

### Typical Applications

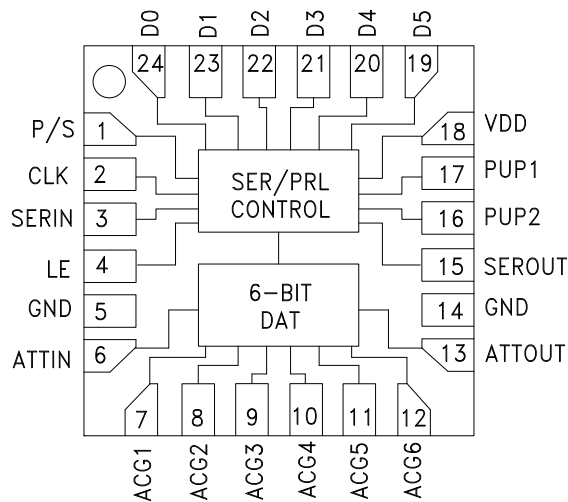
The HMC1095LP4E is ideal for:

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

### 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: 16mm<sup>2</sup>

### Functional Diagram



### 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<sub>A</sub> = +25°C, 75 Ohms System, with V<sub>dd</sub> = +5V & V<sub>ctl</sub> = 0/+5V (Unless Otherwise Noted)**

Parameter	Frequency (GHz)	Min.	Typ.	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	DC - 3 GHz	t <sub>Rise</sub> , t <sub>Fall</sub> (10 / 90% RF)	60		ns
		r <sub>ON</sub> , t <sub>OFF</sub> (50% LE to 10 / 90% RF)	90		ns