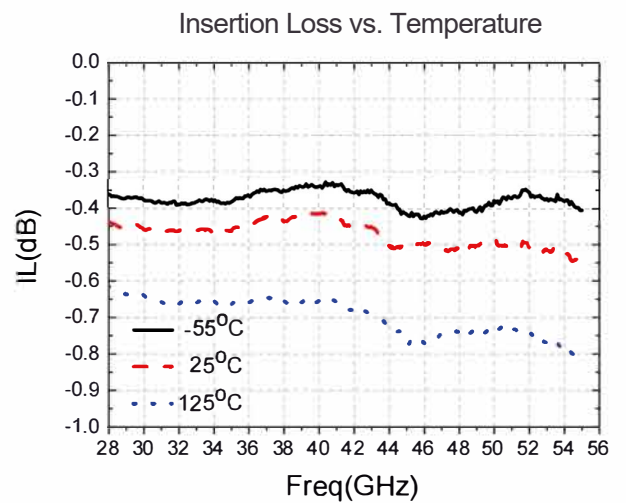
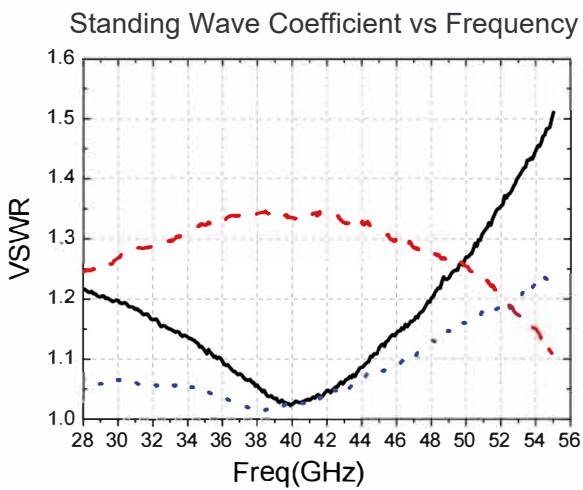
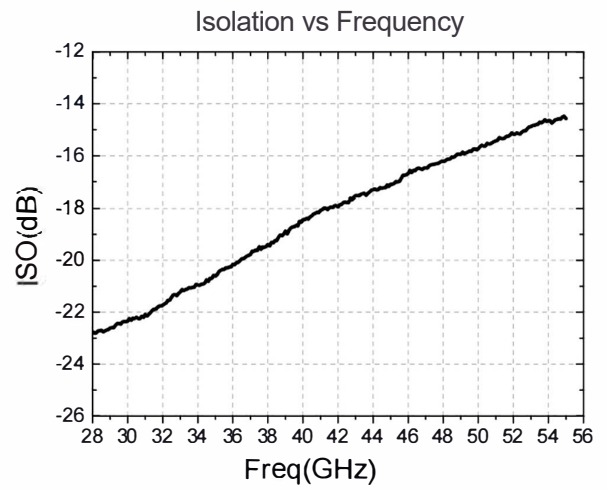
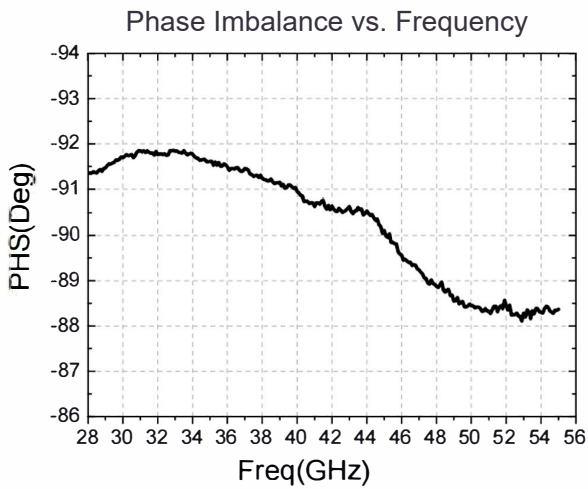
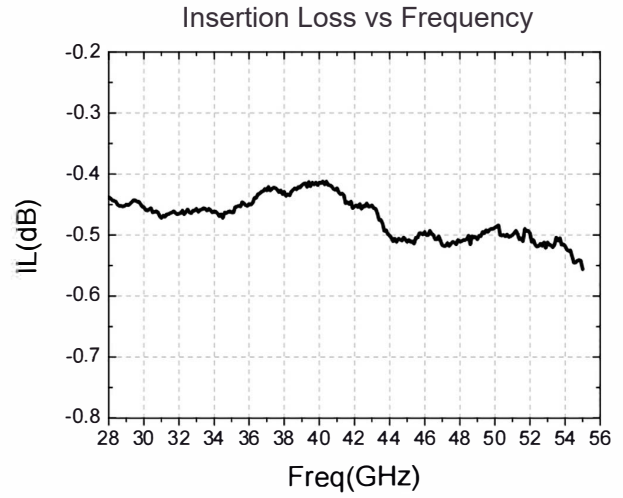
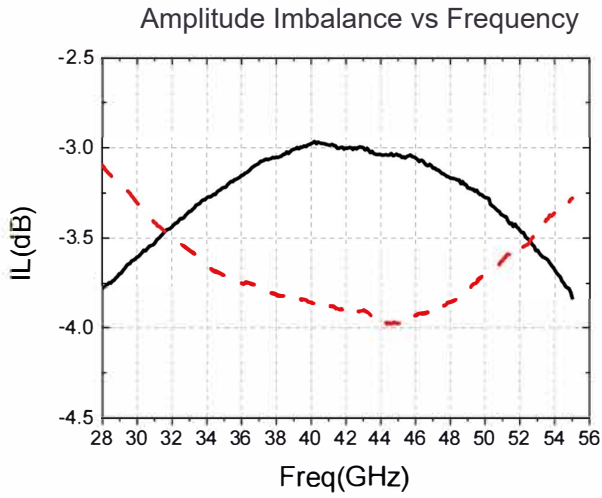
Index	Symbol	Min	Typ	Max	Unit
Frequency Range	f	28~55			GHz
Insertion Loss	IL	-	0.5	0.6	dB
Input standing wave	VSWR(in)	-	1.1	1.25	-
Output standing wave	VSWR(out)	-	1.2	1.55	-
Amplitude imbalance	$\Delta$ dB	-	-	$\pm 0.5$	dB
Phase imbalance	$\Delta$ dB	-	-	$\pm 2$	°
Isolation	ISO	14	-	-	dB

Note: All chips have undergone 100% microwave testing on chip;

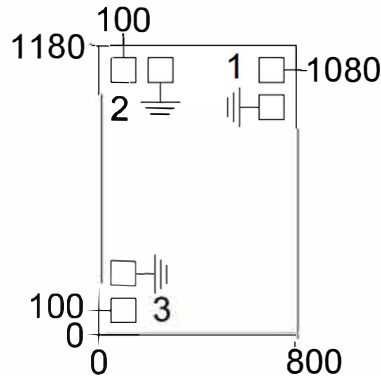
### Use Restriction Parameters

Parameters	Symbol	Limit Value
Max Input Power	P <sub>p</sub>	2W
Operating Temperature	T <sub>op</sub>	-55°C~+125°C
Storage Temperature	T <sub>STG</sub>	-65°C~+150°C

**Typical Curve**



**External Dimensions and Pressure Point Arrangement Diagram**

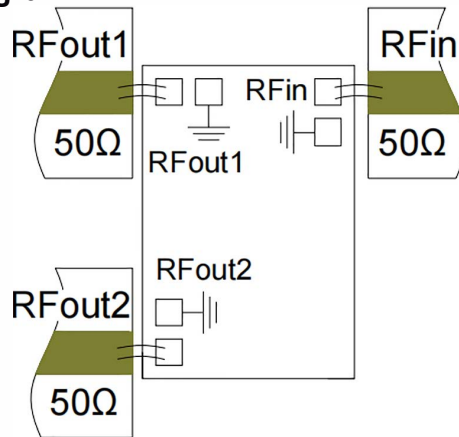


Note:

The units in the figure are all micrometers ( $\mu\text{m}$ ); External dimensional tolerance  $\pm 50 \mu\text{m}$ ; The chip thickness is  $100 \mu\text{m}$ ; The back of the chip is grounded.

No.	Symbol	Function	PAD Dimensions
1	RFin	Input port	$100 \times 100 \mu\text{m}^2$
2	RFout1	Input port 1	$100 \times 100 \mu\text{m}^2$
3	RFout2	Input port 2	$100 \times 100 \mu\text{m}^2$

**Suggested Assembly Diagram**



Note:

- 1) Assemble and use in a purified environment;
- 2) GaAs material is very brittle and the chip surface is easily damaged (do not touch the surface), so caution must be taken when using it;
- 3) Use 2 bonding wires (25  $\mu\text{m}$  diameter gold wire) for input and output, and the bonding wires should be as short as possible, not exceeding 300  $\mu\text{m}$ ;
- 4) The back of the chip must be grounded;
- 5) Use 80/20 gold tin sintering, with a sintering temperature not exceeding 300 °C and a sintering time as short as possible, not exceeding 30 seconds;
- 6) This product is sensitive to static electricity and should be stored and used with caution to prevent static electricity;
- 7) Store in a dry, nitrogen environment;
- 8) Do not attempt to clean the surface of the chip using dry or wet chemical methods;
- 9) Please contact the supplier if you have any questions.



This product is sensitive to static electricity, please pay attention to anti-static measures during use