

Features

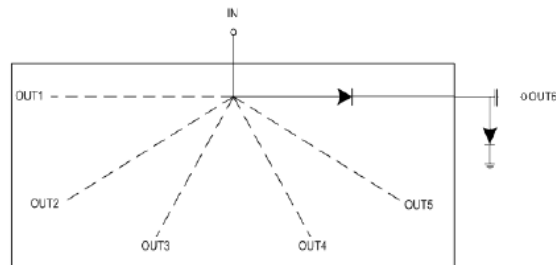
- Frequency: 0.1-40GHz
- Insertion Loss: 1.2dB typ.
- Isolation: 53dB typ.
- P-1dB: 30dBm
- Input/Output: 50Ω
- Die Size: 2.32x 1.52x 0.1 mm

Typical Applications

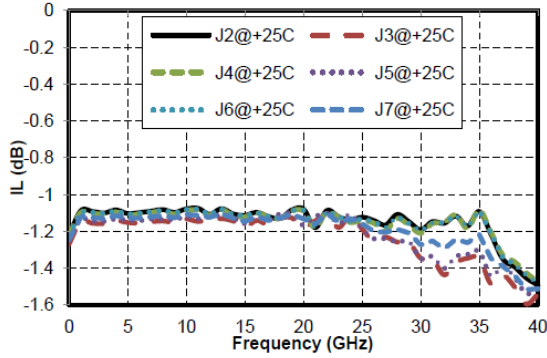
- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

Electrical Specifications
TA = +25°C

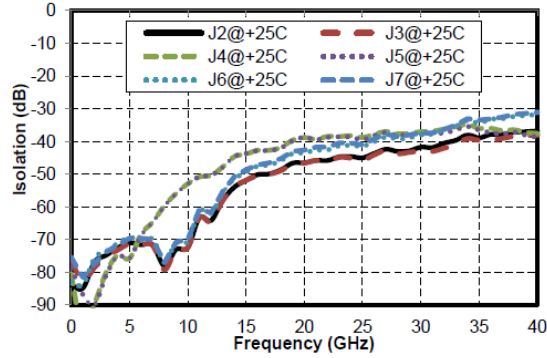
Parameters	Min.	Typ.	Max.	Units
Frequency Range	0.1-18			GHz
Insertion Loss	-	1.1	1.2	dB
Isolation	48	66	-	dB
Input Return Loss	17	19	-	dB
Output Return Loss	16	18	-	dB
Frequency Range	18-40			GHz
Insertion Loss	-	1.2	1.5	dB
Isolation	36	42	-	dB
Input Return Loss	19	24	-	dB
Output Return Loss	17	21	-	dB
P-1dB	-	30	-	dBm
Switching Speed	-	20	-	ns

Functional Block Diagram


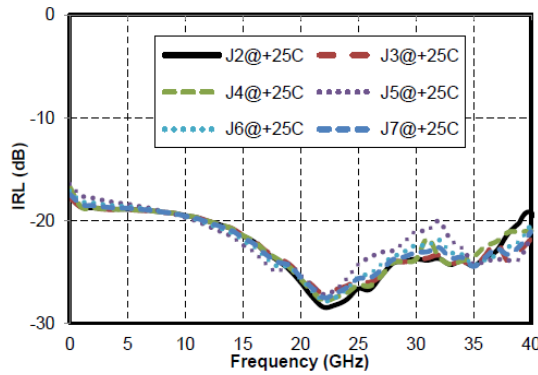
Insertion Loss vs. Operating Frequency



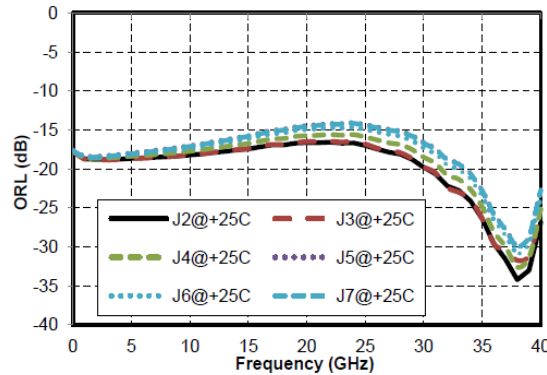
Isolation vs. Operating Frequency



Input Return Loss vs. Operating Frequency



Output Return Loss vs. Operating Frequency



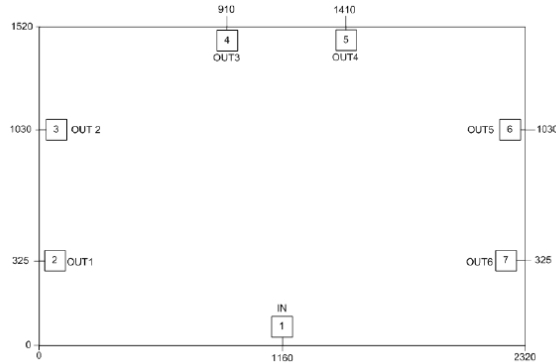
Typical Driver Connections

Control Level						RF Output State					
J2	J3	J4	J5	J6	J7	J2-J1	J3-J1	J4-J1	J5-J1	J6-J1	J7-J1
-10mA	10mA	10mA	10mA	10mA	10mA	Low Loss	Isolation	Isolation	Isolation	Isolation	Isolation
10mA	-10mA	10mA	10mA	10mA	10mA	Isolation	Low Loss	Isolation	Isolation	Isolation	Isolation
10mA	10mA	-10mA	10mA	10mA	10mA	Isolation	Isolation	Low Loss	Isolation	Isolation	Isolation
10mA	10mA	10mA	-10mA	10mA	10mA	Isolation	Isolation	Isolation	Low Loss	Isolation	Isolation
10mA	10mA	10mA	10mA	-10mA	10mA	Isolation	Isolation	Isolation	Isolation	Low Loss	Isolation
10mA	10mA	10mA	10mA	10mA	-10mA	Isolation	Isolation	Isolation	Isolation	Isolation	Low Loss



Outline Drawing

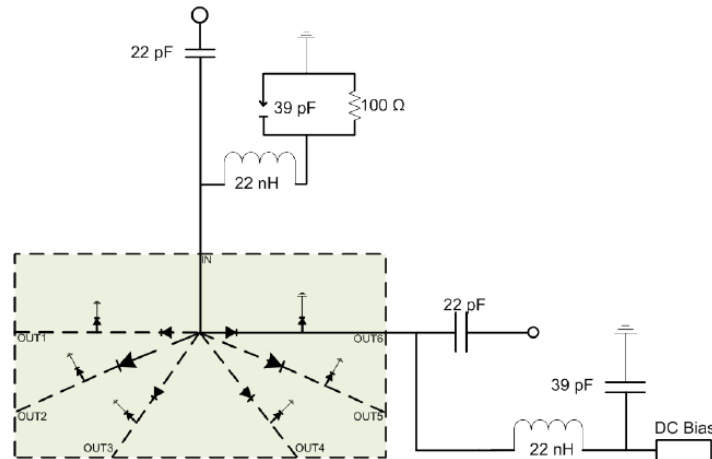
All Dimensions in μm



Pad Description

Pad	Function	Description
1	IN(J1)	RF signal input port, DC blocking capacitor needed.
2,3,4,5,6,7	OUT1(J2), OUT2(J3), OUT3(J4), OUT4(J5), OUT5(J6), OUT6(J7)	RF signal output port, DC blocking capacitor needed.
Die bottom	GND	Die bottom must be connected to RF/DC ground.

Assembly Drawing



Notes:

1. Die thickness: 100um
2. Typical bond pad is $100 \times 100 \mu\text{m}^2$
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. Maximum input voltage: 25V
2. Maximum input power: +31dBm CW
3. Operating temperature: -55°C to $+85^\circ\text{C}$
4. Storage temperature: -65°C to $+150^\circ\text{C}$