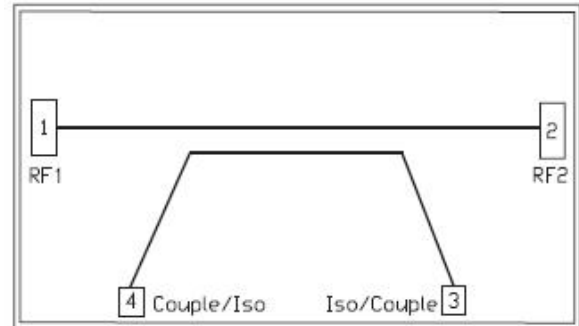


GaAs MMIC Monolithic Integrated Directional Coupler , 2-18GHz

Performance characteristics

- Frequency range: 2 -18 GHz
- Insertion loss : 0.6 dB (typ.)
- Coupling: 20dB
- Coupling flatness: 3.0dB
- VSWR: 1.2/1.2
- 50Ohm input / output
- 100% on-wafer testing
- Chip size: 3.96 x 1.84 x 0.1mm

Functional Block Diagram



Product Introduction

GDC-021820 single-chip coupler chip covers a frequency range of 2 GHz to 18 GHz , with a coupling degree of 20 dB . The chip has an insertion loss of 0.6 dB , a coupling flatness of 3.0 dB , and a port VSWR of 1.2 in the entire operating frequency band. The chip uses an on-chip through-hole metallization process to ensure good grounding, does not require additional grounding measures, and is simple and convenient to use

Use restriction parameter ¹

Maximum input power	+40dBm
Operating temperature	-55 ~ +85°C
Storage temperature	-65 ~ +150°C

【1】 Exceeding any of these maximum limits may cause permanent damage.

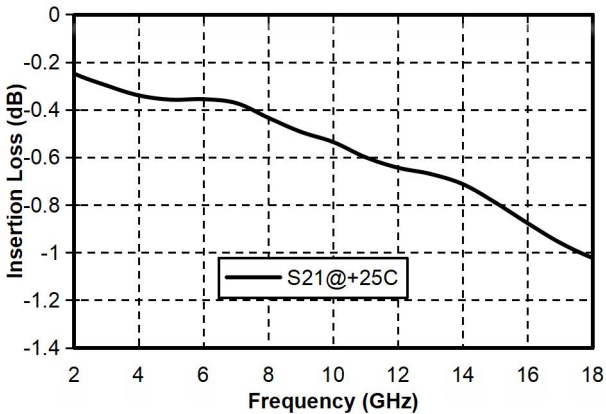
Electrical performance parameters (TA = +25°C)

Index	Minimum	Typical Value	Maximum	Unit
Frequency Range	2-18			G Hz
Insertion loss	-	0.6	-	dB
Coupling	-	20	-	dB
Input return loss	-	21	-	dB
Through output return loss	-	21	-	dB
Coupled output return loss	-	22	-	dB
Isolation	-	18	-	dB

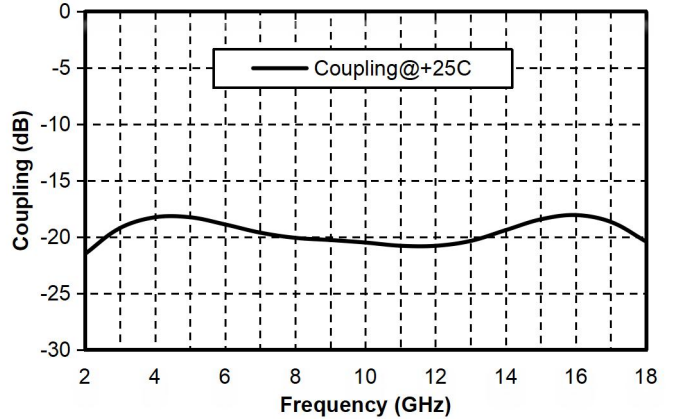
GaAs MMIC Monolithic Integrated Directional Coupler , 2-18GHz

Main index test curve

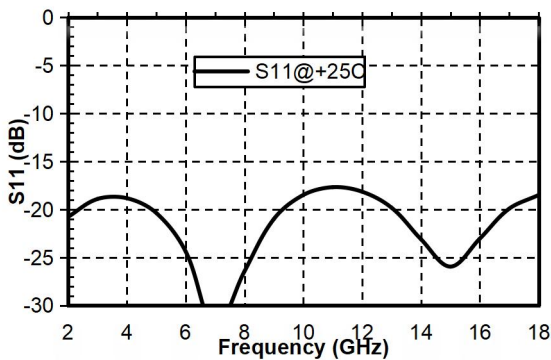
Insertion Loss vs. Operating Frequency



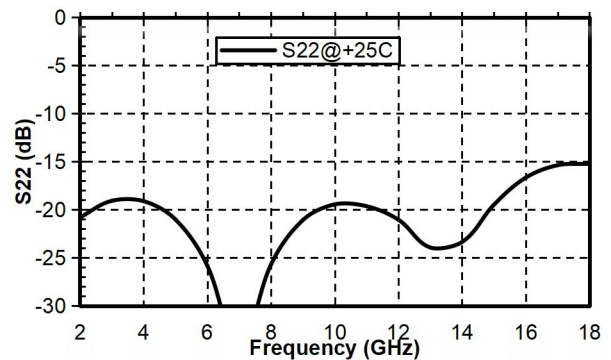
Coupling Degree vs. Operating Frequency



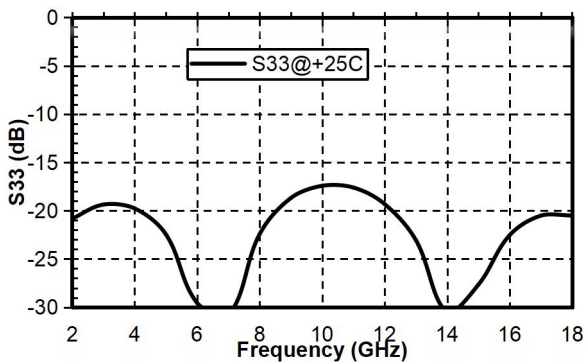
Input Return Loss vs. Operating Frequency



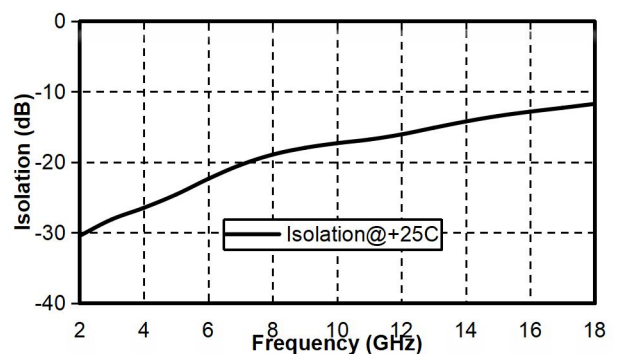
Through Output Return Loss vs. Operating Frequency



Coupled Output Return Loss vs. Operating Frequency

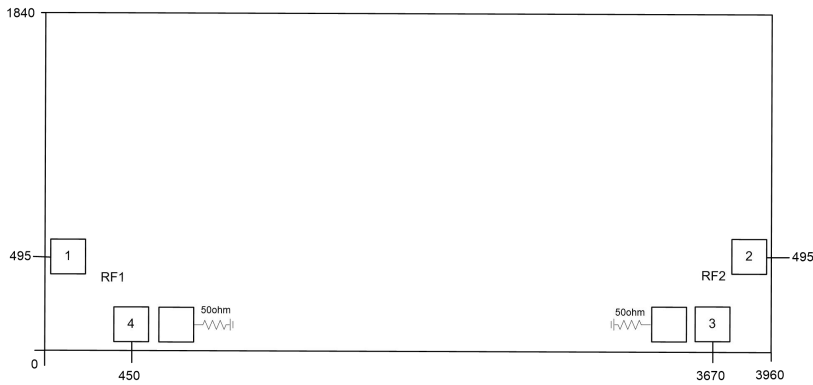


Isolation vs. Operating Frequency



GaAs MMIC Monolithic Integrated Directional Coupler , 2-18GHz

Appearance structure ²



【 2 】 The units in the figure are all micrometers (dimensional tolerance: $\pm 100\mu\text{m}$.)

Bonding point definition

Bonding point number	Function Symbol	Functional Description
1	RF 1	RF signal input terminal
2	RF2	Direct RF signal output
3	Coupling/Termination	Coupled RF signal output and /or load
4	Coupling/Termination	Coupled RF signal output and /or load
Chip bottom	GND	The bottom of the chip needs to be well grounded to RF and DC

Recommended assembly drawing

