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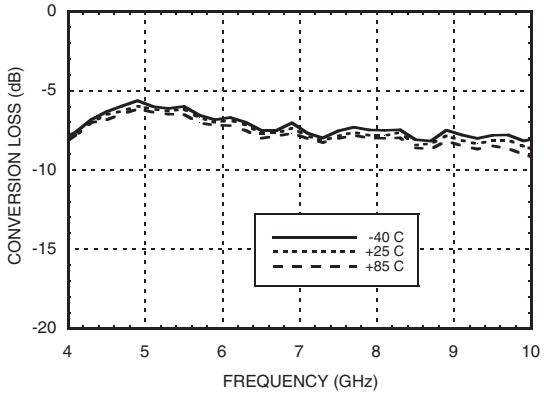
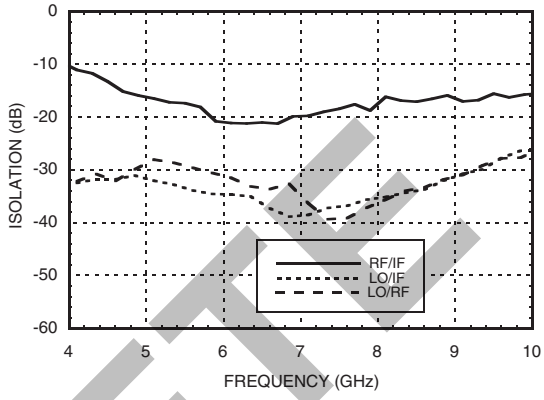
GaAs MMIC SMT DOUBLE-BALANCED MIXER, 4.5 - 9 GHz

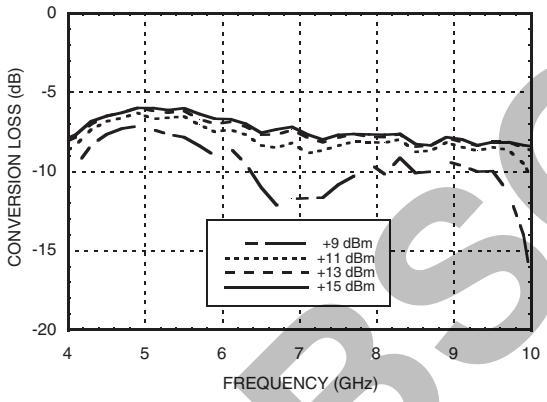
Conversion Loss vs Temperature @ LO = +13 dBm



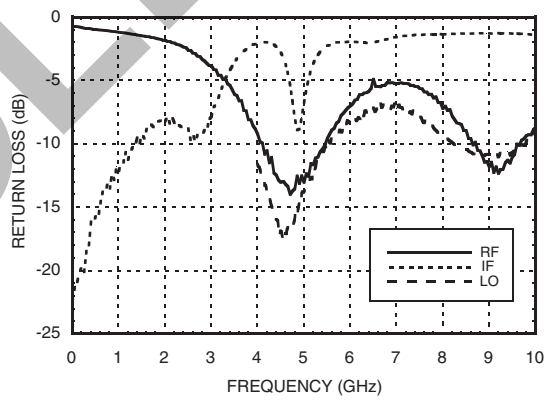
Isolation @ LO = +13 dBm



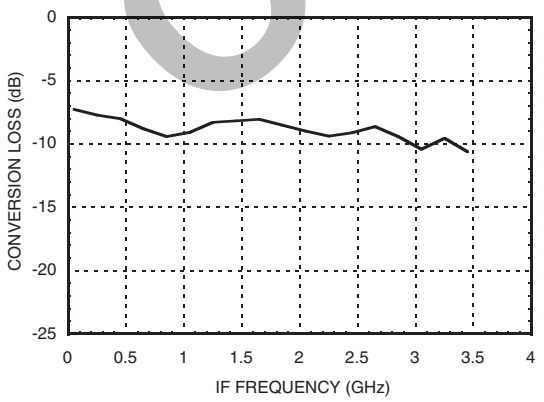
Conversion Loss vs. LO Drive



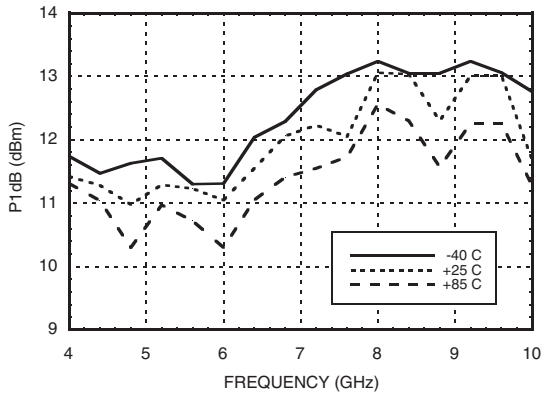
Return Loss @ LO = +13 dBm



IF Bandwidth @ LO = +13 dBm



P1dB vs. Temperature LO = +13 dBm



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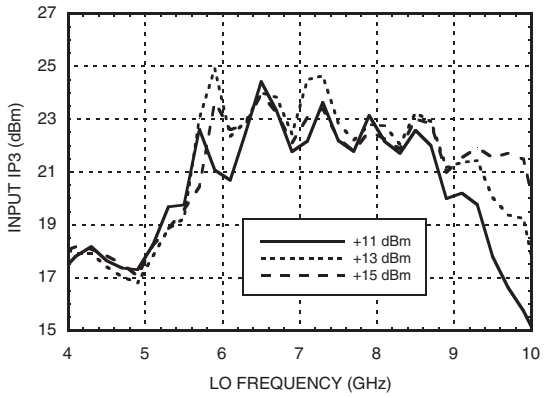
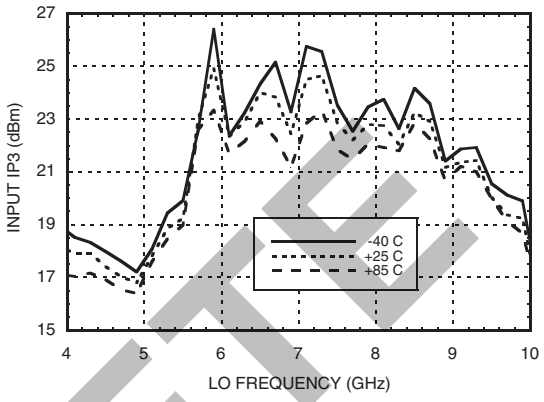
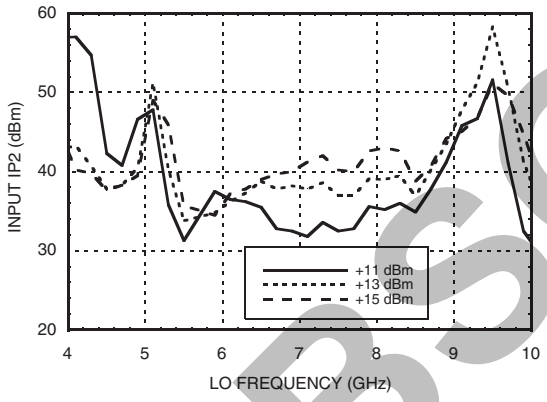
Input IP3 vs. LO Drive



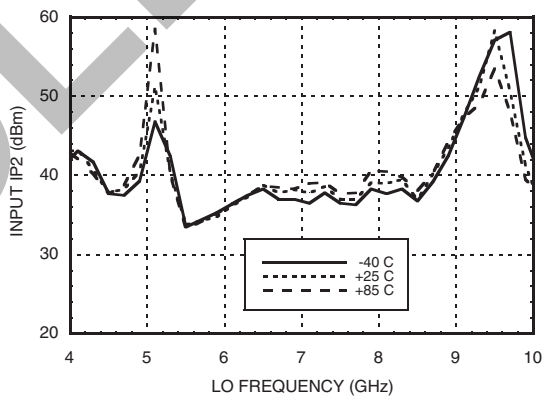
Input IP3 vs. Temperature @ LO = +13 dBm



Input IP2 vs. Drive



Input IP2 vs. Temperature @ LO = +13 dBm



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MxN Spurious Outputs

	nLO				
mRF	0	1	2	3	4
0	xx	9	12	16	34
1	19	0	22	32	49
2	62	63	59	62	66
3	80	69	82	69	79
4	79	81	81	80	83

RF = 6 GHz @ -10 dBm
LO = 6.1 GHz @ +13 dBm
All values in dBc below the IF power level (-1RF + 1LO).

Harmonics of LO

LO Freq. (GHz)	nLO Spur at RF Port			
	1	2	3	4
4.0	31	22	32	58
5.0	32	21	30	47
6.0	40	28	28	49
7.0	32	35	53	48
8.0	27	40	57	55
9.0	22	52	48	xx

LO = +13 dBm
Values in dBc below input LO level measured at the RF port.

Absolute Maximum Ratings

RF / IF Input	+13 dBm
LO Drive	+27 dBm
Storage Temperature	-65 to +150 °C
Operating Temperature	-40 to +85 °C
ESD Sensitivity (HBM)	Class 1A

ELECTROSTATIC SENSITIVE DEVICE
OBSERVE HANDLING PRECAUTIONS

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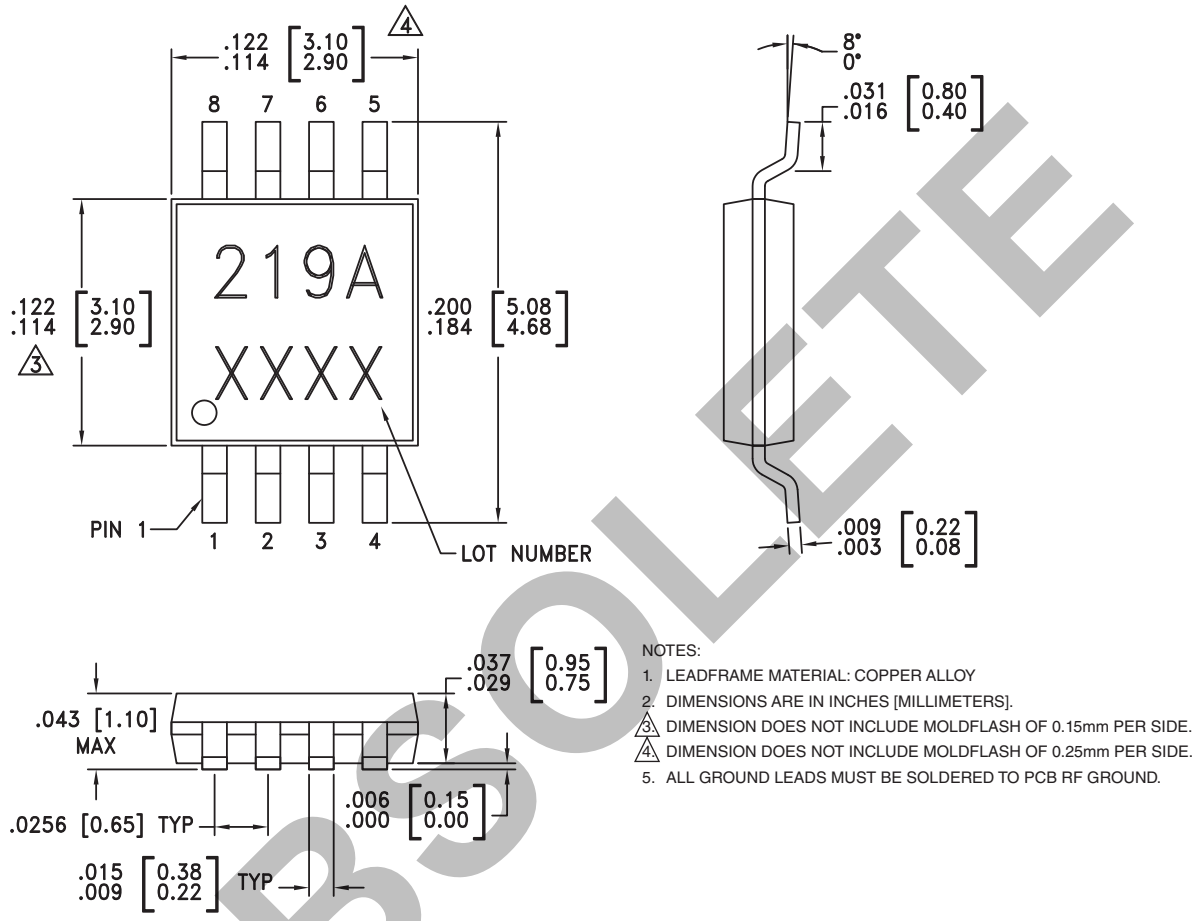
HMC219AMS8 / 219AMS8E

v00.0810

GaAs MMIC SMT DOUBLE-BALANCED MIXER, 4.5 - 9 GHz

Outline Drawing



NOTES:

1. LEADFRAME MATERIAL: COPPER ALLOY
2. DIMENSIONS ARE IN INCHES [MILLIMETERS].
3. DIMENSION DOES NOT INCLUDE MOLDFLASH OF 0.15mm PER SIDE.
4. DIMENSION DOES NOT INCLUDE MOLDFLASH OF 0.25mm PER SIDE.
5. ALL GROUND LEADS MUST BE SOLDERED TO PCB RF GROUND.

Package Information

Part Number	Package Body Material	Lead Finish	MSL Rating	Package Marking [3]
HMC219AMS8	Low Stress Injection Molded Plastic	Sn/Pb Solder	MSL1 [1]	219A XXXX
HMC219AMS8E	RoHS-compliant Low Stress Injection Molded Plastic	100% matte Sn	MSL1 [2]	219A XXXX

[1] Max peak reflow temperature of 235 °C
[2] Max peak reflow temperature of 260 °C
[3] 4-Digit lot number XXXX

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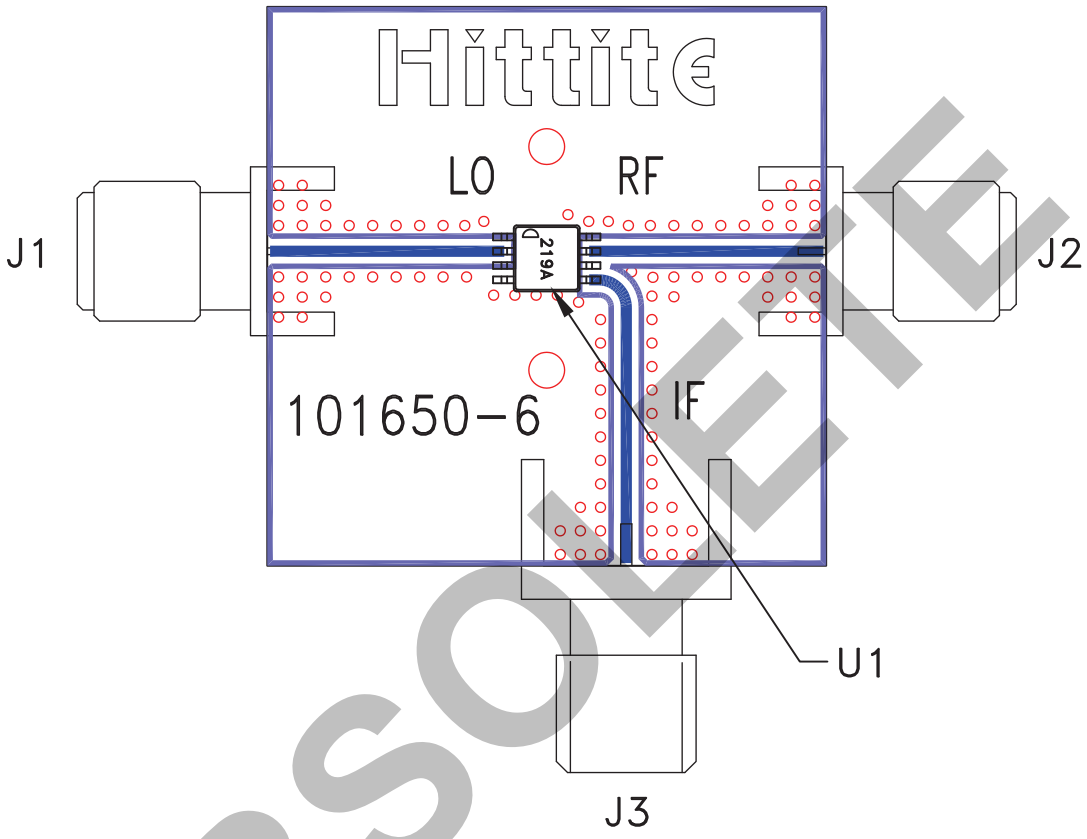
Evaluation Circuit Board



List of Materials for Evaluation PCB 103350 [1]

Item	Description
J1 - J3	PCB Mount SMA RF Connector
U1	HMC219AMS8 / HMC219AMS8E Mixer
PCB [2]	101650 Evaluation Board

[1] Reference this number when ordering complete evaluation PCB

[2] Circuit Board Material: Rogers 4350

The circuit board used in the application should use RF circuit design techniques. Signal lines should have 50 Ohm impedance while the package ground leads 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 circuit board shown is available from Hittite upon request.

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