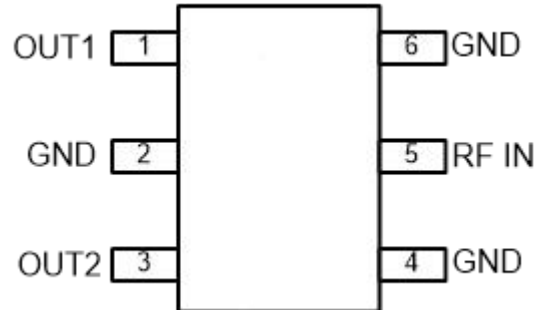


GaAs MMIC monolithic integrated 0 degree power divider , 300-800M Hz

Performance characteristics

- Range : 300-800MHz
- Insertion loss : 1.1 dB
- Isolation: 20dB
- Phase imbalance: 0.5 °
- Amplitude imbalance: 0.1dB
- 50Ohm input / output
- Chip size: SOT23

Functional Block Diagram



Product Introduction

GPD-055A-ST23 monolithic integrated 0 degree power divider has low insertion loss, good isolation, and low phase and amplitude imbalance in the frequency range of 300 ~ 800MHz , which is very suitable for microwave hybrid integrated circuits and multi-chip modules. This chip adopts SOT23 plastic surface mount package, and the surface of the pin pad is gold-plated, which is suitable for reflow soldering installation process.

Electrical performance parameters (TA = +25°C)

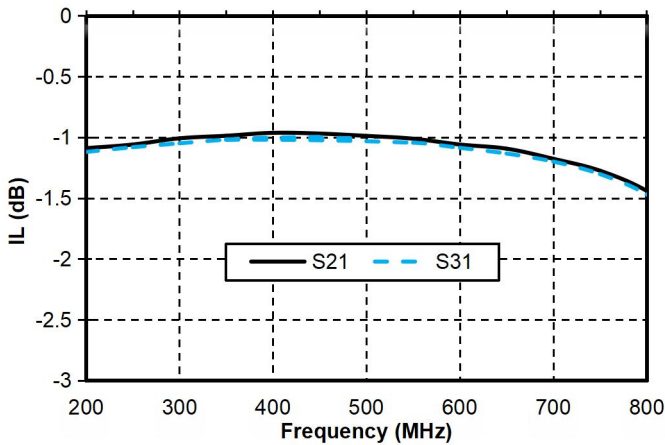
| Index | Minimum | Typical Value | Maximum | Test frequency | Unit |
|--|---------|---------------|---------|----------------|----------|
| Insertion loss*/isolation | - | 1.0 / 13.1 | - | 300MHz | dB |
| | - | 1.0 / 17.1 | - | 400MHz | dB |
| | - | 1.0 / 22.3 | - | 500MHz | dB |
| | - | 1.1 / 24.3 | - | 600MHz | dB |
| | - | 1.2 / 21.0 | - | 700MHz | dB |
| | - | 1.5 / 19.9 | - | 800MHz | dB |
| Phase imbalance/amplitude imbalance | - | 0.04 / 0.2 | - | 300MHz | dB |
| | - | 0.04 / 0.2 | - | 400MHz | dB |
| | - | 0.02 / 0.3 | - | 500MHz | dB |
| | - | 0.03 / 0.2 | - | 600MHz | dB |
| | - | 0.03 / 0.2 | - | 700MHz | dB |
| | - | 0.03 / 0.2 | - | 800MHz | dB |
| Input return loss / output return loss | - | 16.3 / 14.9 | - | 300MHz | dB/Deg . |
| | - | 17.7 / 16.0 | - | 400MHz | dB/Deg. |
| | - | 17.5 / 18.1 | - | 500MHz | dB/Deg. |
| | - | 17.6 / 22.5 | - | 600MHz | dB/Deg. |
| | - | 21.4 / 42.3 | - | 700MHz | dB/Deg. |
| | - | 27.3 / 17.7 | - | 800MHz | dB/Deg. |

* The inherent loss of the power divider has been deducted .

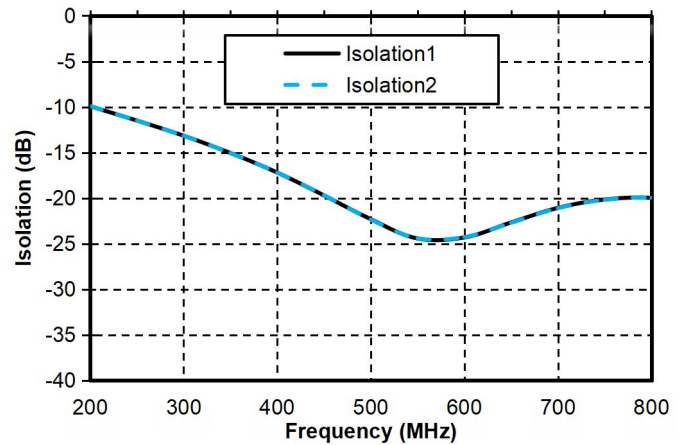
GaAs MMIC monolithic integrated 0 degree power divider , 300-800M Hz

Main index test curve

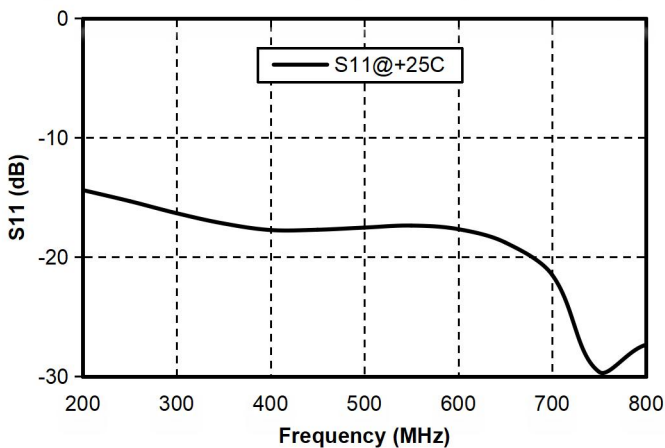
Insertion Loss vs. Operating Frequency



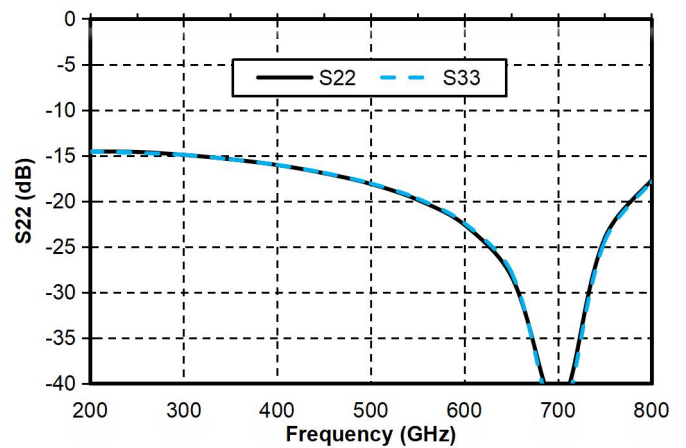
Isolation vs. Operating Frequency



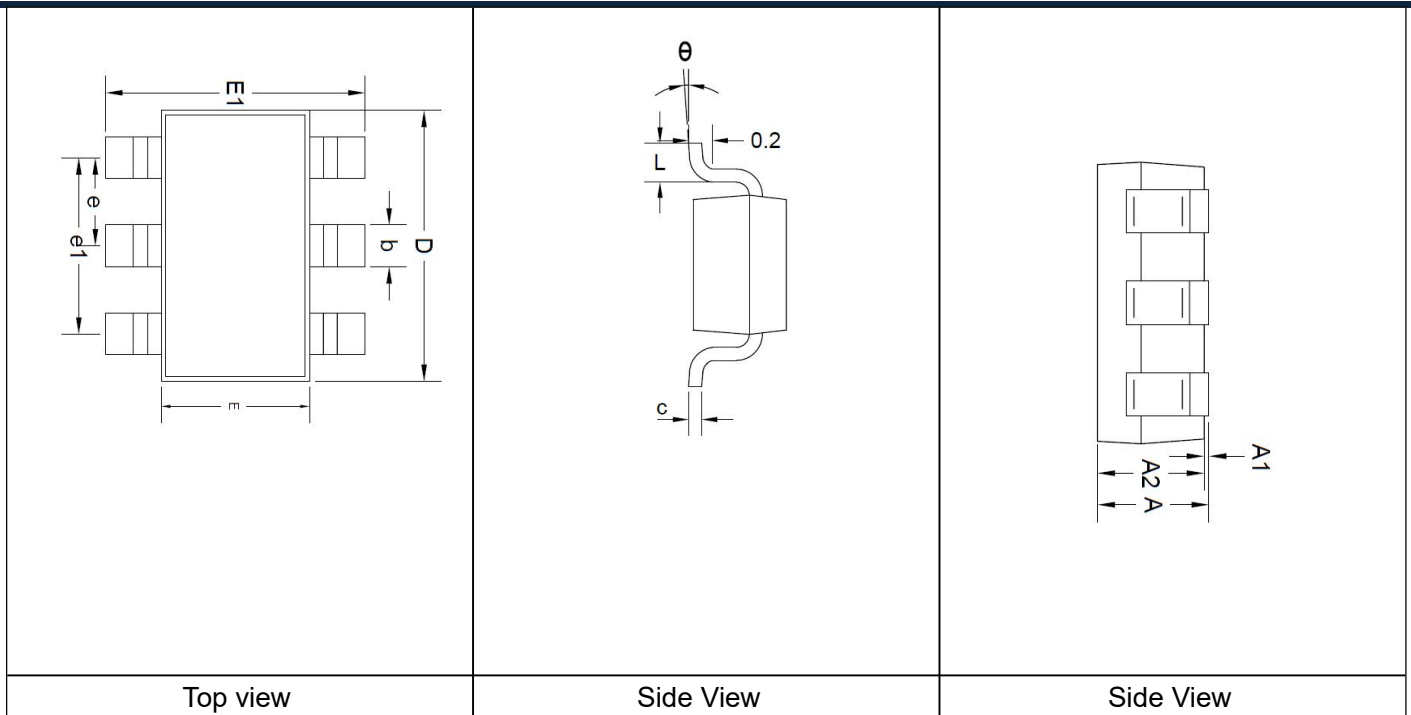
Input Return Loss vs. Operating Frequency



Output Return Loss vs. Operating Frequency



Dimensions



GaAs MMIC monolithic integrated 0 degree power divider , 300-800M Hz

Structure size

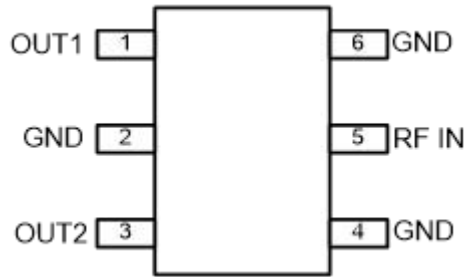
| Annotation | Minimum | Standard | Maximum | Annotation | Minimum | Standard | Maximum |
|------------|---------|----------|---------|------------|----------|----------|---------|
| A | 1.050 | 1.150 | 1.250 | E | 1.500 | 1.600 | 1.700 |
| A1 | 0.00 | 0.05 | 0.100 | E1 | 2.650 | 2.800 | 2.950 |
| A2 | 1.050 | 1.150 | 1.250 | e | 0.950BSC | | |
| b | 0.300 | 0.400 | 0.500 | e1 | 1.800 | 1.900 | 2.000 |
| c | 0.100 | 0.150 | 0.200 | L | 0.300 | 0.450 | 0.600 |
| D | 2.820 | 2.920 | 3.020 | θ | 0° | 4° | 8° |

The unit in the figure is mm. If no tolerance is specified, it is ± 0.05 .

Pin Definition

| Bonding point number | Function Symbol | Functional Description |
|----------------------|-----------------|---|
| 5 | RFIN | RF signal input terminal |
| 1,3 | RFOUT | RF signal output terminal |
| 2, 4, 6 | GND | The bottom of the chip needs to be well grounded to RF and DC |

Assembly diagram



Precautions for use

- Sealing material : Low-pressure injection molding plastic that meets ROHS specifications
- Lead frame material: copper alloy
- Lead surface plating: 100% matte tin
- Maximum reflow peak temperature: 260 °C

Use restriction parameter ¹

| | |
|-----------------------|----------------|
| Maximum input power | +30dBm (CW) |
| Operating temperature | -40 ~ + 100 °C |
| Storage temperature | -65 ~ +150°C |

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