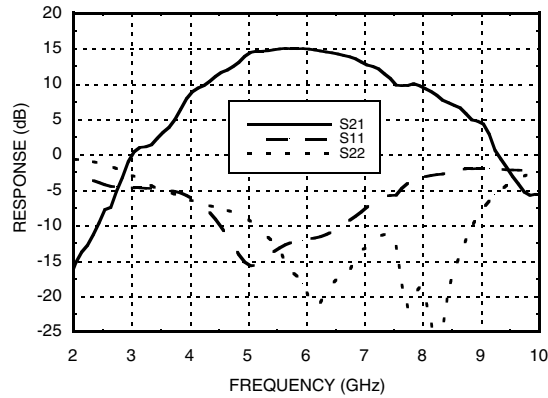
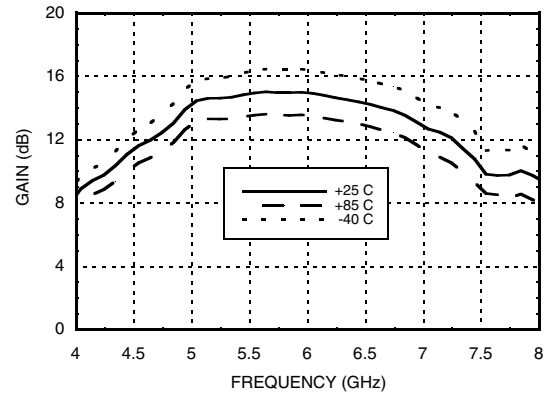
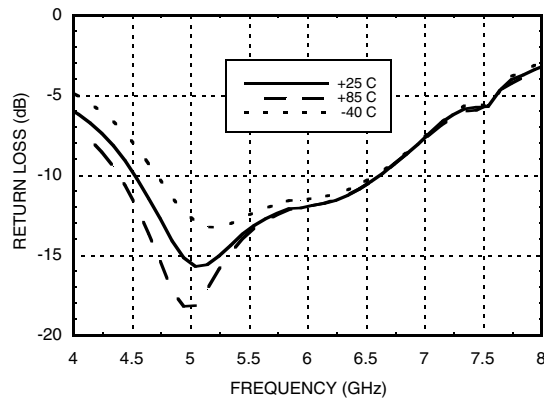
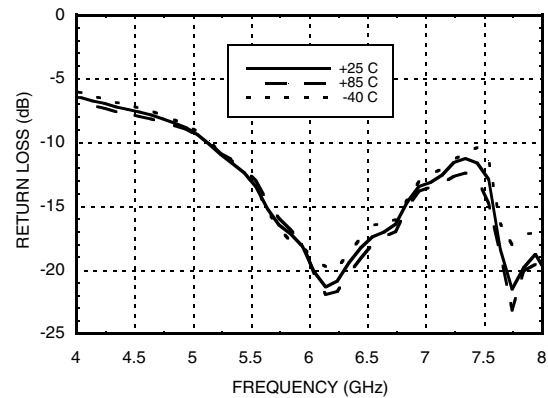
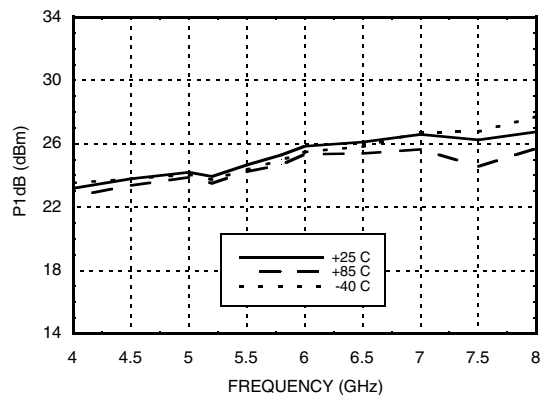
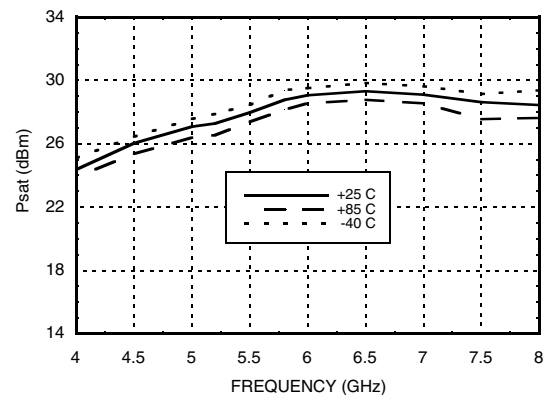
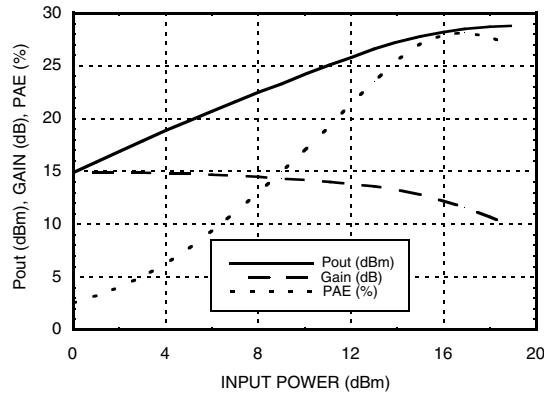
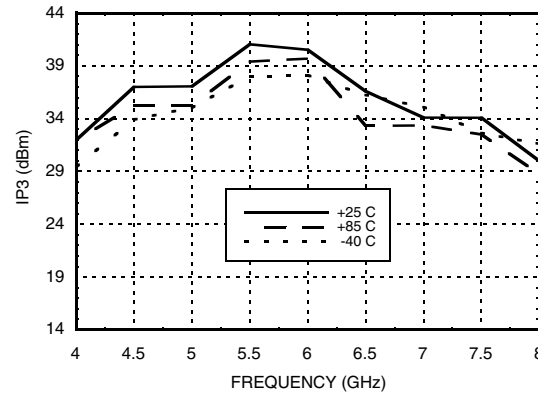
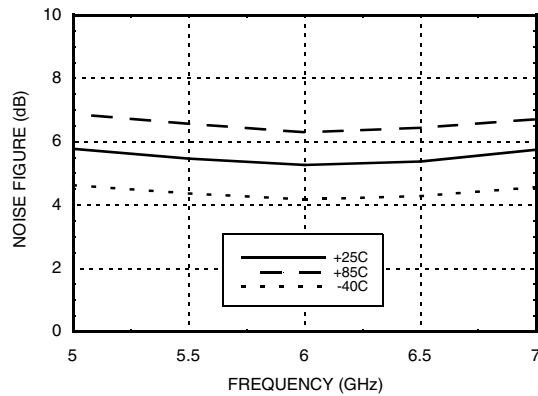
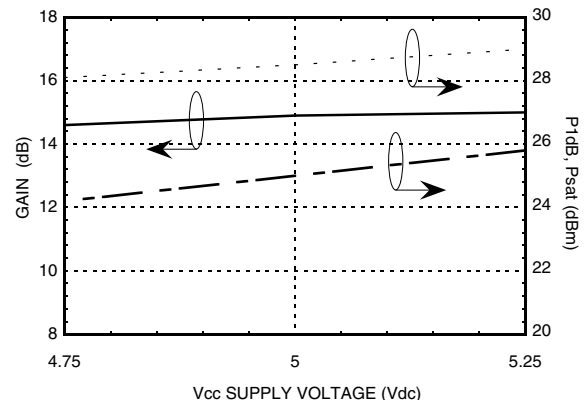
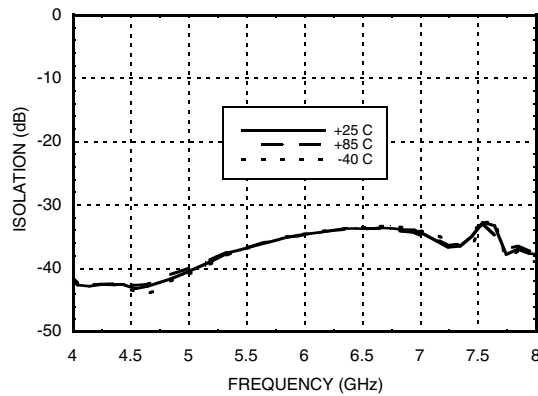
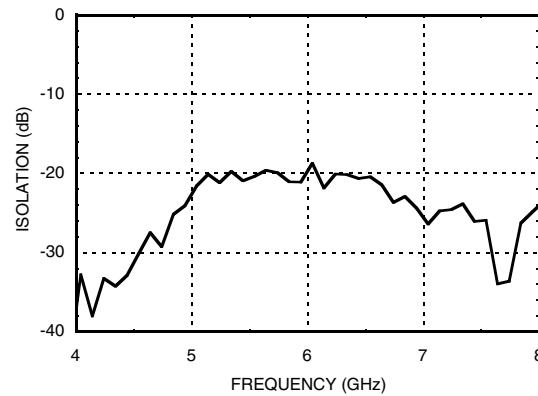


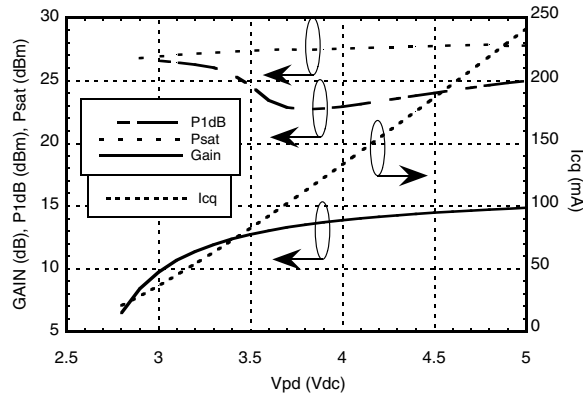
Broadband Gain & Return Loss

Gain vs. Temperature

Input Return Loss vs. Temperature

Output Return Loss vs. Temperature

P1dB vs. Temperature

Psat vs. Temperature


Power Compression @ 5.8 GHz

Output IP3 vs. Temperature

Noise Figure vs. Temperature

Gain & Power vs. Supply Voltage

Reverse Isolation vs. Temperature

Power Down Isolation




GaAs InGaP HBT MMIC POWER AMPLIFIER, 5 - 7 GHz

Gain, Power & Quiescent Supply Current vs. V_{pd} @ 5.8 GHz



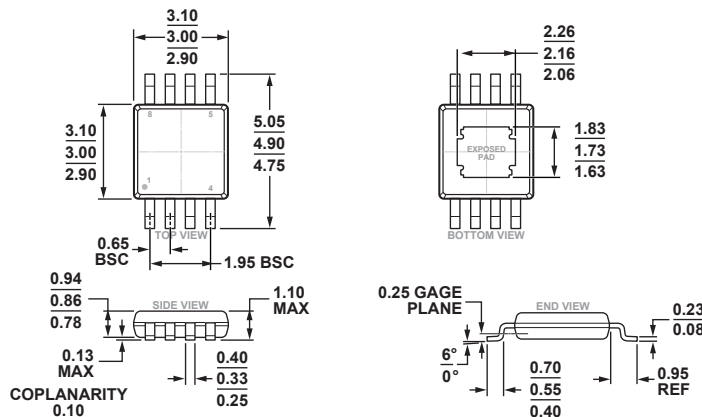
Absolute Maximum Ratings

Collector Bias Voltage (V _{cc1} , V _{cc2})	+5.5 Vdc
Control Voltage (V _{pd})	+5.5 Vdc
RF Input Power (RFIN)(V _s = V _{pd} = +5Vdc)	+20 dBm
Junction Temperature	150 °C
Continuous P _{diss} (T = 85 °C) (derate 31 mW/°C above 85 °C)	2 W
Thermal Resistance (junction to ground paddle)	32 °C/W
Storage Temperature	-65 to +150 °C
Operating Temperature	-40 to +85 °C



ELECTROSTATIC SENSITIVE DEVICE
OBSERVE HANDLING PRECAUTIONS

Outline Drawing



COMPLIANT TO JEDEC STANDARDS MO-187-AA-T

8-Lead Mini Small Outline Package with Exposed Pad [MINI_SO_EP]
(RH-8-1)

Dimensions shown in millimeters

Package Information

Part Number	Package Body Material	Lead Finish	MSL Rating	Package Marking ^[3]
HMC407MS8G	Low Stress Injection Molded Plastic	Sn/Pb Solder	MSL1 ^[1]	H407 XXXX
HMC407MS8GE	RoHS-compliant Low Stress Injection Molded Plastic	100% matte Sn	MSL1 ^[2]	H407 XXXX
HMC407MS8GETR	RoHS-compliant Low Stress Injection Molded Plastic	100% matte Sn	MSL1 ^[2]	H407 XXXX
HMC407MS8GTR	Low Stress Injection Molded Plastic	Sn/Pb Solder	MSL1 ^[1]	H407 XXXX
104987- HMC407MS8G	Eval Board			

[1] Max peak reflow temperature of 235 °C

[2] Max peak reflow temperature of 260 °C

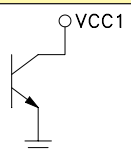
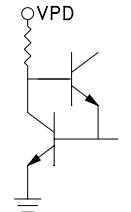
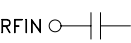
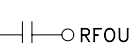
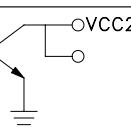
[3] 4-Digit lot number XXXX

For price, delivery, and to place orders: Analog Devices, Inc., One Technology Way, P.O. Box 9106, Norwood, MA 02062-9106

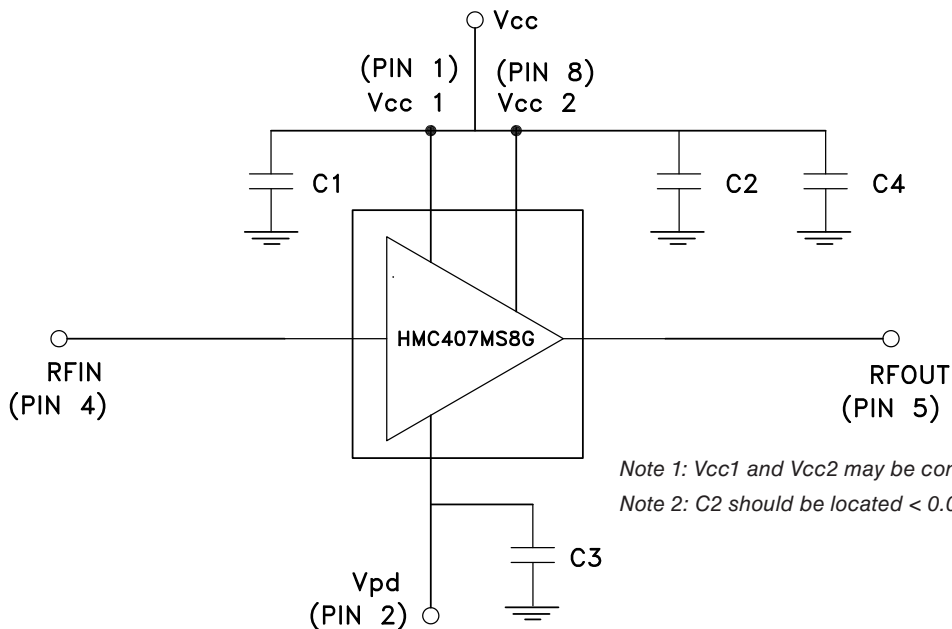
Phone: 781-329-4700 • Order online at www.analog.com

Application Support: Phone: 1-800-ANALOG-D

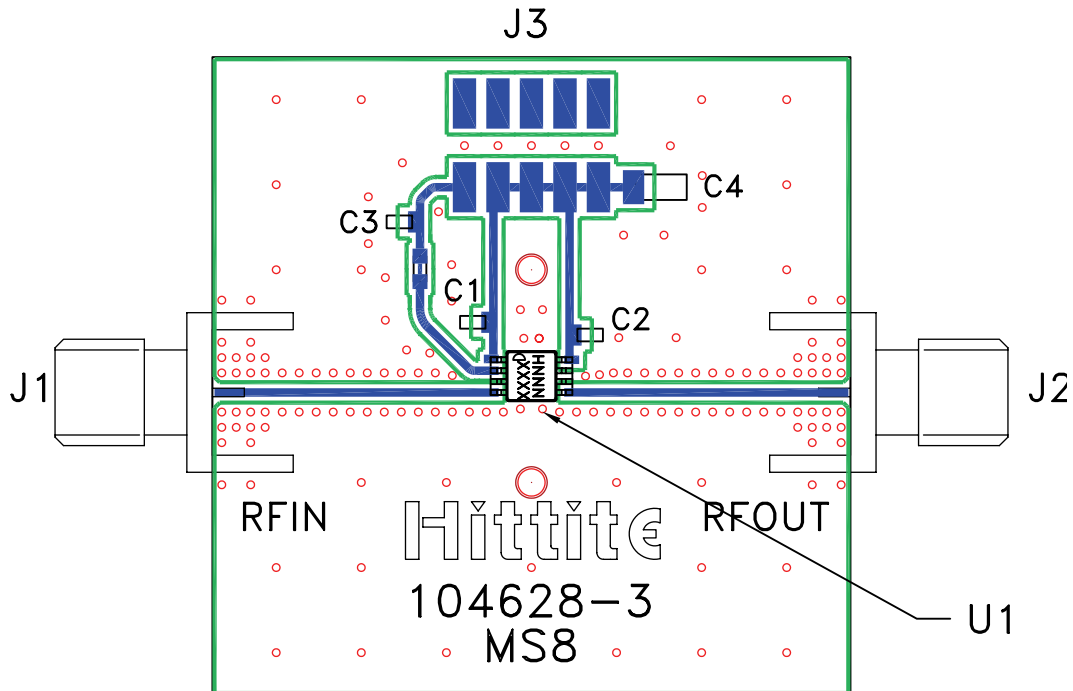
Pin Descriptions

Pin Number	Function	Description	Interface Schematic
1	Vcc1	Power supply voltage for the first amplifier stage. An external bypass capacitor of 330 pF is required as shown in the application schematic.	
2	Vpd	Power control pin. For maximum power, this pin should be connected to 5V. A higher voltage is not recommended. For lower die current, this voltage can be reduced.	
3, 6, 7	GND	Ground: Backside of package has exposed metal ground slug that must be connected to ground thru a short path. Vias under the device are required.	
4	RFIN	This pin is AC coupled and matched to 50 Ohms.	
5	RFOUT	This pin is AC coupled and matched to 50 Ohms.	
8	Vcc2	Power supply voltage for the output amplifier stage. An external bypass capacitor of 330 pF is required. This capacitor should be placed no more than 20 mils from package lead.	

Application Circuit



Evaluation PCB



List of Materials for Evaluation PCB 104987 ^[1]

Item	Description
J1 - J2	PCB Mount SMA RF Connector
J3	2 mm DC Header
C1 - C3	330 pF Capacitor, 0603 Pkg.
C4	2.2 μ F Capacitor, Tantalum
U1	HMC407MS8G / HMC407MS8GE Amplifier
PCB ^[2]	104628 Eval Board

[1] Reference this number when ordering complete evaluation PCB

[2] Circuit Board Material: Roger 4350

The circuit board used in the final application should use RF circuit design techniques. Signal lines should have 50 Ohm impedance while the package ground leads and exposed paddle should be connected directly to the ground plane similar to that shown. A sufficient number of via holes should be used to connect the top and bottom ground planes. The evaluation board should be mounted to an appropriate heat sink. The evaluation circuit board shown is available from Analog Devices, upon request.