



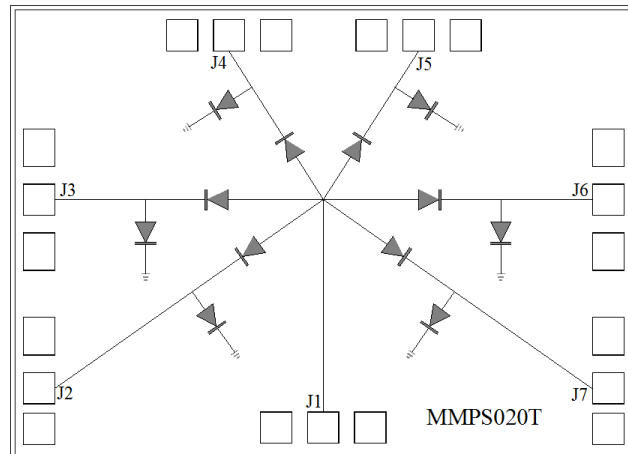
Features

- PIN Diode SP6T Reflective design
- Frequency: 0.1-40GHz
- Isolation: 45dB Typical
- Insertion Loss: 1.2dB Typical
- Control Voltage: +5/-5V
- Switching Speed: 20ns Typical
- Die Size: 2.0 x 1.45 x 0.1 mm

Typical Applications

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

Functional Block Diagram



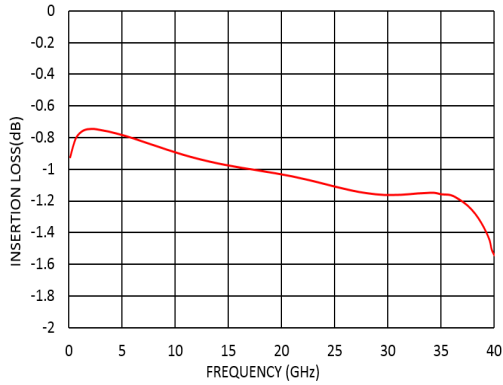
Electrical Specifications

TA = +25°C, VCTL=+5/-5V , +12mA /-10mA Typical

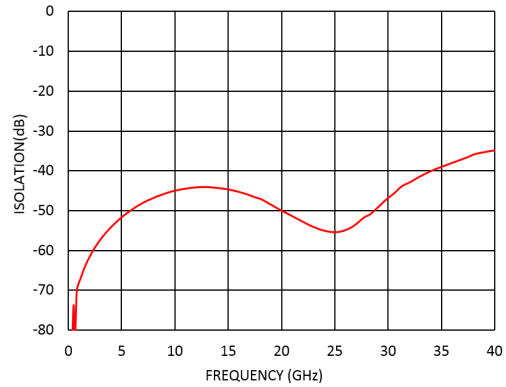
| Parameters | Min. | Typ. | Max. | Units |
|----------------------------------|------|------|------|-------|
| Frequency | 0.1 | | 40 | GHz |
| Insertion Loss | | 1.2 | 1.8 | dB |
| Isolation | | 45 | | dB |
| Input Return Loss (ON State) | | 15 | | dB |
| Output Return Loss (OFF State) | | 18 | | dB |
| P1dB - Output 1dB Compression | | 26 | | dBm |
| IIP3-Input Third Order Intercept | | 40 | | dBm |
| Switching Speed | | 20 | | ns |



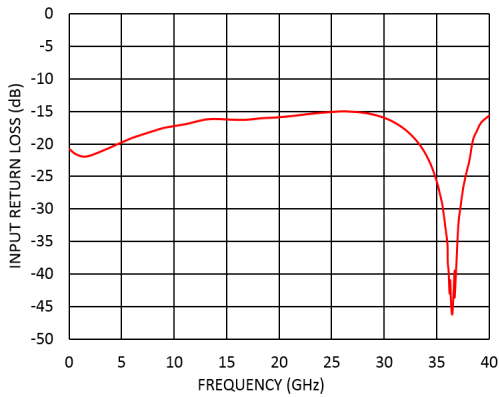
Insertion Loss vs. Frequency



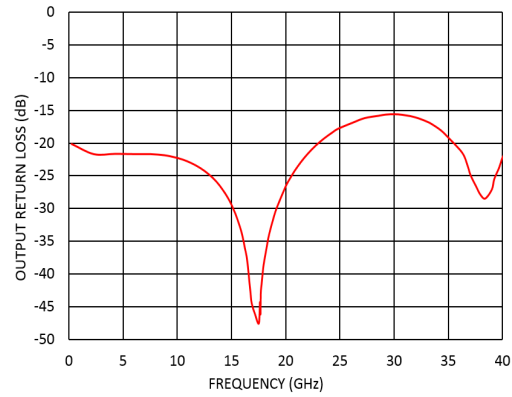
Isolation vs. Frequency



Input Return Loss vs. Frequency

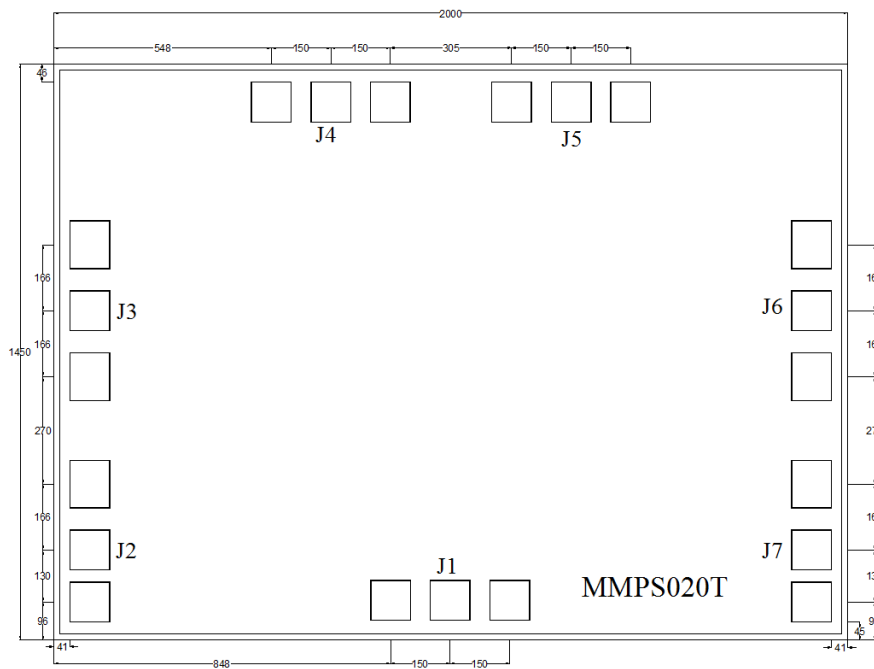


Output Return Loss vs. Frequency



Absolute Maximum Ratings

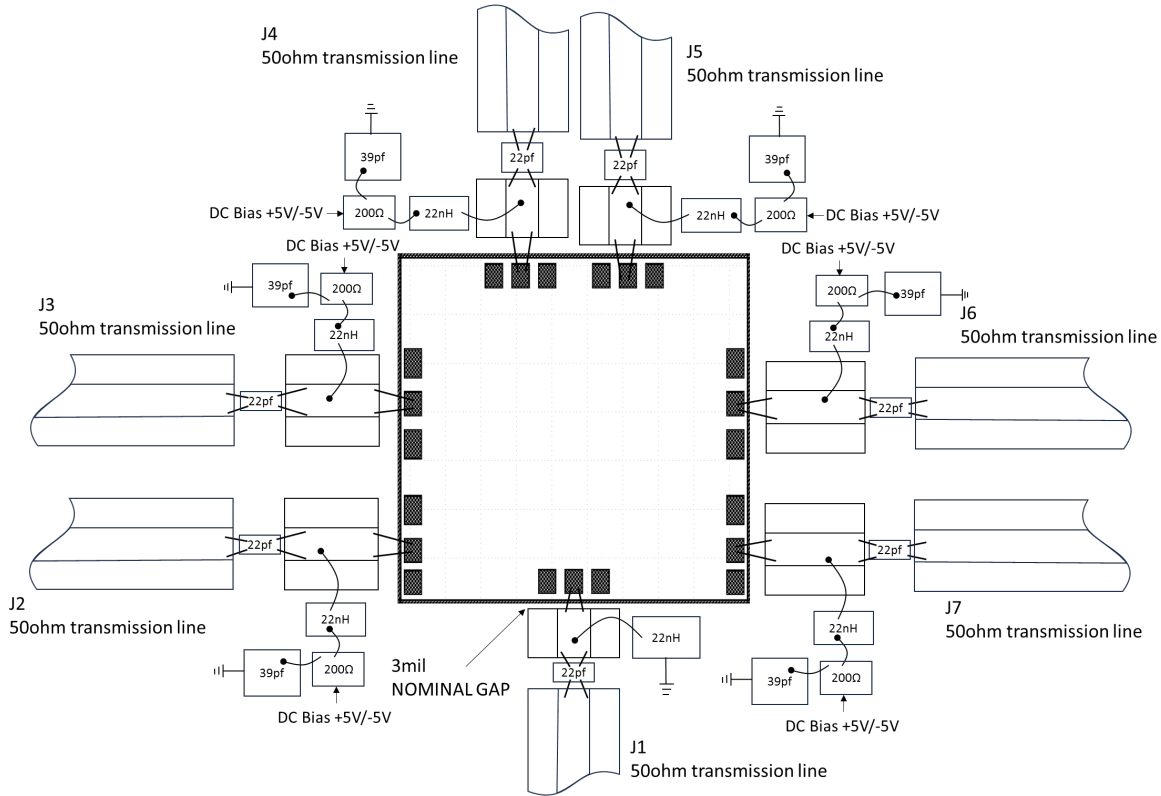
| | |
|----------------------------|-------------------------|
| Max Incident C.W. RF Power | +31dBm |
| DC Reverse Voltage | 25V |
| Bias Current | ±50 mA |
| Operating Temperature | -55°C to +85 °C |
| Storage Temperature | -65°C to +150 °C |


**ELECTROSTATIC SENSITIVE DEVICE
OBSERVE HANDLING PRECAUTIONS**
MMPS020T
PIN Diode MMIC SP6T Reflective Switch 0.1-40GHz
**Outline Drawing:
All Dimensions in μm**

True Table

| Control Voltage | | | | | | State | | | | | |
|-----------------|-----|-----|-----|-----|-----|-------|-------|-------|-------|-------|-------|
| J2 | J3 | J4 | J5 | J6 | J7 | J2→J1 | J3→J1 | J4→J1 | J5→J1 | J6→J1 | J7→J1 |
| -5V | +5V | +5V | +5V | +5V | +5V | ON | OFF | OFF | OFF | OFF | OFF |
| +5V | -5V | +5V | +5V | +5V | +5V | OFF | ON | OFF | OFF | OFF | OFF |
| +5V | +5V | -5V | +5V | +5V | +5V | OFF | OFF | ON | OFF | OFF | OFF |
| +5V | +5V | +5V | -5V | +5V | +5V | OFF | OFF | OFF | ON | OFF | OFF |
| +5V | +5V | +5V | +5V | -5V | +5V | OFF | OFF | OFF | OFF | ON | OFF |
| +5V | +5V | +5V | +5V | +5V | -5V | OFF | OFF | OFF | OFF | OFF | ON |



Assembly Drawing



Notes:

1. Die thickness: 100µm
2. Typical bond pad is 100*100 µm²
3. Bond pad metalization: Gold
4. Backside metallization: Gold
5. Backside of the die (GND)
6. No connection required for unlabeled bond pads

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