

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 $F_s = 1$ Gsps and $F_{out} = 441$ MHz at 0 dBFS (Full-scale)
- Single tone SFDR = -53 dBc/-65 dB FS
at $F_s = 1$ Gsps and $F_{out} = 441$ MHz at -12 dBFS
- Single tone SFDR = -50 dB/-50 dBFS
at $F_s = 1.2$ Gsps and $F_{out} = 575$ MHz at 0 dBFS (Full-scale)
- Single tone SFDR = -48 dBc/-60 dBFS
at $F_s = 1.2$ Gsps and $F_{out} = 575$ MHz at -12 dBFS
- Multi-tone SFDR (8 tones IMD) = -55 dBFS
at $F_s = 1.2$ 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 $F_s/4$, 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 $F_s = 1.2$ Gsps and $F_{out} = F_s + 150$ MHz = 1350 MHz Single Tone SFDR = -44 dBc/-65 dBFS at $F_s = 1.2$ Gsps and $F_{out} = F_s + 450$ 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

For more information please
contact
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This is a summary document. A complete document is not available at this time. For more information, please contact your local Atmel sales office.



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