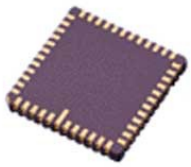
HMC8191LC4

Up/Down Conv Mixer 26.5GHz 24-Pin CLLCC EP Cut Tape

Manufacturer:	Analog Devices, Inc
Package/Case:	LCC-24
Product Type:	RF Integrated Circuits
RoHS:	RoHS Compliant/Lead free
Lifecycle:	Active



Images are for reference only

Inquiry

General Description

The HMC8191 is a passive, wideband, I/Q monolithic microwave integrated circuit (MMIC) mixer that can be used either as an image reject mixer for receiver operations or as a single-sideband upconverter for transmitter operations. With a radio frequency (RF) and local oscillator (LO) range of 6 GHz to 26.5 GHz, and an intermediate frequency (IF) bandwidth of dc to 5 GHz, the HMC8191 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 HMC8191 can replace multiple narrow-band mixers in a design.

The inherent I/Q architecture of the HMC8191 offers excellent image rejection and thereby eliminates 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.

Being a passive mixer, the HMC8191 does not require any dc power sources. It offers a lower noise figure compared to an active mixer, ensuring superior dynamic range for high performance and precision applications.

The HMC8191 is fabricated on a gallium arsenide (GaAs) metal semiconductor field effect transistor (MESFET) process and uses Analog Devices, Inc. mixer cells and a 90-degree hybrid. The HMC8191 is available in a compact, 4 mm × 4 mm, 24-terminal leadless chip carrier (LCC) package and operates over a −40°C to +85°C temperature range. An evaluation board for the HMC8191 is also available from the Analog Devices website.

Key Features

Passive, wideband I/Q mixer

RF and LO range: 6 GHz to 26.5 GHz

Wide IF bandwidth of dc to 5 GHz

Single-ended RF, LO, and IF

Conversion loss: 9 dB (typical)

Image rejection: 25 dBc (typical)

Single-sideband noise figure: 9 dB (typical)

Input IP3 (downconverter): 24 dBm (typical)

Input P1dB compression point (downconverter): 15 dBm (typical)

Input IP2: 55 dBm (typical)

LO to RF isolation: 40 dB (typical)

LO to IF isolation: 40 dB (typical)

RF to IF isolation: 20 dB (typical)

Amplitude balance: ±0.5 dB (typical)

Phase balance (downconverter): ±5° (typical)

RF return loss: 15 dB (typical)

LO return loss: 15 dB (typical)

IF return loss: 15 dB (typical)

Exposed pad, 4 mm × 4 mm, 24-terminal, ceramic, LCC package

Application

Test and measurement instrumentation

Military, aerospace, and defense applications

Microwave point to point base stations

Recommended For You

HMC624ALP4E

Analog Devices, Inc

QFN24

HMC952ALP5GE

Analog Devices, Inc

QFN

HMC361S8GE

Analog Devices, Inc

SOP-8

HMC253AQS24E

Analog Devices, Inc

QFN

HMC346MS8G

Analog Devices, Inc

MSOP8

HMC1119LP4ME

Analog Devices, Inc

QFN

HMC659LC5

Analog Devices, Inc

QFN

HMC909LP4E

Analog Devices, Inc

QFN

HMC564LC4

Analog Devices, Inc

QFN

HMC1021LP4E

Analog Devices, Inc

QFN

HMC241AQS16E

Analog Devices, Inc

SSOP16

HMC424LP3E

Analog Devices, Inc

QFN

HMC662LP3E

Analog Devices, Inc

QFN

HMC8038LP4CE

Analog Devices, Inc

QFN16

HMC363S8G

Analog Devices, Inc

SOP8