

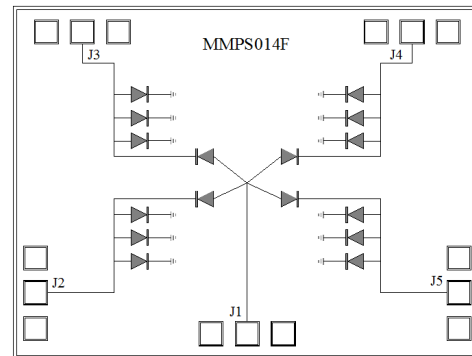
## Features

- PIN Diode SP4T Reflective design
- Frequency:0.1-26.5GHz
- Isolation: 35dB Typical
- Insertion Loss: 0.9dB Typical
- Control Voltage:+5/-5V
- Switching Speed:10ns
- Die Size: 1.95 x 1.47 x 0.1 mm

## Typical Applications

- Voltage control
- Fast Switching Speed
- Low Insertion Loss and High Isolation
- Customization available upon request

## Functional Block Diagram



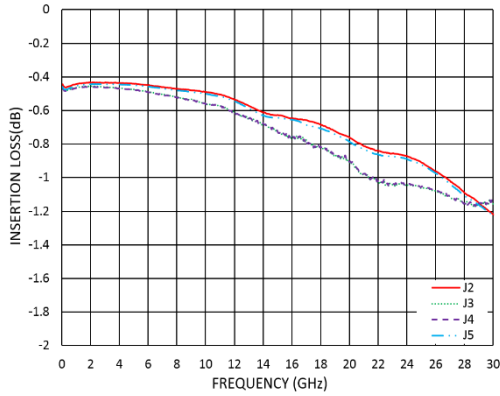
## Electrical Specifications

TA = +25°C, VCTL=+5/-5V , ±10 mA Typical

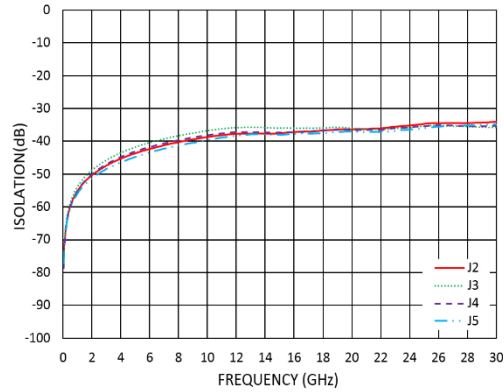
| Parameters                       | Min. | Typ. | Max. | Units |
|----------------------------------|------|------|------|-------|
| Frequency                        | 0.05 |      | 26.5 | GHz   |
| Insertion Loss                   |      | 0.6  | 1.2  | dB    |
| Isolation                        | 30   | 35   |      | dB    |
| Input Return Loss                |      | -18  |      | dB    |
| Output Return Loss               |      | -18  |      | dB    |
| P1dB - Output 1dB Compression    |      | 25   |      | dBm   |
| IIP3-Input Third Order Intercept |      | 38   |      | dBm   |
| Switching Speed                  |      | 10   |      | ns    |



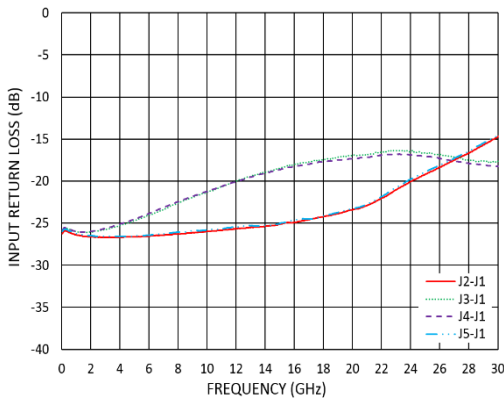
### Insertion Loss vs. Frequency



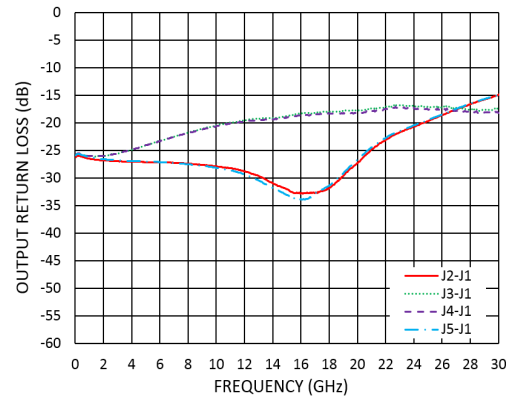
### Isolation vs. Frequency



### Input Return Loss vs. Frequency



### Output Return Loss vs. Frequency





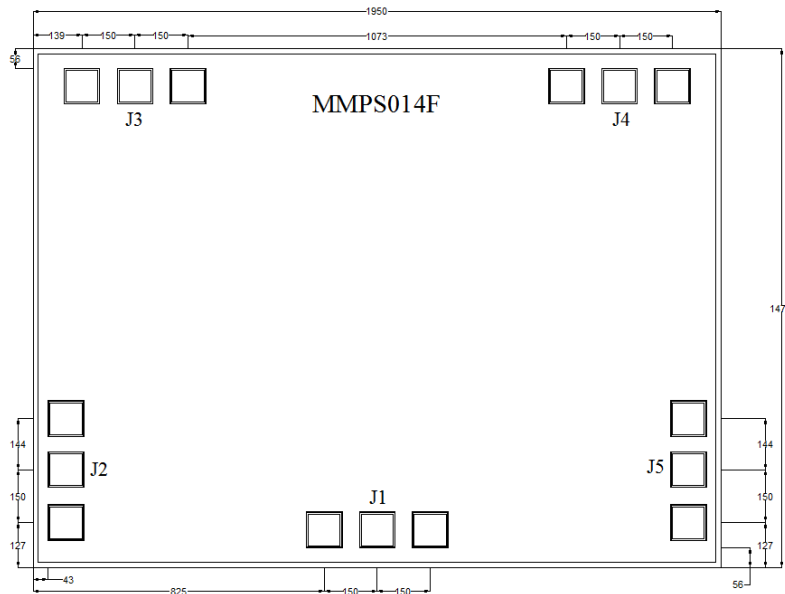
### Absolute Maximum Ratings

|                            |                  |
|----------------------------|------------------|
| Max Incident C.W. RF Power | +31dBm           |
| DC Reverse Voltage         | 25V              |
| Bias Current               | ±50 mA           |
| Operating Temperature      | -55°C to +85 °C  |
| Storage Temperature        | -65°C to +150 °C |



ELECTROSTATIC SENSITIVE DEVICE  
OBSERVE HANDLING PRECAUTIONS

### Outline Drawing: All Dimensions in μm

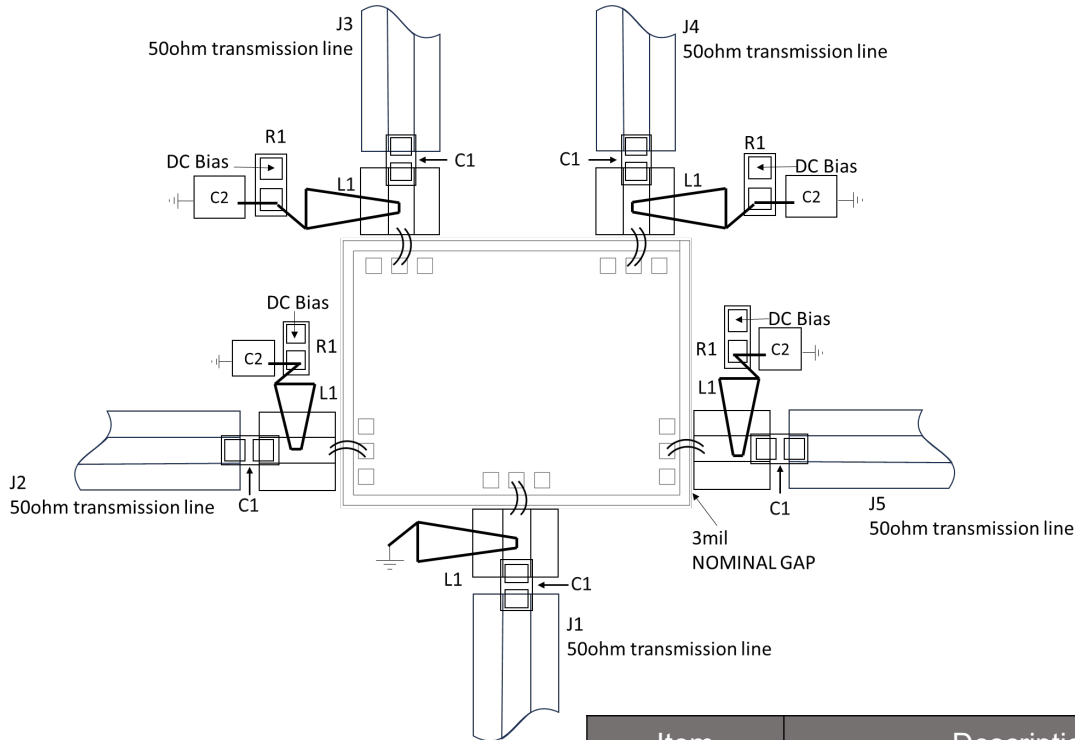


### True Table

| Control Voltage |     |     |     | State |       |       |       |
|-----------------|-----|-----|-----|-------|-------|-------|-------|
| J2              | J3  | J4  | J5  | J2→J1 | J3→J1 | J4→J1 | J5→J1 |
| -5V             | +5V | +5V | +5V | ON    | OFF   | OFF   | OFF   |
| +5V             | -5V | +5V | +5V | OFF   | ON    | OFF   | OFF   |
| +5V             | +5V | -5V | +5V | OFF   | OFF   | ON    | OFF   |
| +5V             | +5V | +5V | -5V | OFF   | OFF   | OFF   | ON    |



### Assembly Drawing



| Item | Description  |
|------|--|
| C1   | 0.1 $\mu$ F Capacitor<br>Example: Passiveplus<br>Part:0402BB104KW500 |
| L1   | 0.84 $\mu$ H Inductance<br>Example: Piconics<br>Part: CC45T47K240G5  |
| R1   | 200 $\Omega$ Resistor<br>Example: YAGEO<br>Part: RC0402FR-07200RL    |
| C2   | 39pF Capacitor<br>Example: Skyworks<br>Part: SC10002430              |

#### Notes:

1. Die thickness: 100 $\mu$ m
2. Typical bond pad is 100\*100 $\mu$ m<sup>2</sup>
3. Bond pad metallization: Gold
4. Backside metallization: Gold
5. Backside of the die (GND)
6. No connection required for unlabeled bond pads

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