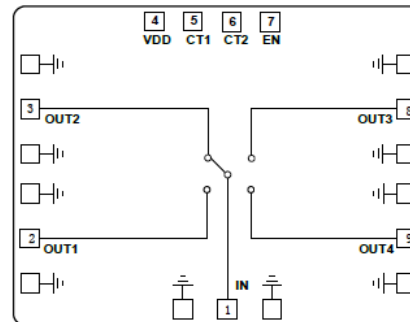


Features

- Positive voltage control
- Isolation: 37dB@ 20GHz
- Insertion Loss: 2.5dB@ 20GHz
- SP4T Matching design
- Power supply: +5V@ 5mA
- Die Size: 2x1.5x 0.1 mm

Typical Applications

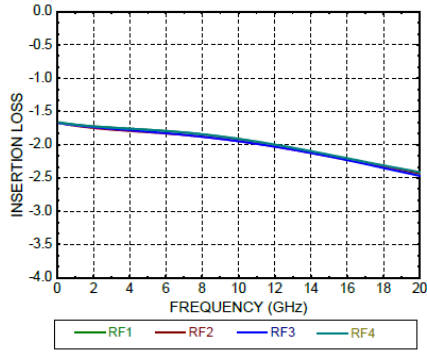
- TTL compatible driver included
- Fast Switching Speed
- Low Insertion Loss and High Isolation
- Customization available upon request

Functional Block Diagram

Electrical Specifications
TA = +25°C, CTRL=0/+3.3V, VDD= +5V

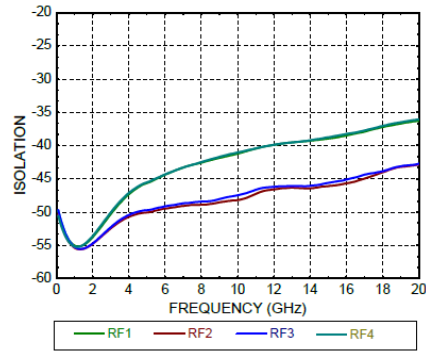
| Parameters | Min. | Typ. | Max. | Units |
|-------------------------------|------|--------|------|-------|
| Frequency | | 0.1-20 | | GHz |
| Insertion Loss | | 2.0 | | dB |
| Isolation | | 40 | | dB |
| Return Loss (ON State) | | 15 | | dB |
| Return Loss (OFF State) | | 20 | | dB |
| Input 1dB Compression@1-20GHz | | 20 | | dBm |
| Switching Speed | | 30 | | ns |



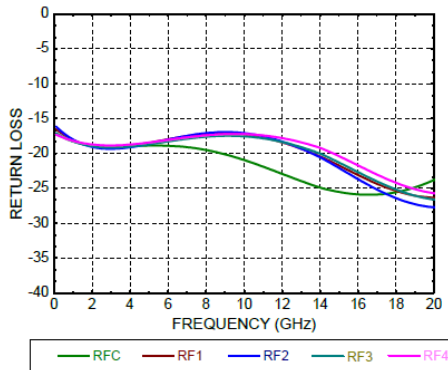
Insertion Loss



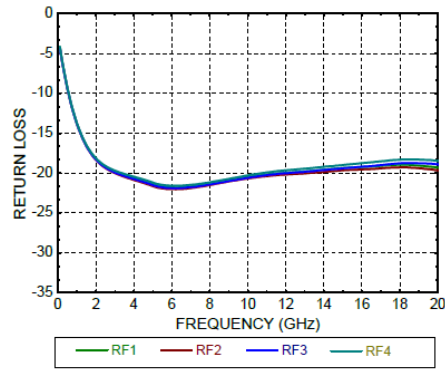
Isolation



Return Loss (ON State)

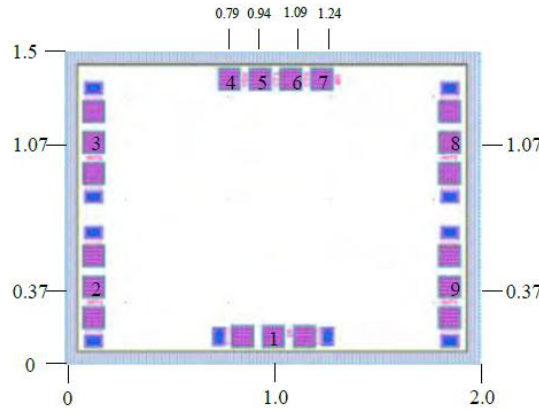


Return Loss (OFF State)





Outline Drawing:
All Dimensions in mm



Pad Description

| PAD | Function | Description |
|------------|--------------------------|---|
| 1 | IN | RF common port, blocking capacitor is required externally. |
| 2,3,8,9 | OUT1, OUT2 OUT3, OUT4 | RF branch port, blocking capacitor is required externally. |
| 5,6,7 | CT1, CT2, EN | When CT1=0V, CT2=0V, EN=0V, then OUT1 is "ON" state; When CT1=5V, CT2=0V, EN=0V, then OUT2 is "ON" state; When CT1=0V, CT2=5V, EN=0V, then OUT3 is "ON" state; When CT1=5V, CT2=5V, EN=0V, then OUT4 is "ON" state; When EN=5V, then OUT1~OUT4 are "OFF" state. |
| 4 | VDD | Digital circuit power supply port, connected to +5V voltage. |
| Die Bottom | GND | Die bottom must be connected to RF/DC ground. |

True Table

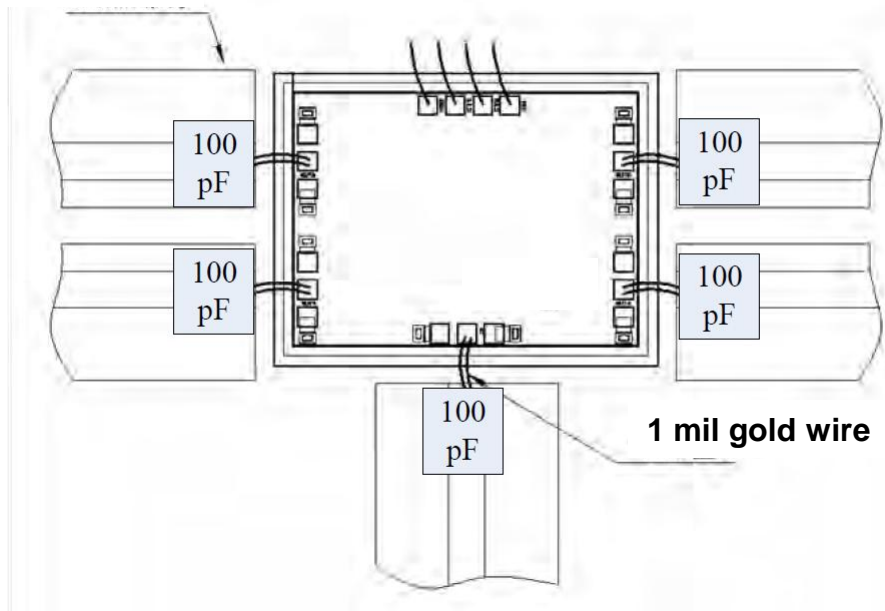
| Function | VDD | CT1 | CT2 | EN |
|----------|-----|-----|-----|----|
| RFC-RF1 | 5V | 0 | 0 | 0 |
| RFC-RF2 | | 1 | 0 | 0 |
| RFC-RF3 | | 0 | 1 | 0 |
| RFC-RF4 | | 1 | 1 | 0 |
| ALL OFF | | - | - | 1 |

"0" voltage range:0~0.8V, "1" voltage range:2.3~5V



Assembly Drawing

50 Ohm microstrip



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

Maximum Ratings:

1. Power supply: +6V
2. RF input power: +24dBm
3. Storage temperature: -65°C to +150°C
4. Operating temperature: -55°C to +85°C