Main Features

- **10-bit Resolution**
- **Conversion Rate Up to 1.2 Gsps**
- **4:1 Integrated Parallel MUX**
- **PECL/LVDS Differential Data and Clock Inputs**
- **Programmable DSP Clock**
- **2 Vpp Differential Analog Output Swing**
- **Output Impedance: 50 Ω Single-ended, 100 Ω Differential**
- **Dual Power Supply : ±5 V**
- **CBGA 255 Package for “C” and “V” Grades**
- **CI-CGA-255 Cavity Up Package for “M” Grade**
- **Evaluation Board TSEV86101G2**

Performance

- **Single tone SFDR = -58 dBc/-58 dBFS at Fs = 1 Gsps and Fout = 441 MHz at 0 dBFS (Full-scale)**
- **Single tone SFDR = -53 dBC/-65 dB FS at Fs = 1 Gsps and Fout = 441 MHz at -12 dBFS**
- **Single tone SFDR = -50 dB/-50 dBFS at Fs = 1.2 Gsps and Fout = 575 MHz at 0 dBFS (Full-scale)**
- **Single tone SFDR = -48 dBc/-60 dBFS at Fs = 1.2 Gsps and Fout = 575 MHz at -12 dBFS**
- **Multi-tone SFDR (8 tones IMD) = -55 dBFS at Fs = 1.2 Gsps and 500 MHz Baseband (-18 dBFS Each Tone)**
- **NPR at -13 dB FS Peak to RMS Optimum Loading Factor: 40 dB (TBC) (at 1.2 Gsps, DC to 500 MHz Broadband Pattern, 20 MHz Notch Centered at 250 MHz)**
- **IF Sampling Conditions (Third Nyquist Zone, Assuming an F/4 Band Centered on 5 Fs/4, With a Sin x/x Pre-compensation for Constant Differential Output Power of -12.3 dBm Over the Band of Interest): Single Tone SFDR = -46 dBc/-67 dBFS at Fs = 1.2 Gsps and Fout = Fs + 150 MHz = 1350 MHz Single Tone SFDR = -44 dBc/-65 dBFS at Fs = 1.2 Gsps and Fout = Fs + 450 MHz = 1650 MHz**
- **Output VSWR (Packaged Device): 1.2 (DC to 2 GHz)**
- **Deviation From Sin x/x: -0.5 dB, (Fout From DC to 1 GHz, 50 Ω // 2 pF Output Load)**
- **Power Dissipation = 3.1 W (typ)**
- **Absolute Gain Error: To Be Determined**
- **Radiation Tolerant Device: 100 kRAD Total Dose (Expected)**

Applications

- Direct Digital Synthesis (DSS) for Broadband Application
- High Speed Modem for Satellite
- Automatic Test Equipment (ATE)
- Instrumentation: Arbitrary Waveform Generator Screening
- Standard Die Flow
- Temperature Range:
  - C grade: 0°C < Tc; Tj < 90°C (CBGA 255 Package)
  - V grade: -40°C < Tc, Tj < 110°C (CBGA 255 Package)
  - M grade: -55°C < Tc; Tj < 125°C (CI-CGA 255 Package)

Description

The TS86101G2 is a 10 bit 1.2 Gsps 4:1 MUXDAC designed for synthesizing broadband signals, with enhanced linearity and band flatness performances. The TS86101G2 is adequate for baseband or IF sampling applications.

4:1 10-bit 1.2 Gsps MUX-DAC

TS86101G2

Summary

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