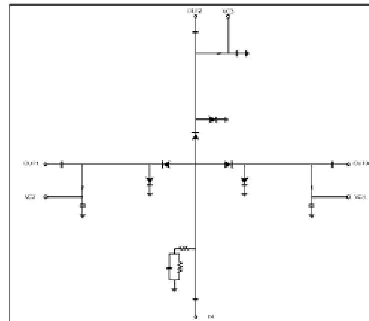
Features

- Frequency: 10-40GHz
- Insertion Loss: 0.7dB typ.
- Isolation: 41dB typ.
- P-1dB: 25dBm
- Input/Output: 50Ω
- Die Size: 1.92x 1.57x 0.1 mm

Functional Block Diagram



Typical Applications

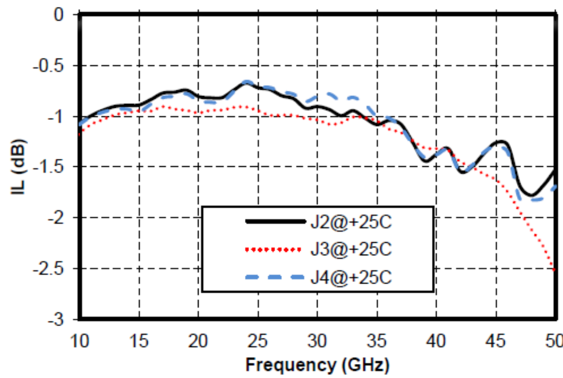
- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

Electrical Specifications

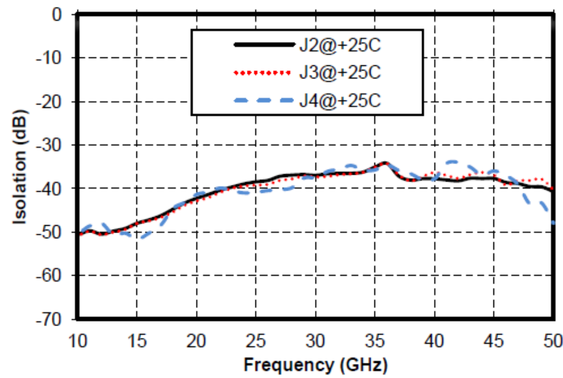
TA = +25°C

Parameters	Min.	Typ.	Max.	Units
Frequency Range		10-40		GHz
Insertion Loss	-	0.7	1.4	dB
Isolation	37	41	-	dB
Input Return Loss	14	15	-	dB
Output Return Loss	12	19	-	dB
P-1dB	-	25	-	dBm
Switching Speed	-	20	-	ns

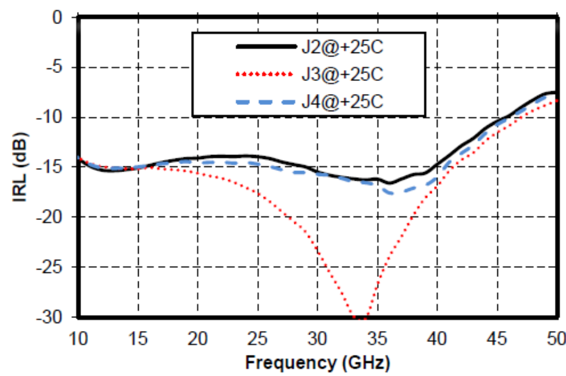
Insertion Loss vs. Operating Frequency



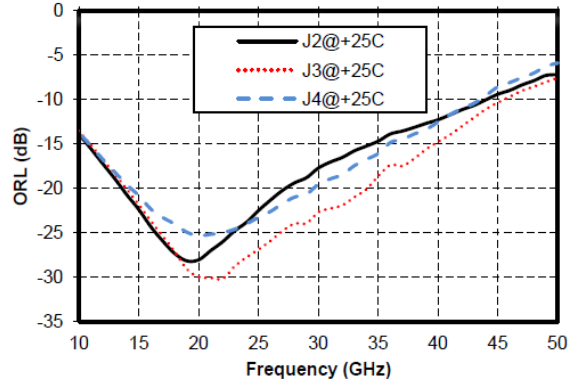
Isolation vs. Operating Frerquency



Input Return Loss vs. Operating Frequency



Output Return Loss vs. Operating Frequency



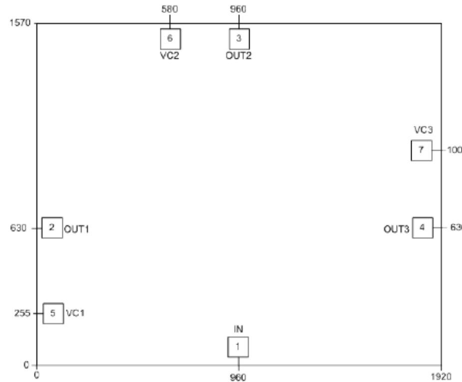
Typical Driver Connections

CONTROL LEVEL (DC CURRENT)			RF OUTPUT STATE		
VC1	VC2	VC3	OUT1(J2)-IN(J1)	OUT2(J3)-IN(J1)	OUT3(J4)-IN(J1)
-10mA	+10mA	+10mA	Low Loss	Isolation	Isolation
+10mA	-10mA	+10mA	Isolation	Low Loss	Isolation
+10mA	+10mA	-10mA	Isolation	Isolation	Low Loss

MILLER MMIC

Outline Drawing

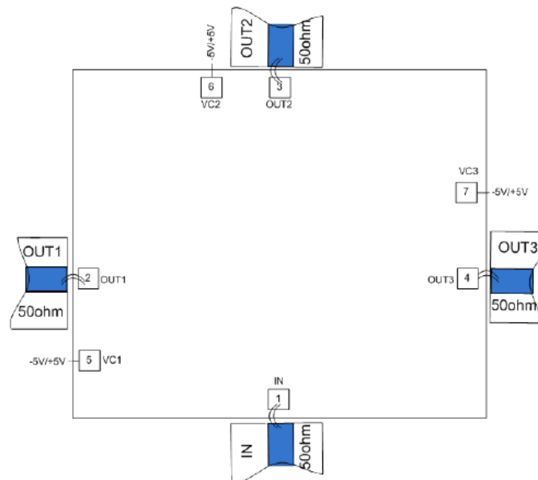
All Dimensions in μm



Pad Description

Pad	Function	Description
1	IN(J1)	RF signal input port
2,3,4	OUT1(J2), OUT2(J3), OUT3(J4)	RF signal output port
5,6,7	VC1, VC2, VC3	Signal control port
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*100 μm²
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℃ to +85℃
4. Storage temperature: -65℃ to +150℃