

Hittite HMC792LP4E DC-6 GHz 数字衰减方案

Hittite 公司的 HMC792LP4E 是 DC - 6 GHz 6 位数字衰减器,增量 0.25 dB LSB,最大衰减到 15.75dB,IP3 输出高达+55dBm,2.0GHz 的插入损耗为 1.8dB,单电源 3V 或 5V 工作,主要用于蜂窝/3G 基础设备, WiBro / WiMAX / 4G,微波无线电和 VSAT,测试设备和传感器,IF 和 RF 应用.本文介绍 HMC792LP4E 主要特性, 功能方框图, 应用电路, 评估板 PCB 布局图和材料列表.

HMC792LP4E: 0.25 dB LSB GaAs MMIC 6-BIT DIGITAL ATTENUATOR, DC - 6 GHz The HMC792LP4E 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 HMC792LP4E also features a user selectable power up state and a serial output port for cascading other Hittite serial controlled components. The HMC792LP4E is housed in a RoHS compliant 4x4 mm QFN leadless package, and requires no external matching components.

HMC792LP4E 主要特性:

0.25 dB LSB Steps to 15.75 dB

Power-Up State Selection

High Input IP3: +55 dBm

Low Insertion Loss: 1.8 dB @ 2.0 GHz

TTL/CMOS Compatible, Serial, Parallel or Latched Parallel Control

±0.2 dB Typical Step Error

Single +3V or +5V Supply

24 Lead 4x4mm SMT Package: 16mm²

HMC792LP4E 典型应用:

The HMC792LP4E is ideal for:

- Cellular/3G Infrastructure

- WiBro / WiMAX / 4G
- Microwave Radio & VSAT
- Test Equipment and Sensors
- IF & RF Applications

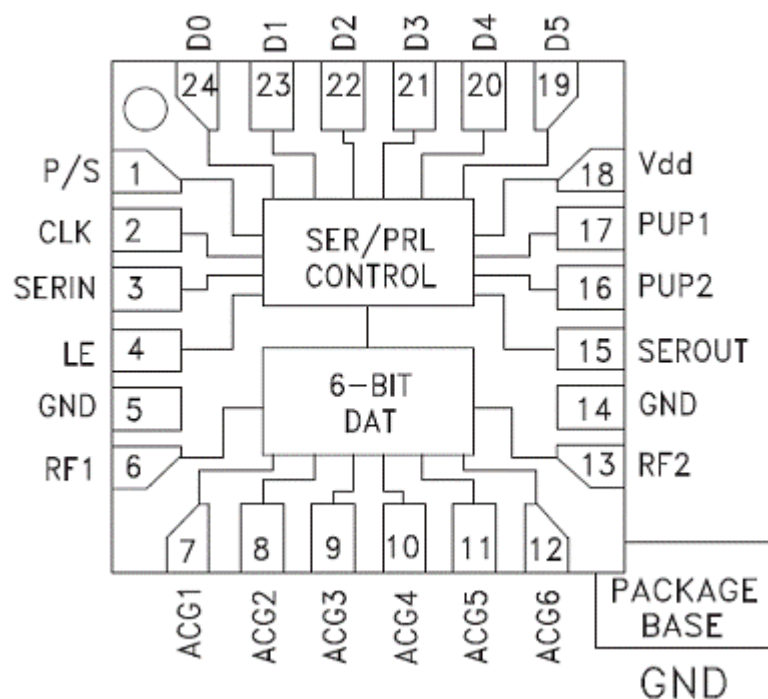


图 1.HMC792LP4E 功能方框图

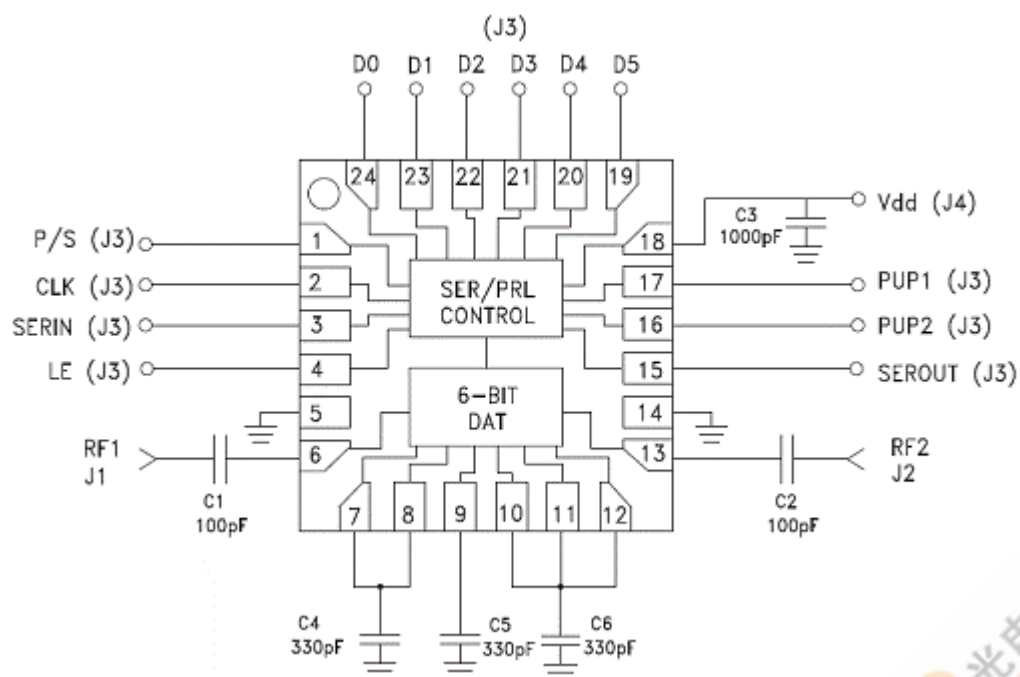


图 2.HMC792LP4E 应用电路

For frequencies less than 700 MHz, the use of ACG capacitors C4, C5 and C6 is recommended. For frequencies greater than 700 MHz, the HMC792LP4E has similar performance with and without the ACG capacitors.

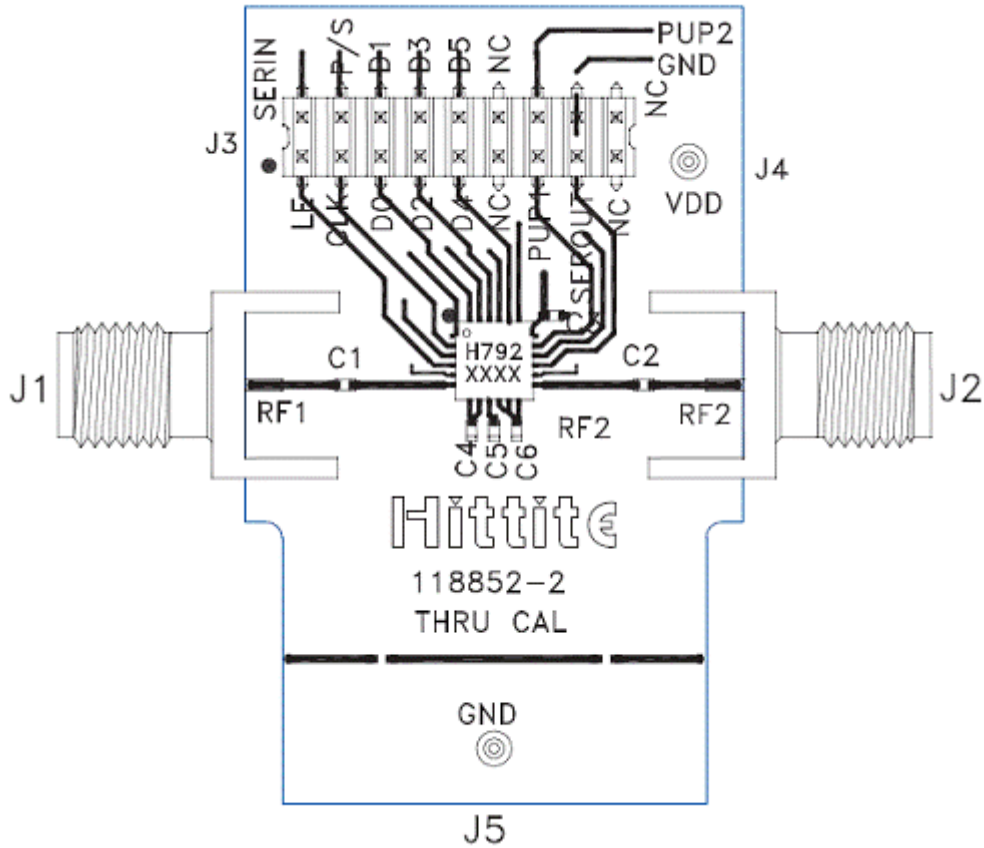


图 3.HMC792LP4E 评估板 PCB 布局图

评估板 PCB 118853 材料列表:

Item	Description
J1, J2	PCB Mount SMA Connector
J3	18 Pin DC Connector
J4	DC Pin
C1, C2	100 pF Capacitor, 0402 Pkg.
C3	1000 pF Capacitor, 0402 Pkg.
C4 - C6	330 pF Capacitor, 0402 Pkg.
U1	HMC792LP4E Digital Attenuator
PCB [2]	118852 Evaluation PCB