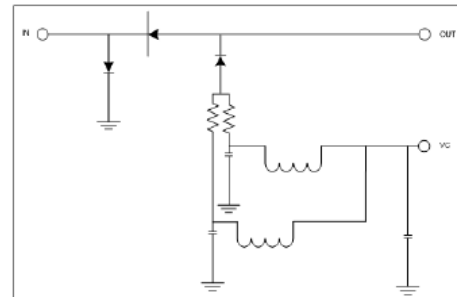


**Features**

- 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

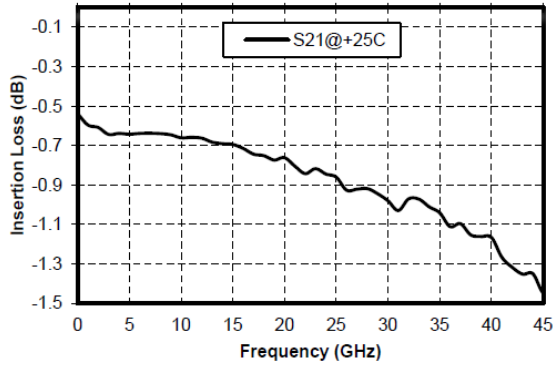
**Typical Applications**

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

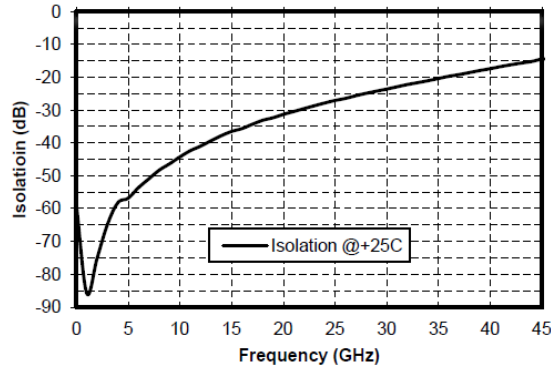
**Functional Block Diagram**

**Electrical Specifications**
**TA = +25°C**

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

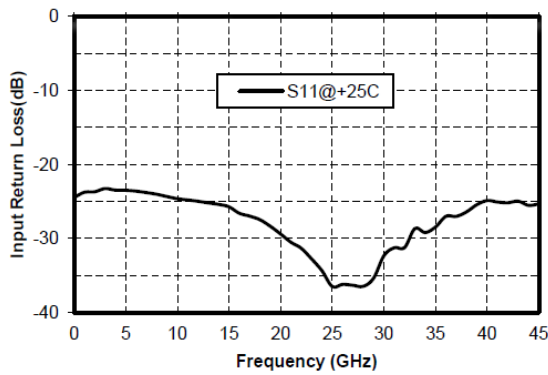
Insertion Loss vs. Operating Frequency



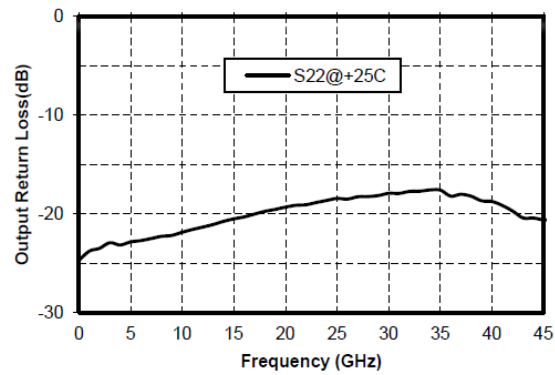
Isolation vs. Operating Frequency



Input Return Loss vs. Operating Frequency



Output Return Loss vs. Operating Frequency



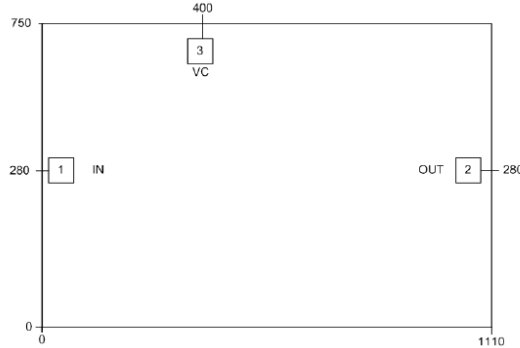
Typical Driver Connections

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

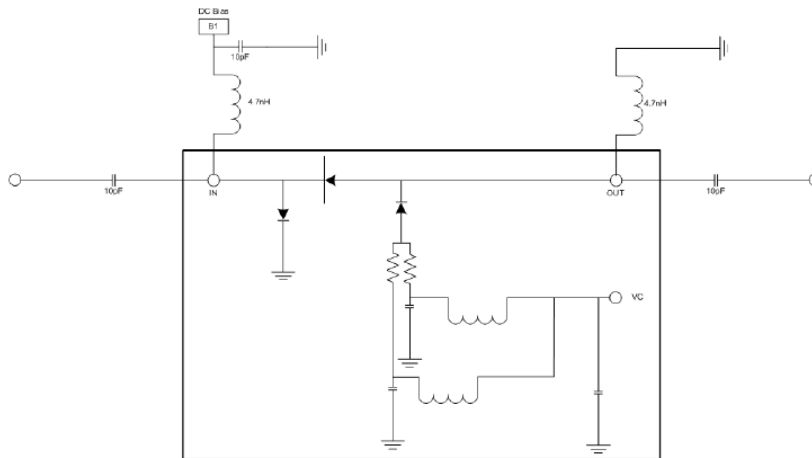
All Dimensions in  $\mu\text{m}$



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