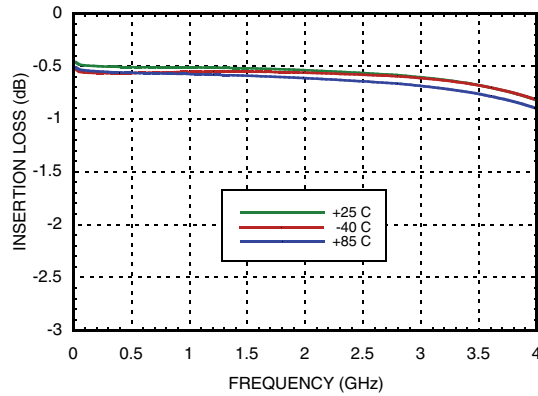


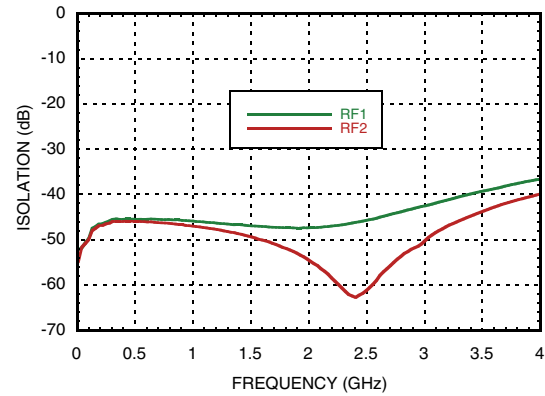


SPDT NON-REFLECTIVE SWITCH
DC - 3.5 GHz

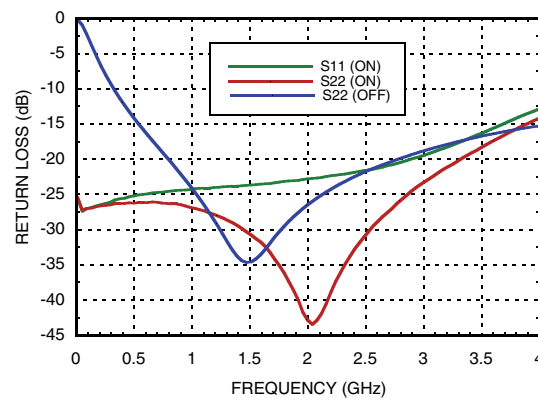
Insertion Loss



Isolation



Return Loss





SPDT NON-REFLECTIVE SWITCH DC - 3.5 GHz

Compression vs Frequency

CTL Input	Carrier at 900 MHz		Carrier at 1900 MHz	
	Input Power for 0.1 dB Compression	Input Power for 1.0 dB Compression	Input Power for 0.1 dB Compression	Input Power for 1.0 dB Compression
(Vdc)	(dBm)	(dBm)	(dBm)	(dBm)
+5	27	30	27	29

Caution:

Do not operate continuously at RF power input greater than 1 dB compression. ($V_{ctl} = 0/+5$ Vdc).

Distortion vs Frequency

Control Input	Third Order Intercept (dBm) 0 dBm Each Tone	
	900 MHz	1900 MHz
(Vdc)		
+5	50	50

Truth Table

*Control Input Tolerances are ± 0.2 Vdc

Control Input*		Control Current		Signal Path State	
A (Vdc)	B (Vdc)	Ia (μ A)	Ib (μ A)	RFC to RF1	RFC to RF2
0	+5	-0.2	0.2	ON	OFF
+5	0	0.2	-0.2	OFF	ON

DC blocks are required at ports RFC, RF1, RF2.



SPDT NON-REFLECTIVE SWITCH DC - 3.5 GHz

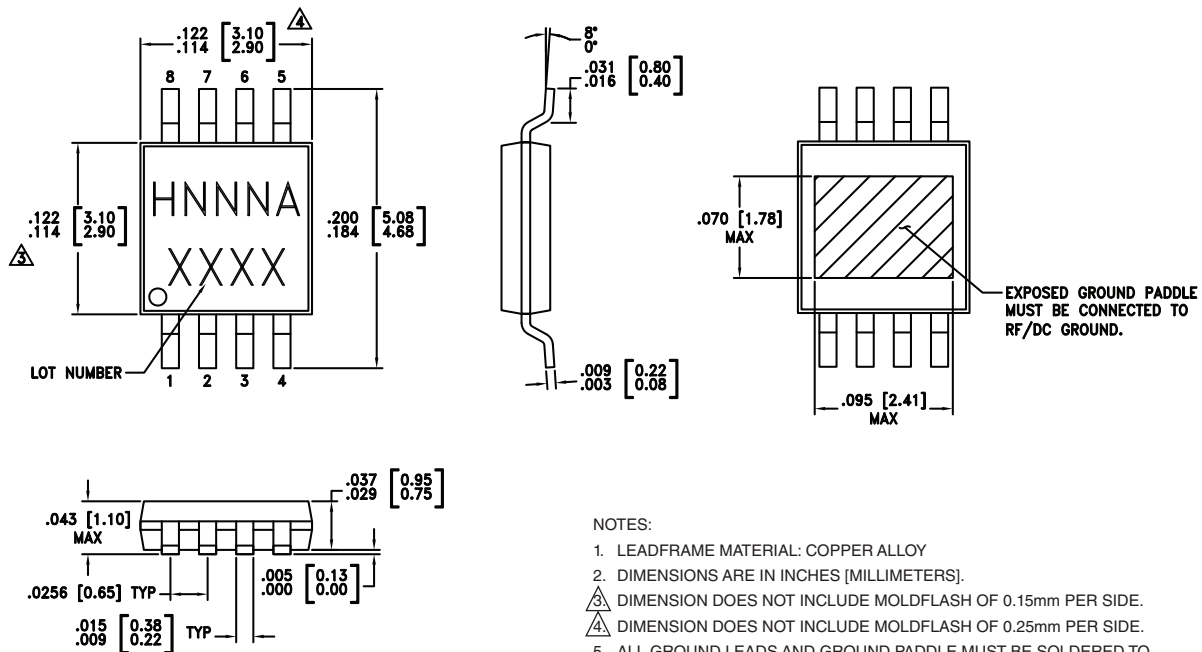
Absolute Maximum Ratings

RF Input Power (Vctl = 0/+5V)	+26 dBm
Control Voltage Range	-0.5 to +7.5 Vdc
Hot Switch Power Level (Vctl = 0/+5V)	+18 dBm
Channel Temperature	150 °C
Thermal Resistance (Insertion Loss Path)	130 °C/W
Thermal Resistance (Terminated Path)	252 °C/W
Storage Temperature	-65 to +150 °C
Operating Temperature	-40 to +85 °C
ESD Sensitivity (HBM)	Class 1A



ELECTROSTATIC SENSITIVE DEVICE
OBSERVE HANDLING PRECAUTIONS

Outline Drawing



Package Information

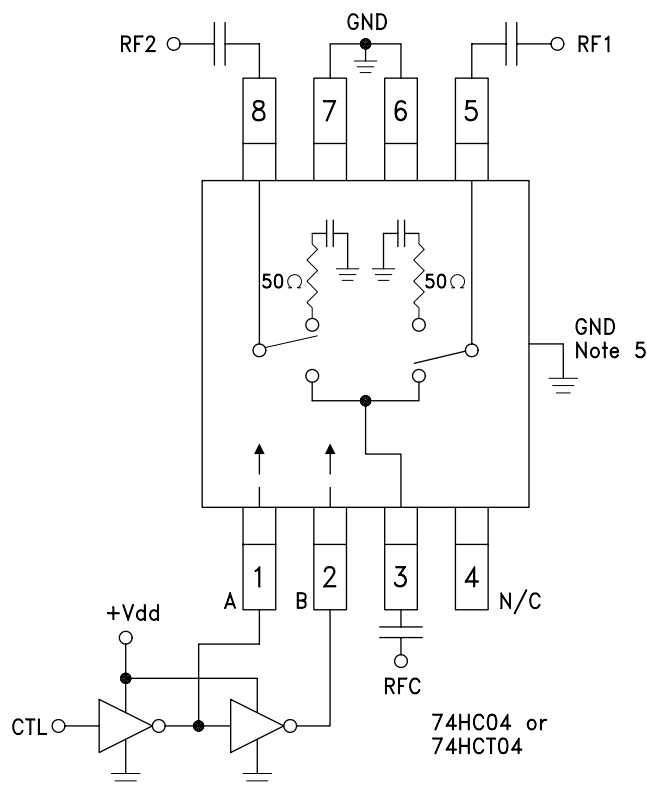
Part Number	Package Body Material	Lead Finish	MSL Rating	Package Marking ^[3]
HMC284AMS8G	Low Stress Injection Molded Plastic	Sn/Pb Solder	MSL3 ^[1]	H284A XXXX
HMC284AMS8GE	RoHS-compliant Low Stress Injection Molded Plastic	100% matte Sn	MSL3 ^[2]	H284A XXXX

[1] Max peak reflow temperature of 235 °C

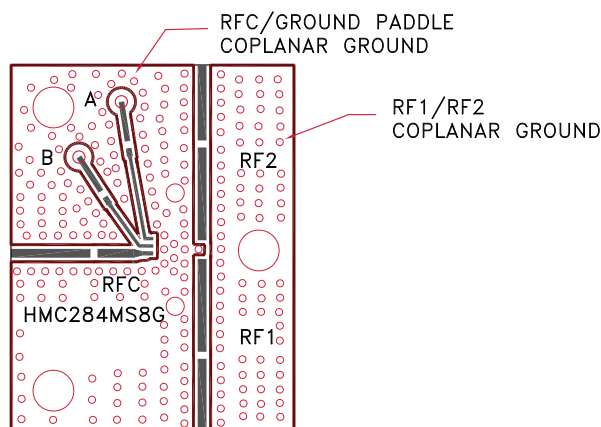
[2] Max peak reflow temperature of 260 °C

[3] 4-Digit lot number XXXX

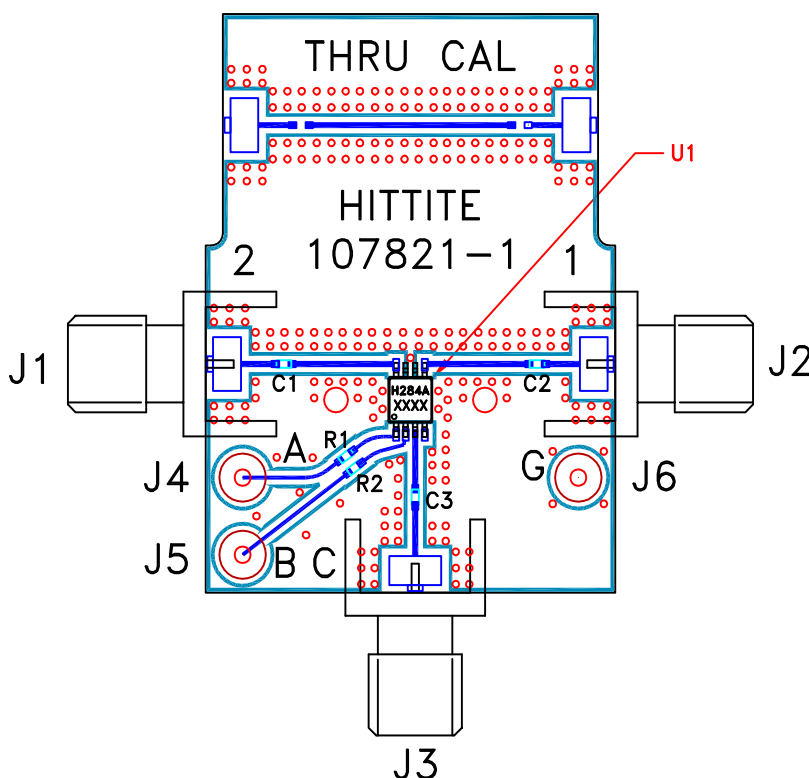
For price, delivery, and to place orders: Analog Devices, Inc., One Technology Way, P.O. Box 9106, Norwood, MA 02062-9106
Phone: 781-329-4700 • Order online at www.analog.com
Application Support: Phone: 1-800-ANALOG-D

Typical Application Circuit

Notes:

1. Set A/B control to 0/+5V, Vdd = +5V and use HCT series logic to provide a TTL driver interface.
2. Control inputs A/B can be driven directly with CMOS logic (HC) with Vdd = +5 Volts applied to the CMOS logic gates.
3. DC blocking capacitors are required for each RF port as shown. Capacitor value determines lowest frequency of operation.
4. Highest RF signal power capability is achieved with Vdd = +7V and A/B set to 0/+7V.
5. Back side paddle must be connected to RF ground.
6. A grounded coplanar waveguide PCB layout technique is recommended to achieve high isolation. The component side ground plane between RFC/grounded paddle and RF1/RF2 should be continuous, see below. There should be a continuous ground plane under component side layout.



Evaluation PCB



List of Materials for Evaluation PCB 105143 ^[1]

Item	Description
J1 - J3	PCB Mount SMA RF Connector
J4 - J6	DC Pin
C1 - C3	100 pF capacitor, 0402 Pkg.
R1, R2	100 Ohm resistor, 0402 Pkg.
U1	HMC284AMS8G / HMC284AMS8GE SPDT Switch
PCB ^[2]	107821 Evaluation PCB

[1] Reference this number when ordering complete evaluation PCB

[2] Circuit Board Material: Rogers 4350

The circuit board used in the application should be generated with proper RF circuit design techniques. Signal lines at the RF port should have 50 Ohm impedance and the package ground leads and package bottom should be connected directly to the ground plane similar to that shown above. The evaluation circuit board shown above is available from Analog Devices, upon request.