

Features

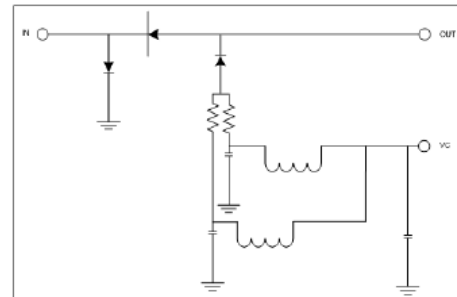
- Frequency: 0.1-40GHz
- Insertion Loss: 1.1dB typ.
- Isolation: 36dB typ.
- P-1dB: 23dBm
- Input/Output: 50Ω
- Die Size: 1.11x 0.75 x 0.1 mm

Typical Applications

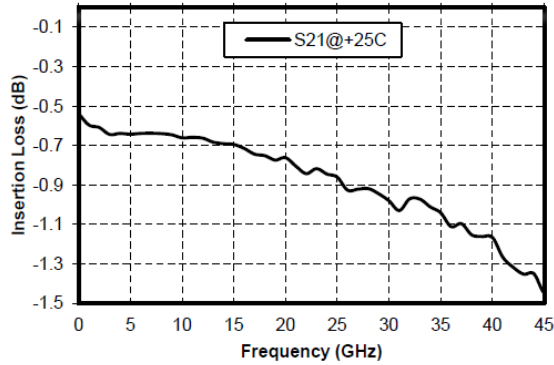
- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

Electrical Specifications
TA = +25°C

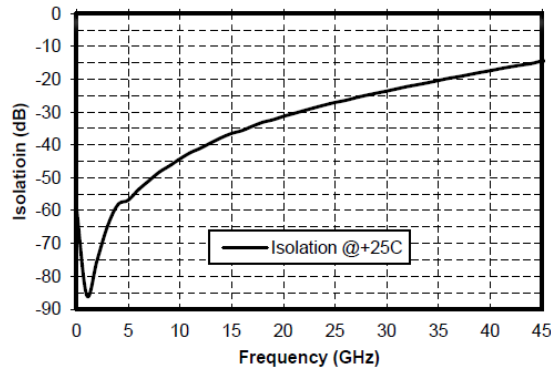
Parameters	Min.	Typ.	Max.	Units
Frequency Range	0.1-18			GHz
Insertion Loss	-	0.7	0.8	dB
Isolation	33	49	-	dB
Input Return Loss	23	24	-	dB
Output Return Loss	19	22	-	dB
Frequency Range	18-40			GHz
Insertion Loss	-	1.0	1.2	dB
Isolation	17	24	-	dB
Input Return Loss	24	30	-	dB
Output Return Loss	17	18	-	dB
P-1dB	-	23	-	dBm
Switching Speed	-	20	-	ns

Functional Block Diagram


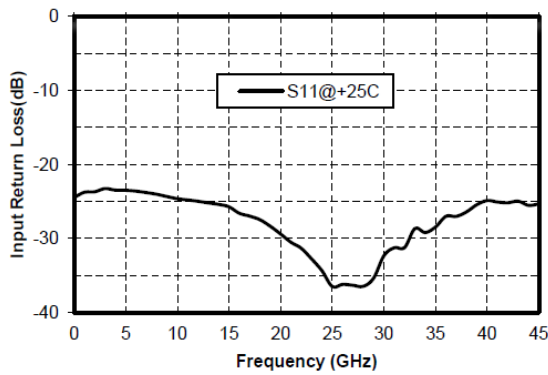
Insertion Loss vs. Operating Frequency



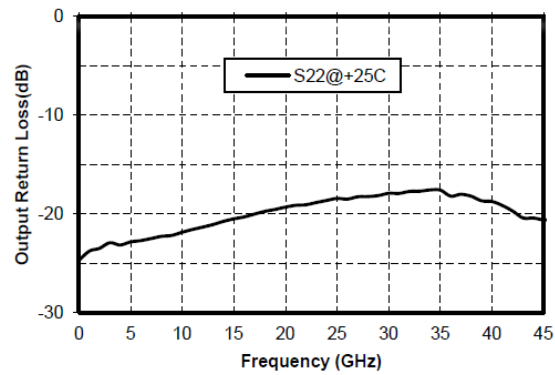
Isolation vs. Operating Frequency



Input Return Loss vs. Operating Frequency



Output Return Loss vs. Operating Frequency



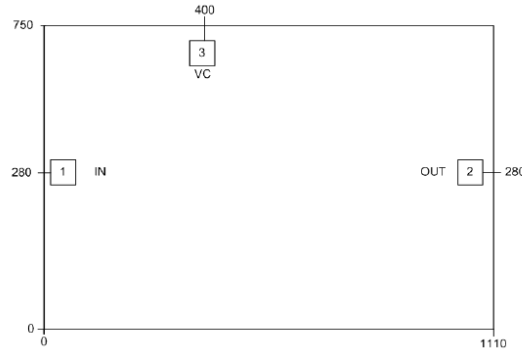
Typical Driver Connections

CONTROL LEVEL (DC CURRENT)	RF OUTPUT STATE
J1-J2 Low Loss : Good VSWR at J1 & J2	J1-J2 Isolation : Good VSWR at J2
D.C. Bias B1 = -2.6V / -10mA	D.C. Bias B1 = +1.37V/+10mA
VC = -5V	VC = +1.91V



Outline Drawing

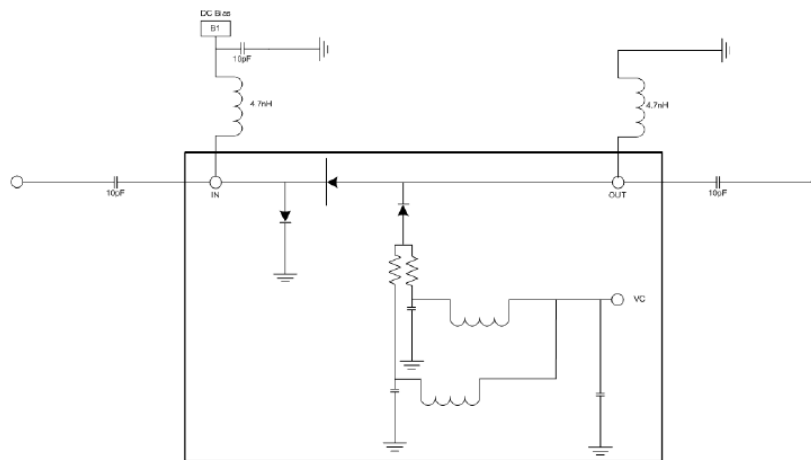
All Dimensions in μm



Pad Description

Pad	Function	Description
1	J1 (IN)	RF signal port, DC blocking capacitor needed.
2	J2 (OUT)	RF signal port, DC blocking capacitor needed.
3	VC	DC Bias
Die bottom	GND	Die bottom must be connected to RF/DC ground.

Assembly Drawing



Notes:

1. Die thickness: 100 μm
2. Typical bond pad is 100*100 μm^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: +30dBm CW
3. Operating temperature: -55 $^{\circ}\text{C}$ to +85 $^{\circ}\text{C}$
4. Storage temperature: -65 $^{\circ}\text{C}$ to +150 $^{\circ}\text{C}$