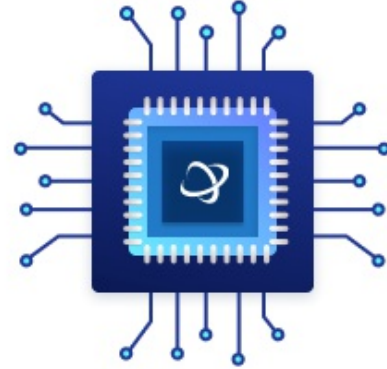


20 GHz to 42 GHz, Wideband I/Q Mixer

Manufacturers	Analog Devices, Inc
Package/Case	CHIPS OR DIE
Product Type	RF Integrated Circuits
RoHS	
Lifecycle	



Images are for reference only

Please submit RFQ for HMC8192 or [Email to us: sales@ovaga.com](mailto:sales@ovaga.com) We will contact you in 12 hours.

[RFQ](#)

General Description

The HMC8192LG is a passive, wideband, inphase/quadrature (I/Q), monolithic microwave integrated circuit (MMIC) mixer that can be used either as an image rejection mixer for receiver operations or as a single-sideband upconverter for transmitter operations. With a radio frequency (RF) and local oscillator (LO) range of 20 GHz to 42 GHz, and an intermediate frequency (IF) bandwidth of dc to 5 GHz, the HMC8192LG is ideal for applications requiring a wide frequency range, excellent RF performance, and a simple design with fewer components and a small printed circuit board (PCB) footprint. A single HMC8192LG can replace multiple narrow-band mixers in a design.

The inherent I/Q architecture of the HMC8192LG offers excellent image rejection, eliminating the need for expensive filtering for unwanted sidebands. The mixer also provides excellent LO to RF and LO to IF isolation and reduces the effect of LO leakage to ensure signal integrity.

As a passive mixer, the HMC8192LG does not require any dc power sources. The HMC8192LG offers a lower noise figure compared to an active mixer, ensuring superior dynamic range for high performance and precision applications.

The HMC8192LG is fabricated on a gallium arsenide (GaAs), metal semiconductor field effect transistor (MESFET) process and uses Analog Devices, Inc., mixer cells and a 90° hybrid. The HMC8192LG is available in a compact, 4.00 mm × 4.00 mm, 25-terminal land grid array cavity (LGA_CAV) package and operates over a -40°C to +85°C temperature range. The evaluation board for the HMC8192LG, EV1HMC8192LG, is also available on the Analog Devices website.

Applications

Features

Passive, wideband I/Q mixer

RF and LO range: 20 GHz to 42 GHz

Wide IF bandwidth of dc to 5 GHz

Single-ended RF, LO, and IF

Conversion loss: 9 dB typical, 20 GHz to 32 GHz

Image rejection: 25 dBc typical, 20 GHz to 32 GHz

Noise figure: 12 dB typical

Input IP3 (downconverter): 24 dBm typical, 20 GHz to 32 GHz

Input P1dB (downconverter) compression: 17 dBm typical, 20 GHz to 32 GHz

Input IP2: 55 dBm typical, 20 GHz to 32 GHz

LO to RF isolation: 42 dB, 20 GHz to 32 GHz

LO to IFx isolation: 45 dB, 20 GHz to 32 GHz

RF to IF isolation: 35 dB, 20 GHz to 32 GHz

Amplitude balance: ± 1 dB typical

Phase balance (downconverter): $\pm 8^\circ$ typical

RF return loss: 12 dB typical

LO return loss: 10 dB typical

IFx return loss: 20 dB typical

Exposed pad, 4.00 mm \times 4.00 mm, 25-terminal LGA_CAV package

Application

Test and measurement instrumentation

Military, radar, aerospace, and defense applications

Microwave point to point base stations

Related Products



[HMC3653LP3BE](#)

Analog Devices, Inc
QFN-12



[HMC253AQS24](#)

Analog Devices, Inc
24-SSOP (0.154, 3.90mm Width)



[HMC441LP3E](#)

Analog Devices, Inc
QFN-16



[HMC948LP3E](#)

Analog Devices, Inc
LP3



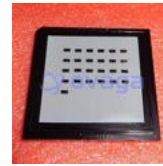
[HMC358MS8GE](#)

Analog Devices, Inc
MSOP-8



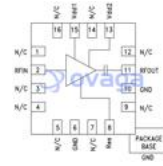
[HMC453ST89E](#)

Analog Devices, Inc
ST89E



[HMC490](#)

Analog Devices, Inc
SMD



[HMC618ALP3E](#)

Analog Devices, Inc
QFN-16