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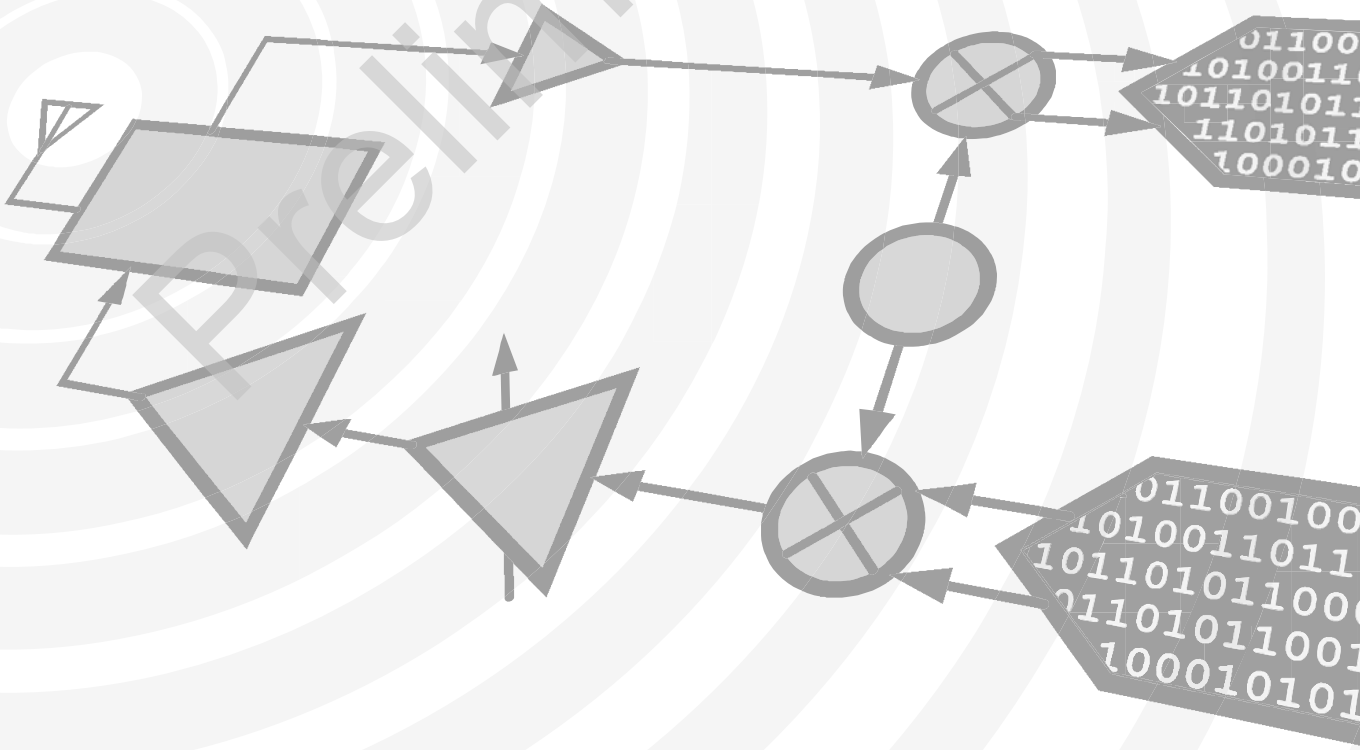

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HMC798ALC4

v00.1115

GaAs MMIC SUB-HARMONIC SMT MIXER, 24 - 34 GHz

Typical Applications

The HMC798ALC4 is ideal for:

- Point-to-Point Radios
- Point-to-Multi-Point Radios & VSAT
- Test Equipment & Sensors
- Military End-Use
- SATCOM

Features

Integrated LO Amplifier: +4 dBm Input

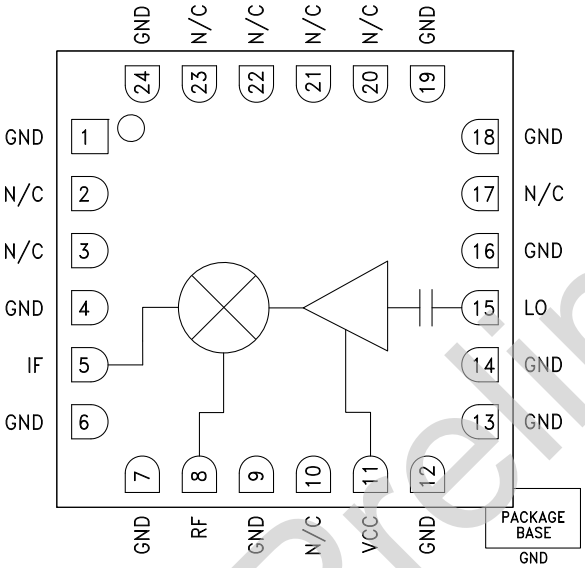
Sub-Harmonically Pumped (x2) LO

Wideband IF: DC - 4 GHz

Single Positive Supply: +5V @ 95mA

24 Lead 4x4mm SMT Package: 16mm²

Functional Diagram



General Description

The HMC798ALC4 is a 24 - 34 GHz Sub-harmonically Pumped (x2) MMIC Mixer with an integrated LO amplifier in a leadless RoHS compliant SMT package. The 2LO to RF isolation is excellent at 30 dB, eliminating the need for additional filtering. The LO amplifier is a single bias +5V design with a nominal +4 dBm drive requirement. The RF and LO ports are matched to 50 Ohms for ease of use while the IF covers DC to 4 GHz. The HMC798ALC4 eliminates the need for wire bonding, allowing use of surface mount manufacturing techniques.

Electrical Specifications, T_A = +25°C, Vcc = 5V

Parameter	IF = 1 GHz LO = 4 dBm			IF = 1 GHz LO = 4 dBm			Units
	Min.	Typ.	Max.	Min.	Typ.	Max.	
Frequency Range, RF		24 - 29.5			29.5 - 34		GHz
Frequency Range, LO		12 - 16			13.5 - 17.75		GHz
Frequency Range, IF		DC - 4			DC - 4		GHz
Conversion Loss		11	13		10	12	dB
2LO to RF Isolation	25	30		20	25		dB
2LO to IF Isolation		45			35		dB
IP3 (Input)	17	20		19	22		dBm
1 dB Compression (Input)		10			12		dBm
Supply Current (Idd)		95	125		95	125	mA

**Unless otherwise noted, all measurements performed as upconverter, IF= 1 GHz, LO = 4 dBm*

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

GaAs MMIC SUB-HARMONIC SMT MIXER, 24 - 34 GHz

Absolute Maximum Ratings

RF / IF Input (Vdd = +5V)	+13 dBm
LO Drive (Vdd = +5V)	+10 dBm
Vdd	5.5V
Channel Temperature	175 °C
Continuous Pdiss (Ta = 85 °C) (derate 8.33 mW/°C above 85 °C)	0.75 mW
Thermal Resistance (junction to ground paddle)	119 °C/W
Storage Temperature	-65 to +150 °C
Operating Temperature	-40 to +85 °C

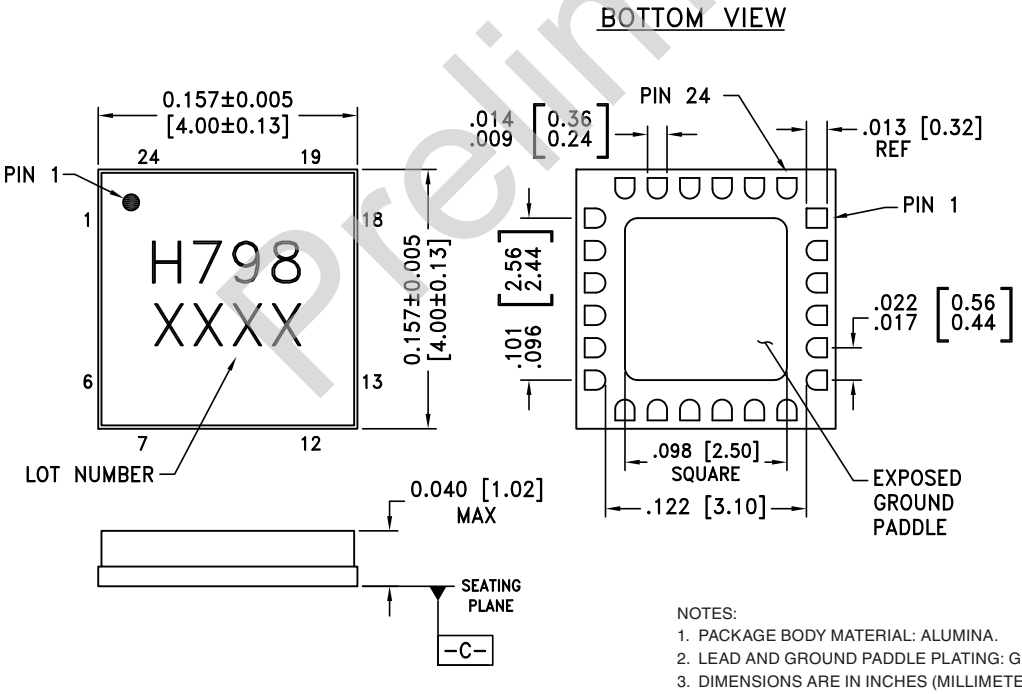
ELECTROSTATIC SENSITIVE DEVICE
OBSERVE HANDLING PRECAUTIONS

MxN Spurious Outputs @ RF Port, Vdd = 5V

	nLO		
mIF	2	1	0
-3	68		
-2	53	71	66
-1	0	49	32
0	1	31	
1	1	45	31
2	54	66	65
3	66		

IF = 2 GHz @ -10 dBm
LO = 15 GHz @ 4 dBm
All values in dBc below IF power level (2LO - 1IF)
Measured as upconverter

Outline Drawing



NOTES:
1. PACKAGE BODY MATERIAL: ALUMINA.
2. LEAD AND GROUND PADDLE PLATING: GOLD FLASH OVER NICKEL.
3. DIMENSIONS ARE IN INCHES (MILLIMETERS).
4. LEAD SPACING TOLERANCE IS NON-CUMULATIVE.
5. CHARACTERS TO BE HELVETICA MEDIUM, .025 HIGH, BLACK INK, OR LASER MARK LOCATED APPROX. AS SHOWN.
6. PACKAGE WARP SHALL NOT EXCEED 0.05MM DATUM [-C-]
7. ALL GROUND LEADS AND GROUND PADDLE MUST BE SOLDERED TO PCB RF GROUND.