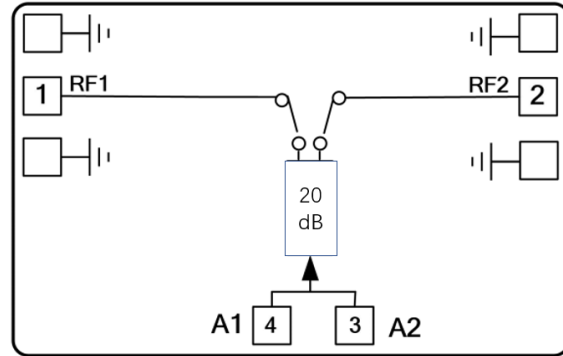


Features

- Frequency: DC-20GHz
- IL: 1.4dB typ.
- Att. Range: 20dB
- Control bits: 1bit
- Input /Output Return Loss: 20dB typ.
- Power Supply: -5 V
- Control Level: -5/0 V
- Die Size: 1.0 x 1.0 x 0.1 mm



Typical Applications

- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

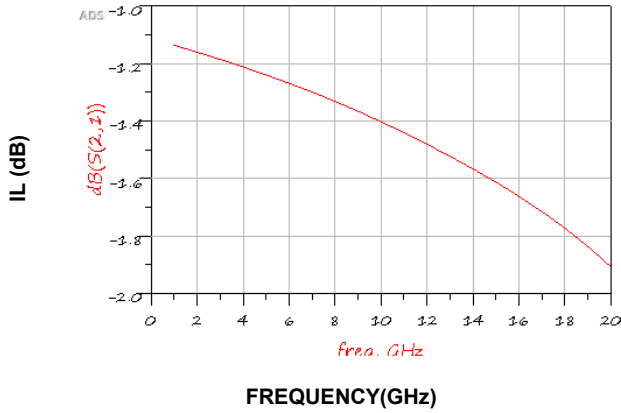
Electrical Specifications

TA = +25°C, VEE = -5V

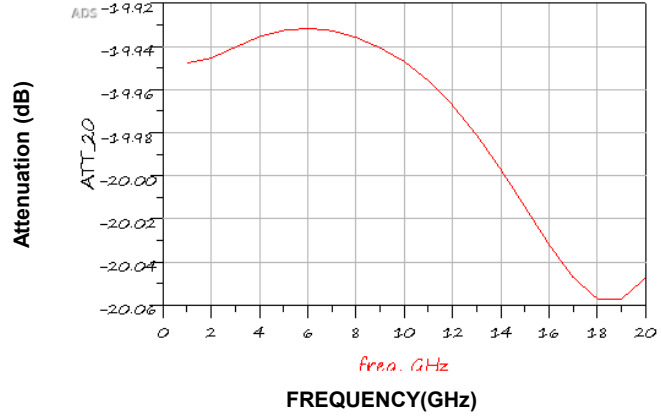
| Parameters | Min. | Typ. | Max. | Min. | Typ. | Max. | Min. | Typ. | Max. | Units |
|----------------------|-----------|------|------|------|------|------|-------|------|------|-------|
| Frequency | DC-6 | | | 6-18 | | | 18-20 | | | GHz |
| IL | | 1.2 | | | 1.3 | | | 1.4 | | dB |
| ATT Range | | 20.2 | | | 20 | | | 19.8 | | dB |
| Attenuation accuracy | ± 0.2dB | | | | | | | | | dB |
| Input RL | | 20 | | | 20 | | | 20 | | dB |
| Output RL | | 20 | | | 20 | | | 20 | | dB |
| Input P1dB | 24 (typ.) | | | | | | | | | dBm |
| Switch time | 30 (typ.) | | | | | | | | | ns |



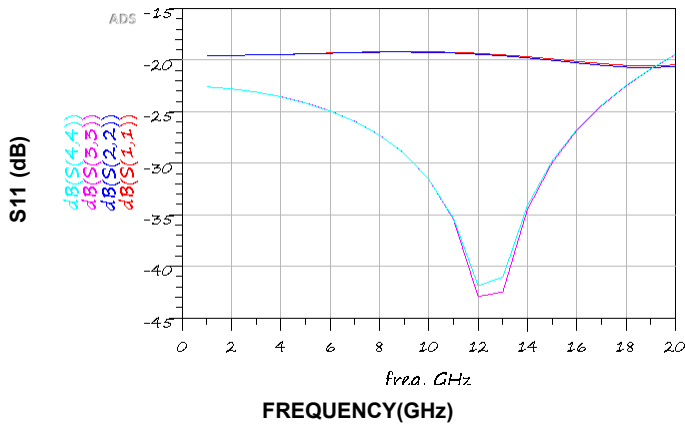
IL vs. Frequency



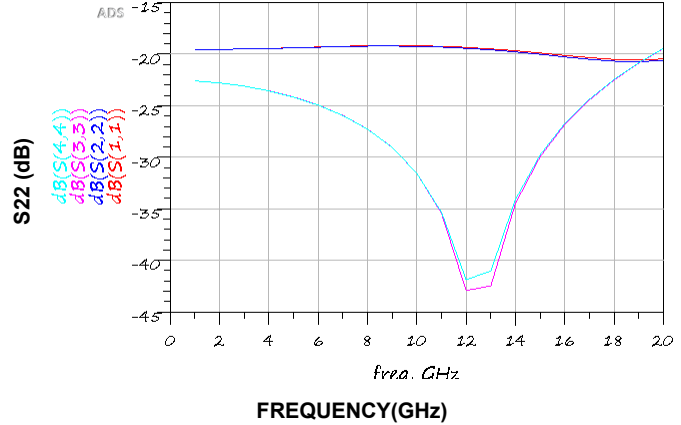
Att. vs. Frequency



Input RL vs. Frequency



Output RL vs. Frequency



Additional phase shift vs. Frequency

Additional phase shift (deg.)

FREQUENCY(GHz)

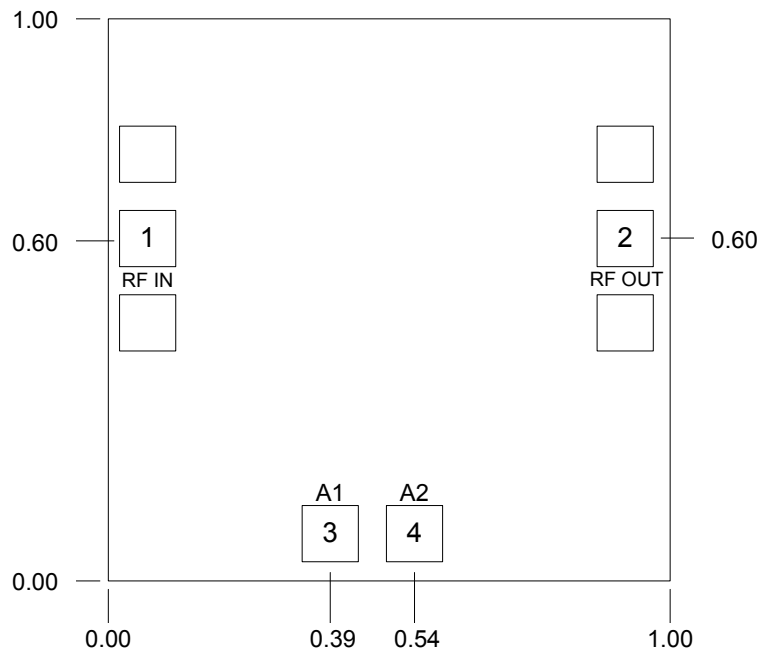
Attenuation accuracy vs. Frequency

Attenuation accuracy (dB)

FREQUENCY(GHz)



Outline Drawing:
All Dimensions in mm

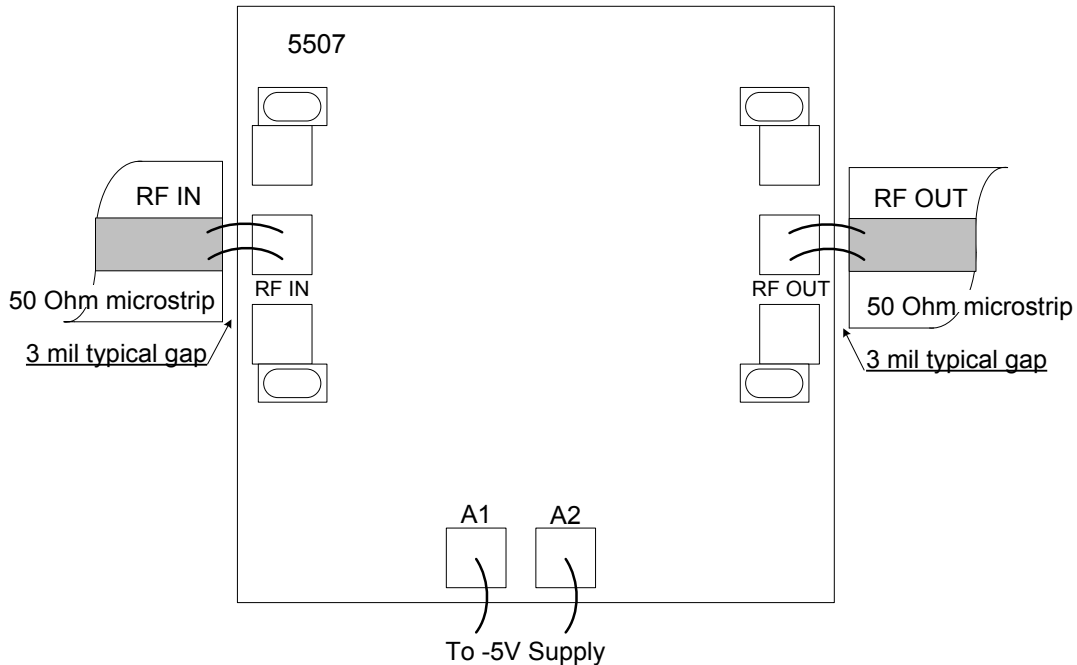


| Pad | Function | Description |
|----------------|----------|---|
| 1,2 | RF1, RF2 | 50 ohm circuit matched, and there is no blocking capacitor integrated inside the chip |
| 3,4 | A1, A2 | Control ports, see below the truth table |
| Bottom of chip | GND | The bottom of the chip should be in good contact with the RF and DC ground |

| Status | A1 | A2 |
|-----------|-----|-----|
| Reference | 0V | -5V |
| 20dB | -5V | 0V |



Assembly Drawing



Notes:

1. Die thickness: 100um
2. Typical bond pad is 100*100 μm^2
3. Bond pad metalization: Gold
4. Backside metalization: Gold
5. Backside of the die (GND)
6. No connection required for unlabeled bond pads
7. Internal DC Block at both input and output.
8. Input/Output use two 25um gold wire, length less than 250um is recommended.

Maximum Ratings:

1. Input power: +24dBm
2. Operating temperature: -55°C to +85°C
3. Storage temperature: -65°C to +150°C