

HMC1095LP4E

0.5 dB LSB GaAs MMIC 6-BIT 75 Ohms DIGITAL ATTENUATOR, DC - 3 GHz

Typical Applications

The HMC1095LP4E is ideal for:

- CATV/ Satellite Set Top Boxes
- CATV Modems
- CATV Infrastructure
- Data Network Equipment

20

24

2

3

6

7

ACG1

LE 4

GND 5

ATTIN

D4

20 19

11 12

ACG5 ACG6

ACG4

D3

22

SER/PRL

CONTROL

6-BIT

DAT

9 10

ACG3

8

ACG2

5

23 22 21 D5

18

17

16

15

14

13

VDD

PUP1

PUP2

GND

SEROUT

ATTOUT

Features

0.5 dB LSB Steps to 31.5 dB Power-Up State Selection High Input IP3: +57 dBm Low Insertion Loss: 1.5 dB @ 1.0 GHz TTL/CMOS Compatible, Serial, Parallel or Latched Parallel Control ±0.25 dB Typical Step Error Single +3V or +5V Supply 24 Lead 4x4mm SMT Package: 16mm²

General Description

The HMC1095LP4E is a broadband 6-bit GaAs IC Digital Attenuator in a low cost leadless SMT package. This versatile digital attenuator incorporates off-chip AC ground capacitors for near DC operation, making it suitable for a wide variety of RF and IF applications. The dual mode control interface is CMOS/TTL compatible, and accepts either a three wire serial input or a 6 bit parallel word. The HMC1095LP4E also features a user selectable power up state and a serial output port for cascading other Hittite serial controlled components. The HMC1095LP4E is housed in a RoHS compliant 4x4 mm QFN leadless package, and requires no external matching components.

Electrical Specifications,

$T_{A} = +25^{\circ}C$, 75 Ohms System, with Vdd = +5V & Vctl = 0/+5V (Unless Otherwise Noted)

Parameter	Frequency (GHz)	Min.	Тур.	Max.	Units
Insertion Loss	DC - 1.2 GHz	0.5	1.3	2	dB
Attenuation Range			31.5		dB
Return Loss (ATTIN, ATTOUT, All Atten. States)	DC - 1.2 GHz		13		dB
Attenuation Accuracy: (Referenced to Insertion Loss) All Attenuation States	DC - 1.0 GHz	± (0.20 + 5% of Atten. Setting) Max.			dB
Input Power for 1 dB Compression	DC - 1.0 GHz		31		dBm
Input Third Order Intercept Point (Two-Tone Input Power = 10 dBm Each Tone)	DC - 1.0 GHz		57		dBm
Switching Speed tRise, tFall (10 / 90% RF) rON , tOFF (50% LE to 10 / 90% RF)	DC - 3 GHz		60 90		ns ns

ATTENUATORS - SM1 Functional Diagram P/S CLK SERIN

For price, delivery and to place orders: Hittite Microwave Corporation, 2 Elizabeth Drive, Chelmsford, MA 01824 Phone: 978-250-3343 Fax: 978-250-3373 Order On-line at www.hittite.com Application Support: Phone: 978-250-3343 or apps@hittite.com