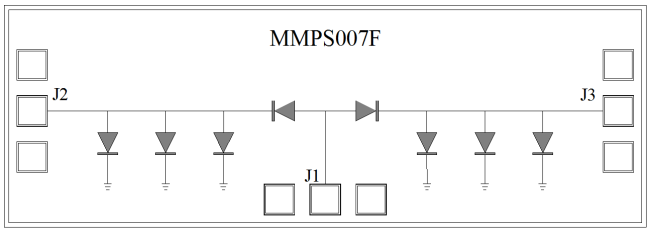
Features

- PIN Diode SP2T Reflective design
- Frequency:0.1-50GHz
- Isolation: 55dB Typical
- Insertion Loss: 1.3dB Typical
- Control Voltage:+5/-5V
- Switching Speed:10ns Typical
- Die Size: 2.1 x 0.725 x 0.1 mm

Functional Block Diagram



Typical Applications

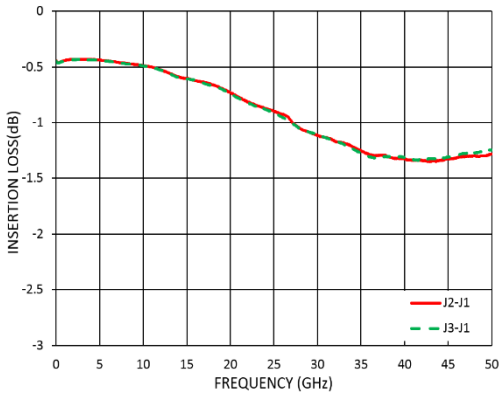
- Voltage control
- Fast Switching Speed
- Low Insertion Loss and High Isolation
- Customization available upon request

Electrical Specifications

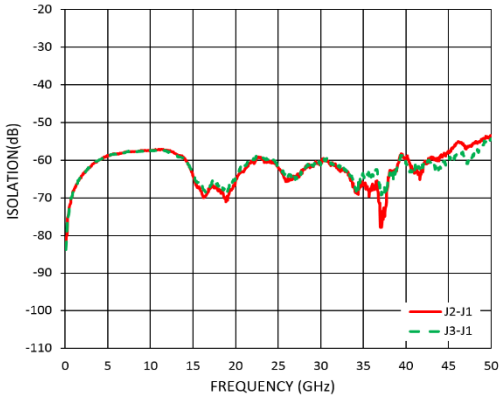
TA = +25°C, VCTL=+5/-5V , ±10 mA Typical

Parameters	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency	0.1		18	18		50	GHz
Insertion Loss		0.6	0.8		1.3	1.5	dB
Isolation	50	58		50	55		dB
Input Return Loss		-16			-10		dB
Output Return Loss		-18			-12		dB
P1dB - Output 1dB Compression		28			26		dBm
IIP3-Input Third Order Intercept		43			38		dBm
Switching Speed		10			10		ns

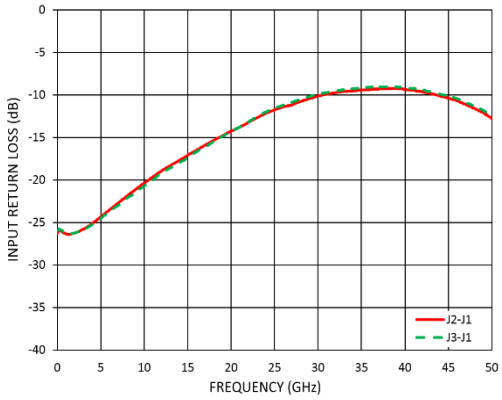
Insertion Loss vs. Frequency



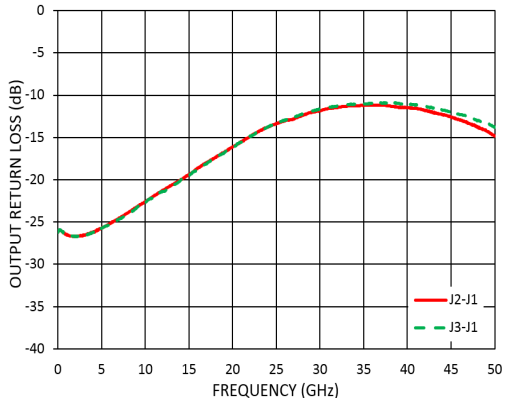
Isolation vs. Frequency



Input Return Loss vs. Frequency



Output Return Loss vs. Frequency



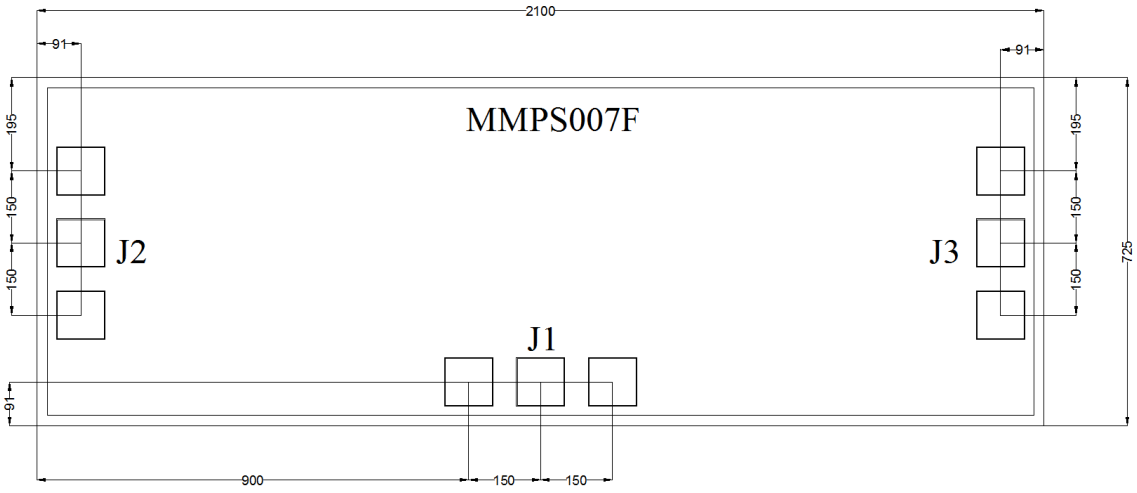
Absolute Maximum Ratings

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:

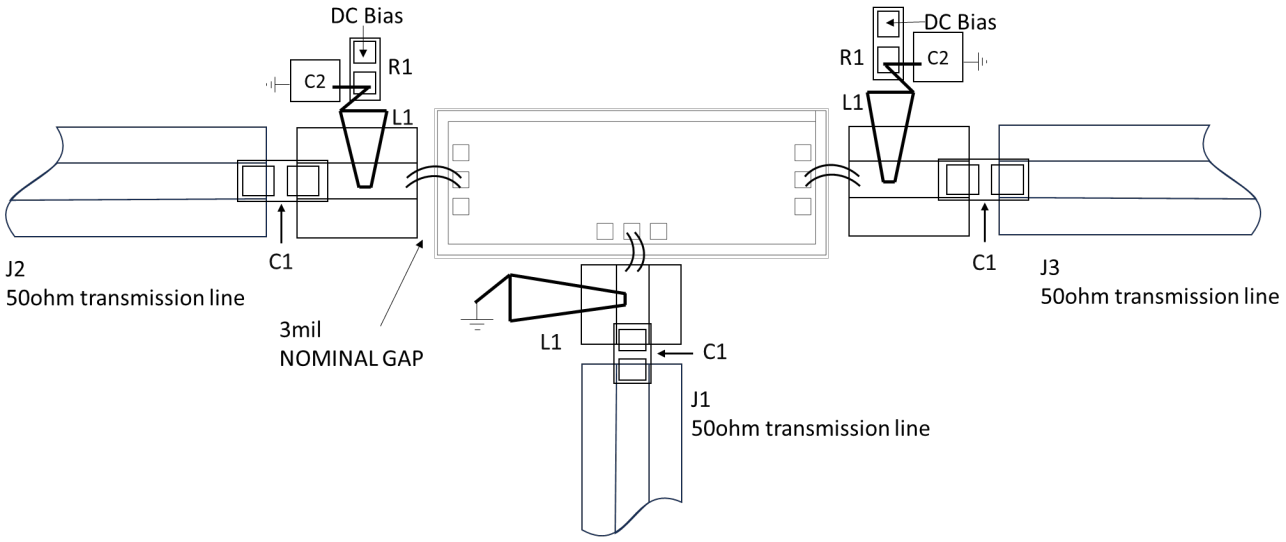
All Dimensions in µm



True Table

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

Assembly Drawing



Item	Description
C1	0.1μF Capacitor Example: Passiveplus Part:0402BB104KW500
L1	0.84μH Inductance Example: Piconics Part: CC45T47K240G5
R1	200Ω Resistor Example: YAGEO Part: RC0402FR-07200RL
C2	39pF Capacitor Example: Skyworks Part: SC10002430

Notes:

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

MMPS007F

PIN Diode MMIC SP2T Reflective Switch 0.1-50GHz