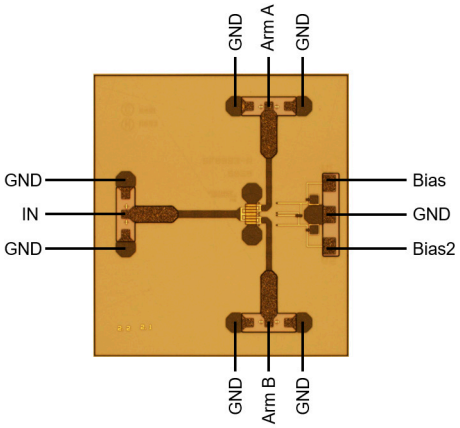
SF0083

0.5 – 25 GHz SLCFET SPDT Switch

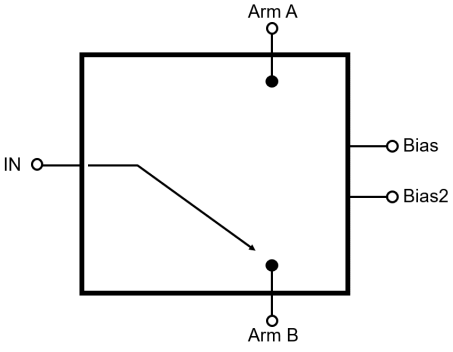
PRODUCT OVERVIEW

The SF0083 is a Single-Pole Double-Throw (SPDT) switch fabricated on ATL's Super Lattice Castellated-Gate Field Effect Transistor (SLCFET) 3S production process. The SF0083 is offered as a bare die to be wire bonded in the next higher assembly.

PIN OUT



FUNCTIONAL DIAGRAM



KEY FEATURES

- SPDT
- Frequency Range: 0.5 – 25 GHz
- Temperature Range: -40 °C to 85 °C
- Insertion Loss: 0.38 dB typical
- Input Isolation: 26.4 dB
- Control Voltages: 0 to -14V typical
- Die dimensions: 1330 µm x 1340 µm
- Input 3rd Order Intercept Point (IIP3): 62.8 dBm

TRUTH TABLE

Bias	Bias2	Signal Path State
Low	High	Arm A
High	Low	Arm B
States not listed in this table will operate at <100 ns.		

RECOMMENDED OPERATING CONDITIONS

Parameter	Min	Typ	Max	Units
Low Voltage		-14		V
High Voltage		0		V
Ambient Temperature	-40	25	85	°C

ABSOLUTE MAXIMUM RATINGS

Parameter	Rating
Control Supply Current	<20 nA
Input Power (Pin) CW mode	32 dBm

ELECTRICAL SPECIFICATIONS

Parameter	Min	Typ	Max	Units
Frequency	0.5		25	GHz
Insertion Loss		0.38		dB
Input Return Loss		31.5		dB
Output Return Loss		27.1		dB
Input Isolation		26.4		dB
Output Isolation		22		dB

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Data shown is from typical simulations and assumes 50 ohm terminations

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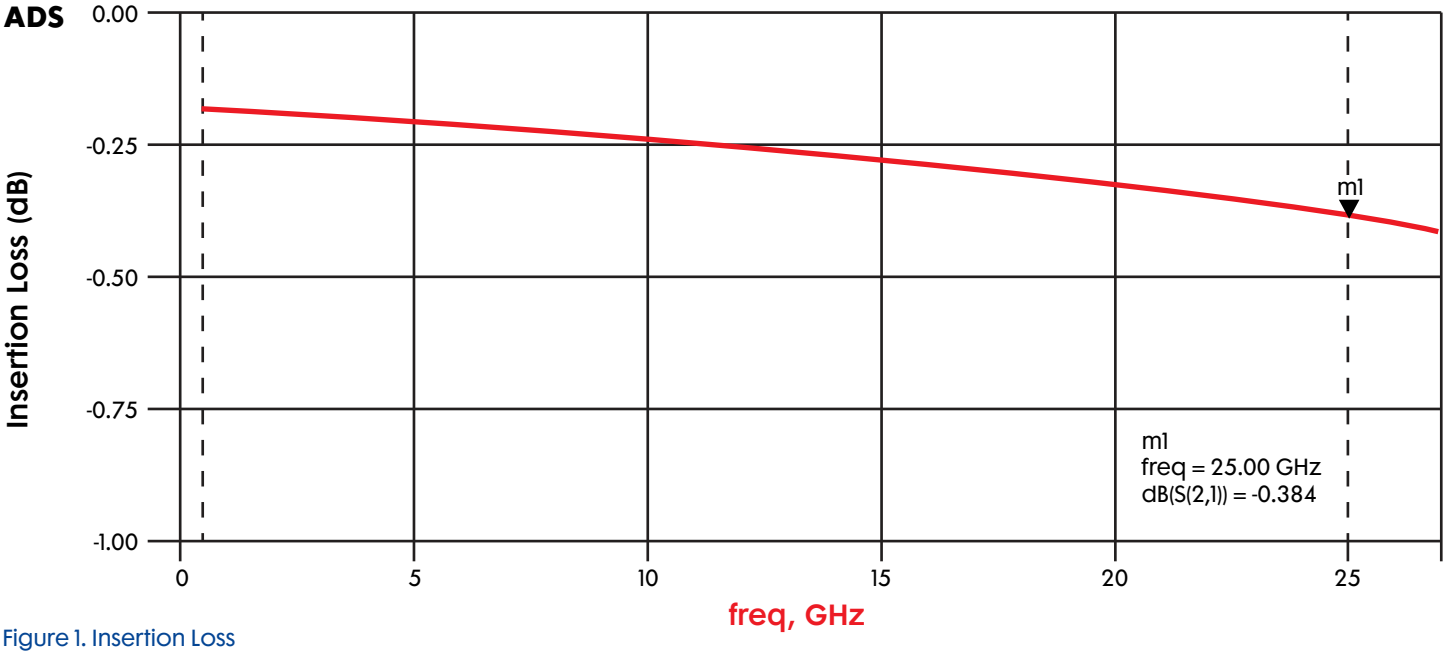

Figure 1. Insertion Loss

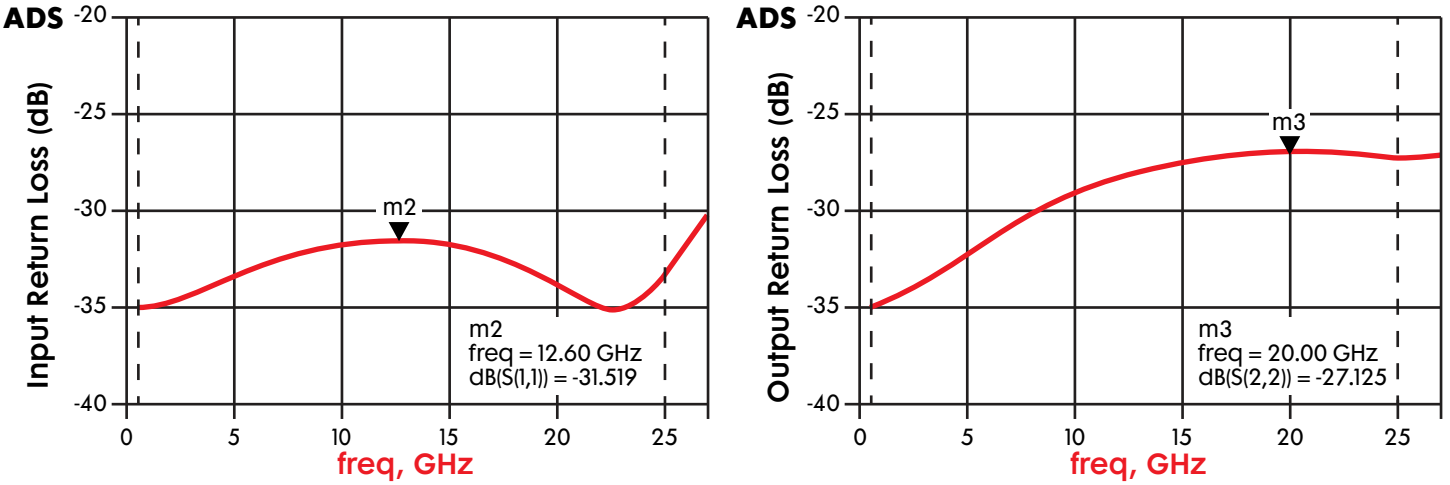

Figure 2. Input and Output Return Losses

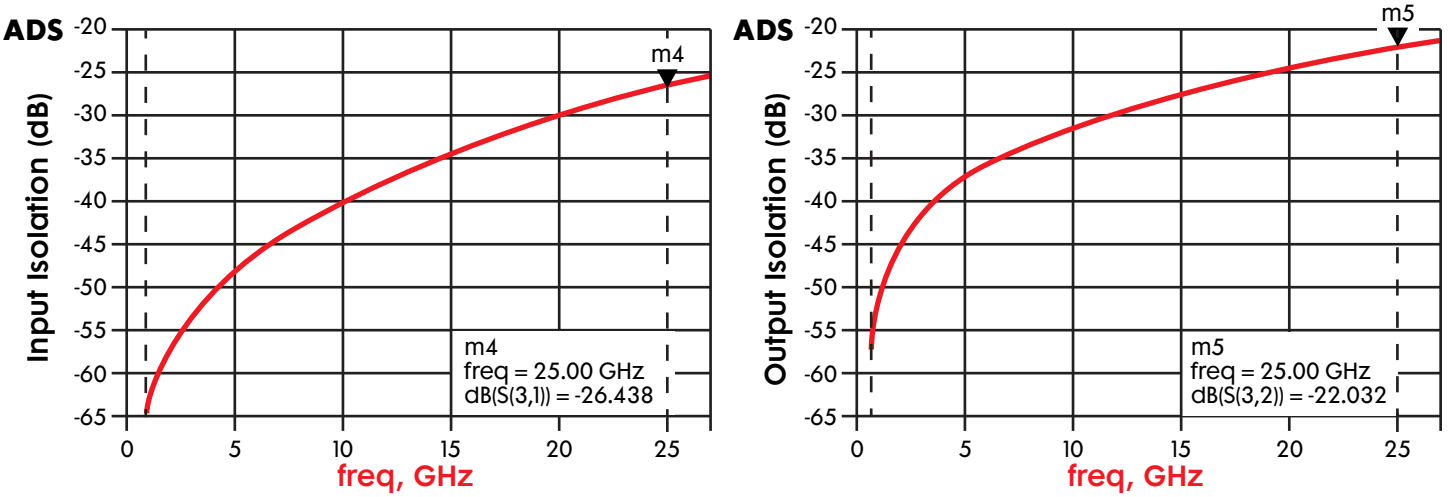

Figure 3. Input and Output Isolation

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