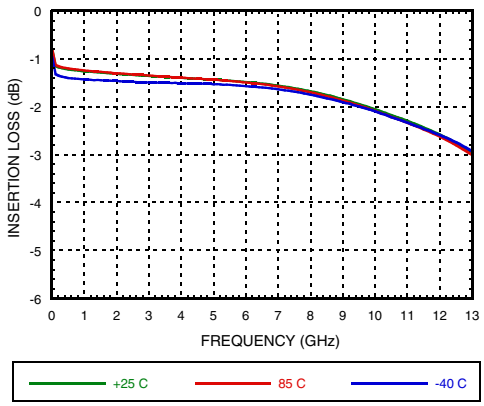
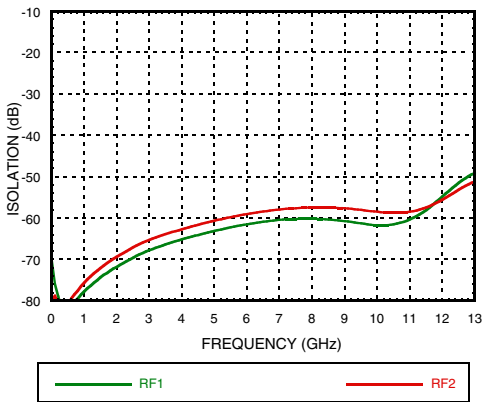
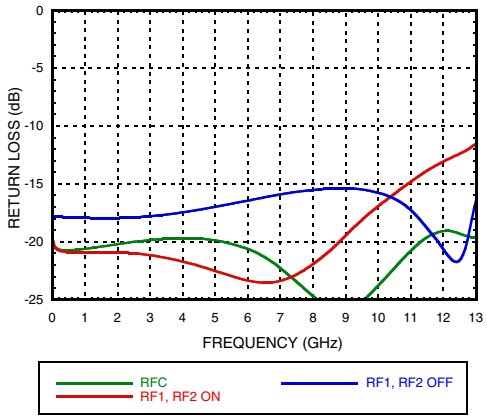
Insertion Loss



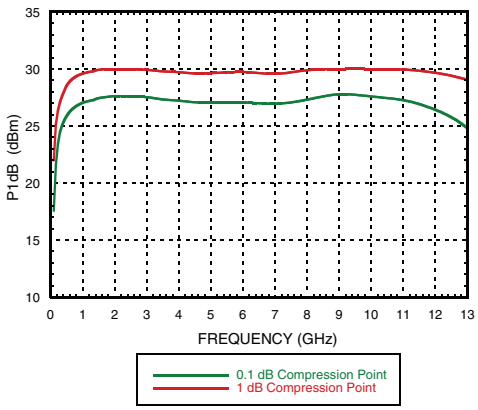
Isolation



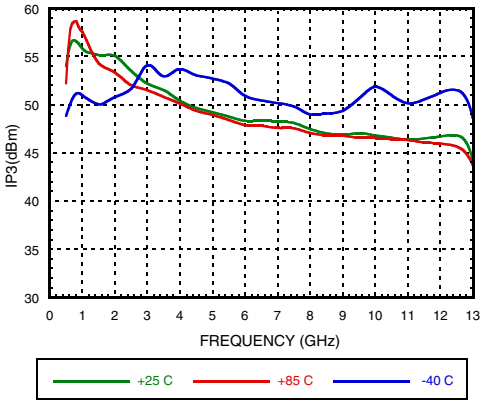
Return Loss



0.1 and 1 dB Input Compression Point



Input Third Order Intercept Point



GaAs MMIC SPDT NON-REFLECTIVE SWITCH, DC - 12 GHz

Absolute Maximum Ratings

RF Input Power (Vctl = -5V) (0.5 - 12 GHz) Insertion Loss Path Terminated Path	 +30.9 dBm +23.7 dBm
Control Voltage Range (A & B)	+1V to -7.5V
Channel Temperature	150 °C
Thermal Resistance (R_{TH}) (channel to ground paddle) Insertion Loss Path Terminated Path	 88.5 °C/W 277 °C/W
Storage Temerature	-65 to +150 °C
Operating Temperature	-40 to +85 °C

Control Voltages

State	Bias Condition
Low	0 to -0.2V @ 0.2 uA Max.
High	-5V @ 2 uA Typ. to -7V @ 20 uA Typ. (±0.5 Vdc)

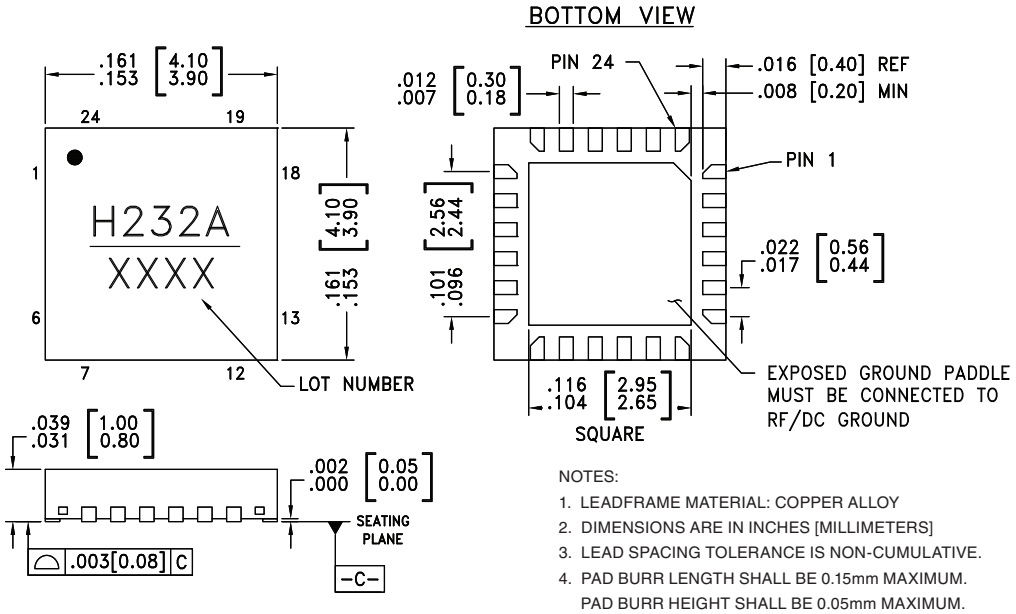
Truth Table

Control Input		Signal Path State	
A	B	RFC to RF1	RFC to RF2
High	Low	ON	OFF
Low	High	OFF	ON

Caution: Do not "Hot Switch" power levels greater than +27 dBm (Vctl = 0/-5 Vdc).

ELECTROSTATIC SENSITIVE DEVICE
OBSERVE HANDLING PRECAUTIONS

Outline Drawing



NOTES:

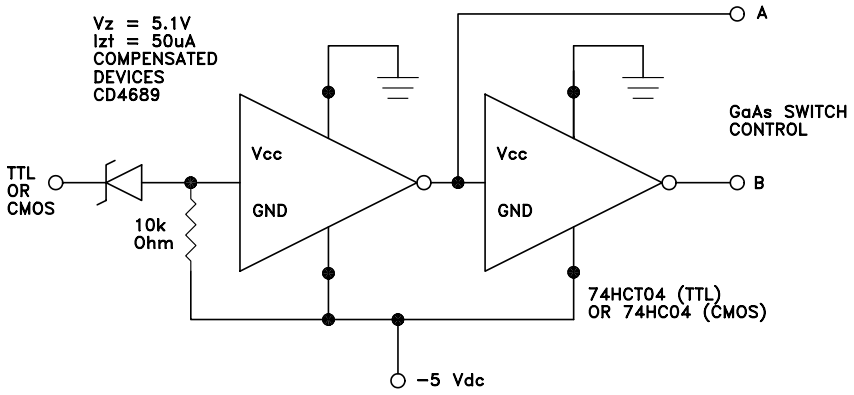
1. LEADFRAME MATERIAL: COPPER ALLOY
2. DIMENSIONS ARE IN INCHES [MILLIMETERS]
3. LEAD SPACING TOLERANCE IS NON-CUMULATIVE.
4. PAD BURR LENGTH SHALL BE 0.15mm MAXIMUM. PAD BURR HEIGHT SHALL BE 0.05mm MAXIMUM.
5. PACKAGE WARP SHALL NOT EXCEED 0.05mm.
6. ALL GROUND LEADS AND GROUND PADDLE MUST BE SOLDERED TO PCB RF GROUND.
7. REFER TO HITTITE APPLICATION NOTE FOR SUGGESTED LAND PATTERN.

Package Information

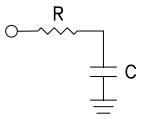
Part Number	Package Body Material	Lead Finish	MSL Rating	Package Marking [2]
HMC232ALP4E	RoHS-compliant Low Stress Injection Molded Plastic	100% matte Sn	MSL3 [1]	H232A XXXX

[1] Max peak reflow temperature of 260 °C
[2] 4-Digit lot number XXXX

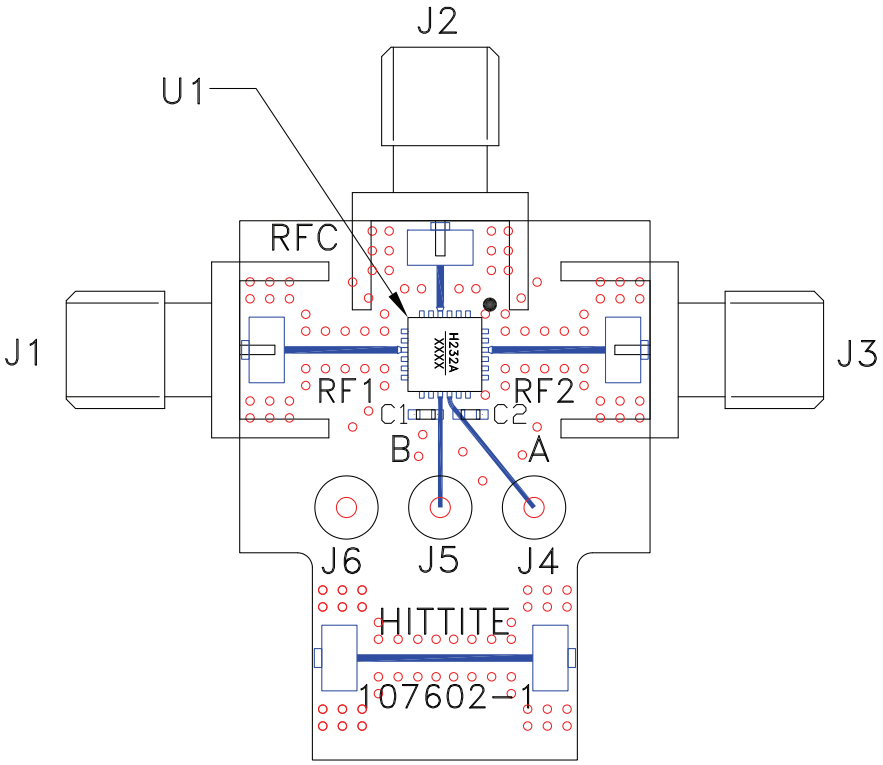
Suggested Driver Circuit



Pin Descriptions

Pin Number	Function	Description	Interface Schematic
1, 2, 6, 7, 11, 12, 13, 14, 17, 18, 19, 20, 24	N/C	The pins are not connected internally; however, all data shown herein was measured with these pins connected to RF/DC ground externally.	
3, 5, 8, 10, 21, 23	GND	Package bottom must also be connected to PCB RF ground.	
4, 9, 22	RFC, RF1, RF2	This pin is DC coupled and matched to 50 Ohm. Blocking capacitors are required if RF line potential is not equal to 0V.	
15	B	See truth table and control voltage table.	
16	A	See truth table and control voltage table.	

Evaluation PCB



List of Materials for Evaluation PCB EV1HMC232ALP4 [1]

Item	Description
J1 - J3	PCB Mount SMA RF Connector
J4 - J6	DC Pin
C1, C2	100 pF Capacitor, 0603 Pkg.
U1	HMC232ALP4E SPDT Switch
PCB [2]	107602 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.

Notes: