

GaAs MMIC Monolithic Integrated 0 Degree Triple Power Divider , 12-18 GHz

Performance characteristics

- Frequency range: 12-18 GHz
- Insertion loss : 2 dB
- Isolation: 27dB
- Amplitude imbalance : ± 0.4 dB
- 50Ohm input / output
- Chip size: QFN 3X3

Product Introduction

GPD-12183-PQ3 monolithic integrated 0 degree three-way power divider has low insertion loss, good isolation, good amplitude imbalance and other characteristics in the frequency range of 12 ~ 18 GHz , which is very suitable for microwave hybrid integrated circuits and multi-chip modules. This chip adopts 3 x 3 mm plastic surface mount package, and the surface of the pin pad is tinned, which is suitable for reflow soldering installation process.

| Use restriction parameter ¹ | |
|--|--------------|
| Maximum input power | +40dBm |
| Operating temperature | -55 ~ +85°C |
| Storage temperature | -65 ~ +150°C |

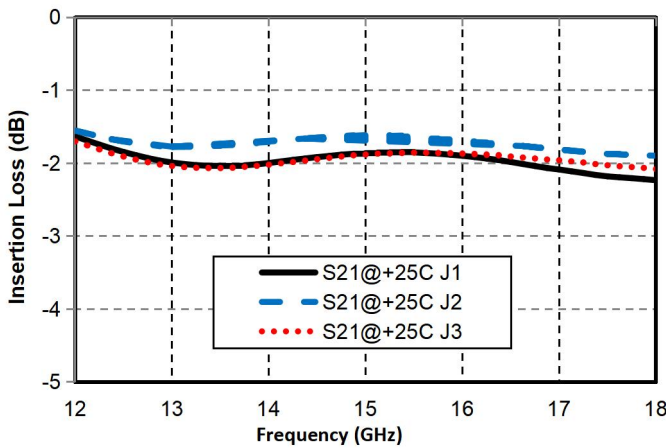
【1】 Exceeding any of these maximum limits may cause permanent damage.

| Electrical performance parameters (TA = +25°C) | | | | |
|---|---------|---------------|---------|------|
| Index | Minimum | Typical Value | Maximum | Unit |
| Frequency Range | 12-18 | | | GHz |
| Insertion loss | - | 2.0 | - | dB |
| Insertion loss fluctuation | - | 0.6 | - | dB |
| Isolation | - | 27 | - | dB |
| Amplitude imbalance | - | ± 0.4 | - | dB |
| Input return loss | - | 9 | - | dB |
| Output return loss | - | 11 | - | dB |

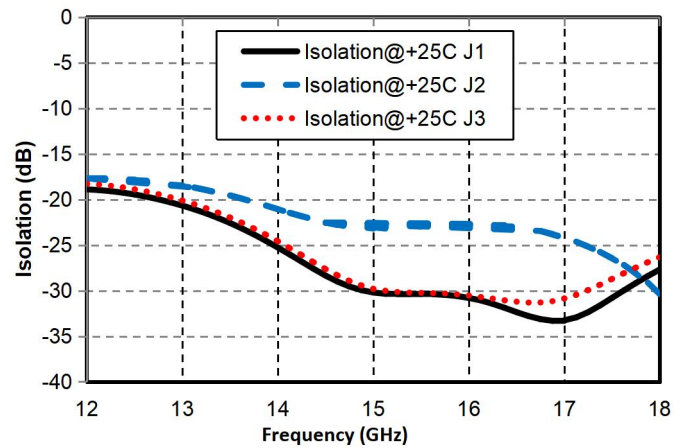
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Main index test curve

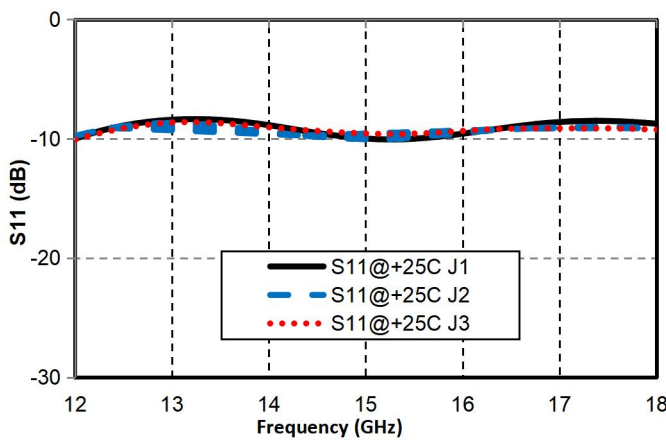
Insertion Loss vs. Operating Frequency



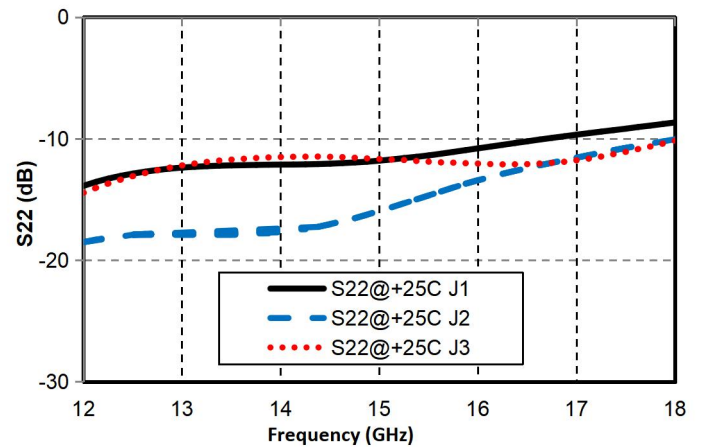
Isolation vs. Operating Frequency



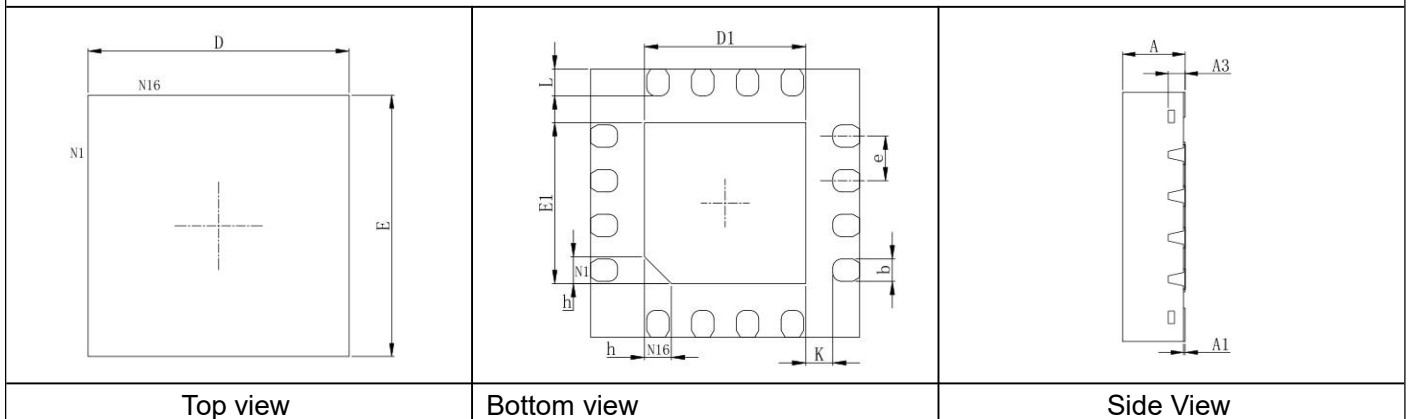
Input Return Loss vs. Operating Frequency



Output Return Loss vs. Operating Frequency



Appearance



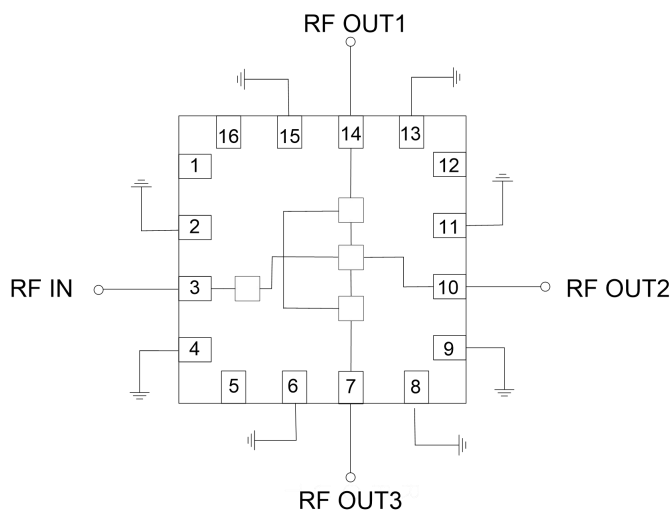
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| Structure size | | | | | | | |
|----------------|----------|----------|---------|------------|-----------|----------|---------|
| Annotation | Minimum | Standard | Maximum | Annotation | Minimum | Standard | Maximum |
| A | 0.70 | 0.75 | 0.80 | D1 | 1.70 | 1.80 | 1.90 |
| A1 | 0.00 | 0.020 | 0.05 | E1 | 1.70 | 1.80 | 1.90 |
| A3 | 0.203REF | | | e | 0.500 TYP | | |
| b | 0.20 | 0.25 | 0.30 | K | 0.30 REF | | |
| D | 2.90 | 3.00 | 3.10 | L | 0.20 | 0.30 | 0.40 |
| E | 2.90 | 3.00 | 3.10 | h | 0.30 REF | | |

All units in the figures are millimeters .

| Pin Definition | | |
|-----------------------|-----------------------------|---|
| Solder point number | Function Symbol | Functional Description |
| 3 | RFIN | RF signal input terminal |
| 7 , 10, 14 | RFOUT1 , RFOUT2 , RFOUT3 | RF signal output terminal |
| 6 , 8, 9, 11, 13 , 15 | GND | The bottom of the chip needs to be well grounded to RF and DC |
| Other | NC | No welding required |

Recommended assembly drawing



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