

**Features**

- Frequency: 0.1-40GHz
- Insertion Loss: 0.7dB typ.
- Isolation: 47dB typ.
- P-1dB: 26dBm
- Input/Output: 50Ω
- Die Size: 1.72x 1.22x 0.1 mm

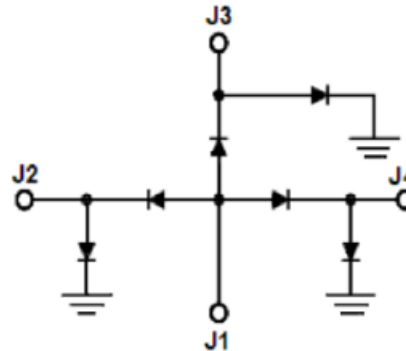
**Typical Applications**

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

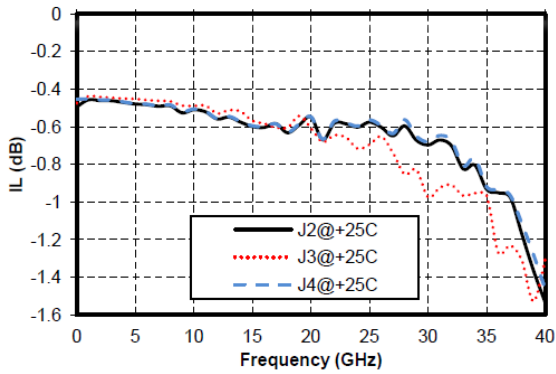
**Electrical Specifications**

TA = +25°C

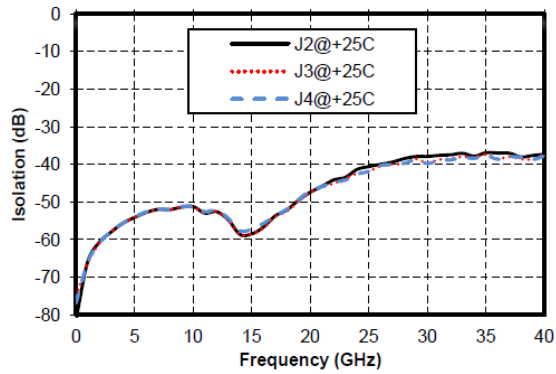
Parameters	Min.	Typ.	Max.	Units
<b>Frequency Range</b>	<b>0.1-18</b>			<b>GHz</b>
<b>Insertion Loss</b>	-	<b>0.5</b>	<b>0.6</b>	<b>dB</b>
<b>Isolation</b>	<b>52</b>	<b>56</b>	-	<b>dB</b>
<b>Input Return Loss</b>	<b>19</b>	<b>22</b>	-	<b>dB</b>
<b>Output Return Loss</b>	<b>23</b>	<b>24</b>	-	<b>dB</b>
<b>Frequency Range</b>	<b>18-40</b>			<b>GHz</b>
<b>Insertion Loss</b>	-	<b>0.8</b>	<b>1.5</b>	<b>dB</b>
<b>Isolation</b>	<b>37</b>	<b>40</b>	-	<b>dB</b>
<b>Input Return Loss</b>	<b>11</b>	<b>16</b>	-	<b>dB</b>
<b>Output Return Loss</b>	<b>11</b>	<b>20</b>	-	<b>dB</b>
<b>P-1dB</b>	-	<b>26</b>	-	<b>dBm</b>
<b>Switching Speed</b>	-	<b>20</b>	-	<b>ns</b>

**Functional Block Diagram**


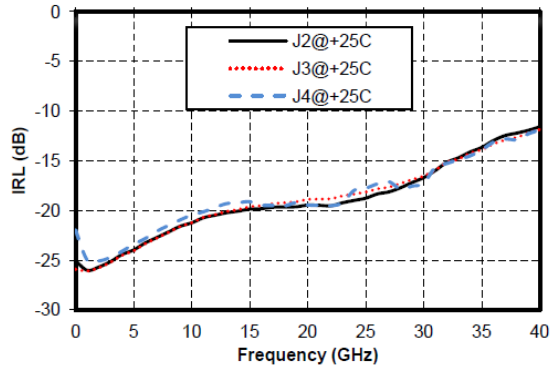
Insertion Loss vs. Operating Frequency



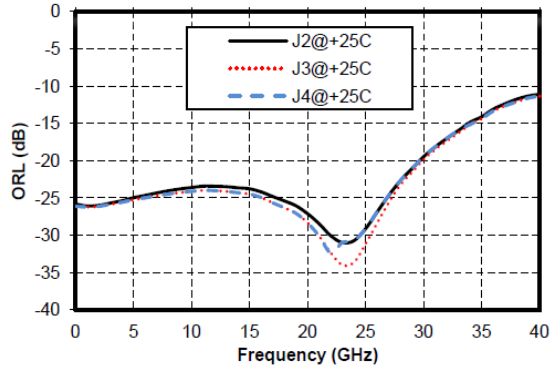
Isolation vs. Operating Frequency



Input Return Loss vs. Operating Frequency



Output Return Loss vs. Operating Frequency



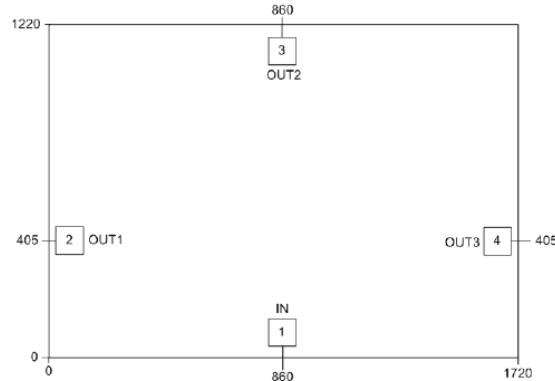
Typical Driver Connections

CONTROL LEVEL (DC CURRENT)			RF OUTPUT STATE		
OUT1(J2)	OUT2(J3)	OUT3(J4)	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



### Outline Drawing

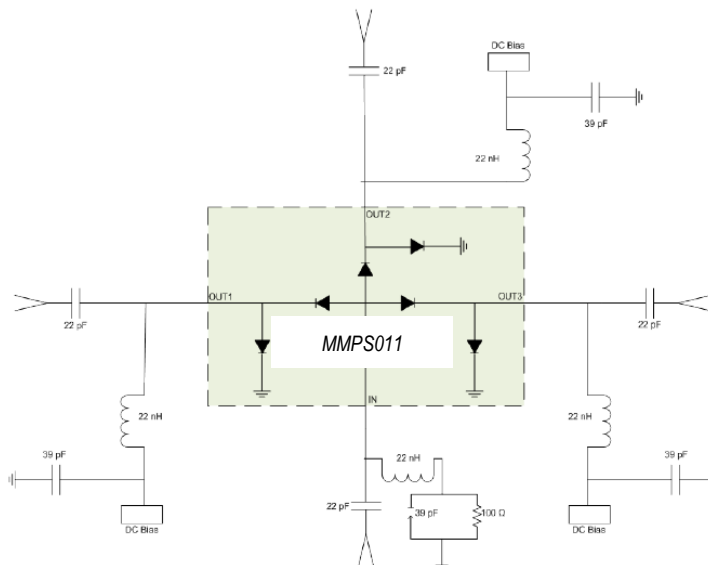
All Dimensions in  $\mu\text{m}$



### Pad Description

Pad	Function	Description
1	IN	RF signal input port, DC blocking capacitor needed.
2,3,4	OUT1, 2, 3	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:  $-55^\circ\text{C}$  to  $+85^\circ\text{C}$
4. Storage temperature:  $-65^\circ\text{C}$  to  $+150^\circ\text{C}$