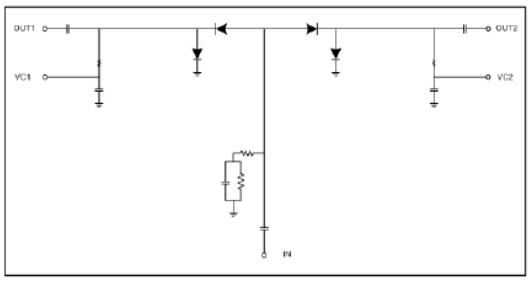
V1.0.0

GaAs PIN Reflective Single-Pole Double-Throw Switch 2-20GHz

Features

- Frequency: 2-20GHz
- Insertion Loss: 0.9dB typ.
- Isolation: 44dB typ.
- P-1dB: 23dBm
- Input/Output: 50Ω
- Die Size: 1.92x 1.11 x 0.1 mm

Functional Block Diagram



Typical Applications

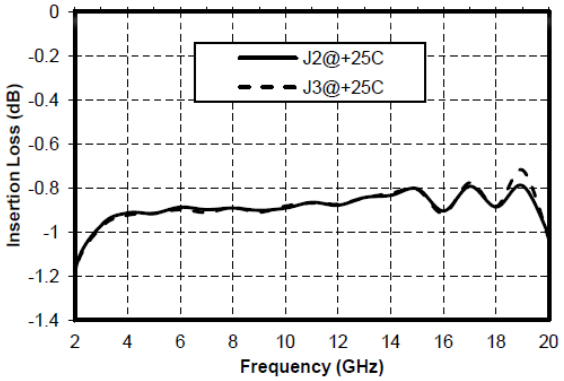
- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

Electrical Specifications

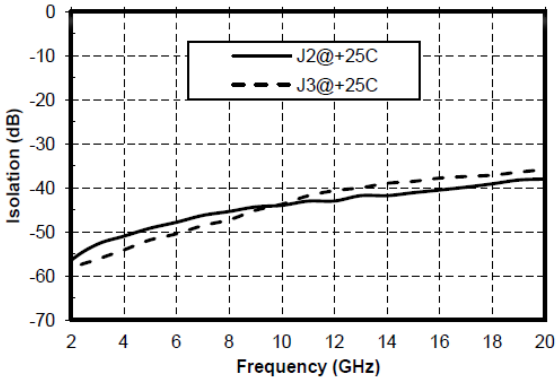
TA = +25ºC

Parameters	Min.	Typ.	Max.	Units
Frequency Range		2-20		GHz
Insertion Loss	-	0.9	1.0	dB
Isolation	38	44	-	dB
Input Return Loss	17	19	-	dB
Output Return Loss	25	28	-	dB
P-1dB	-	23	-	dBm
Switching Speed	-	20	-	ns

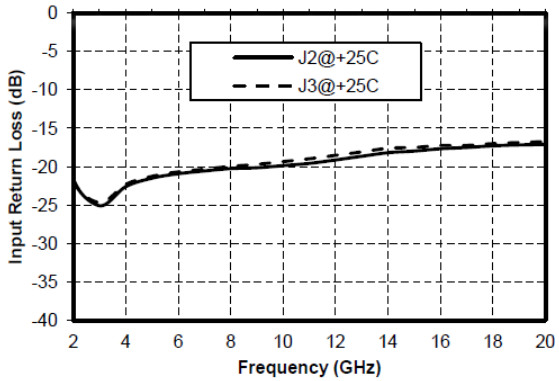
Insertion Loss vs. Operating Frequency



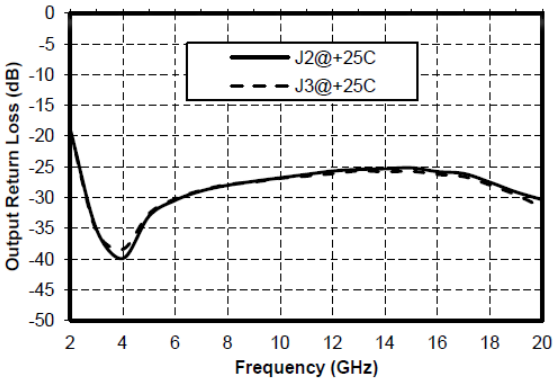
Isolation vs. Operating Frerquency



Input Return Loss vs. Operating Frequency



Output Return Loss vs. Operating Frequency



Typical Driver Connections

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

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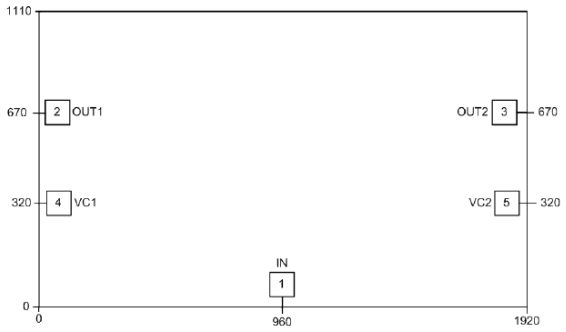
Outline Drawing

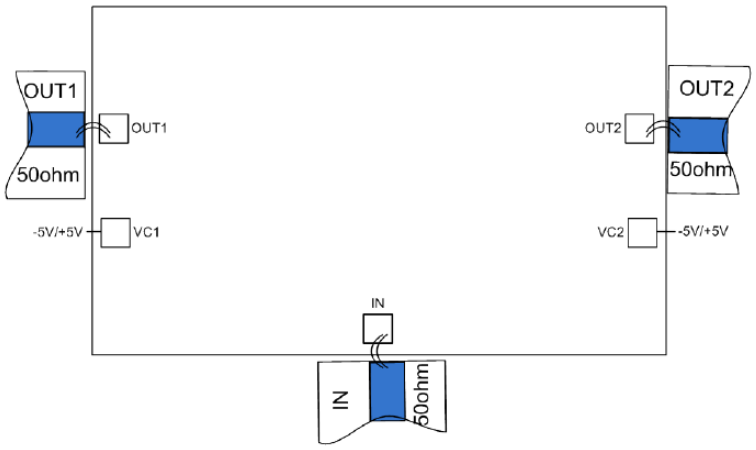
All Dimensions in μm



Pad Description

Pad	Function	Description
1	IN (J1)	RF signal input port
2,3	OUT2 (J2), OUT3 (J3)	RF signal output port
4,5	VC1, VC2	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: +30dBm CW
3. Operating temperature: -55℃ to +85℃
4. Storage temperature: -65℃ to +150℃