

## Main Features

- 10-bit Resolution
- 1.2 Gsps Guaranteed Conversion Rate, 1.4 Gsps Typical
- 4:1 Integrated Parallel MUX
- PECL/LVDS Differential Data and Clock Inputs
- Programmable DSP Clock
- 2 Vpp Differential Analog Output Swing
- Output Impedance: 50Ω Single-ended, 100Ω Differential
- Power Up Reset for Easy Synchronization of Several DACs
- Dual Power Supply : ±5V
- CBGA 255 Package for “C” and “V” Grades
- Evaluation Board TSEV86101G2BGL

## Performance

- Broadband
  - NPR: 49 dB at Fs = 1.2 Gsps: 9.5 bits equivalent (20 MHz to 580 MHz Broadband Pattern, 25 MHz Notch Centered Around 250 MHz)
- Single Tone
  - SFDR Baseband:
    - 69 dBFS at Fs = 1.2 Gsps and Fout = 25 MHz
    - 69 dBFS at Fs = 1.2 Gsps and Fout = 575 MHz
  - SFDR in Third Nyquist Zone:
    - 63 dBFS at Fs = 1.2 Gsps and Fout = 1650 MHz with Fout = Fs + 450 MHz Image Frequency
- Multi-tone
  - Eight-tone IMD: 70 dBFS at Fs = 1.2 Gsps and 500 MHz Baseband
- Total Power Dissipation = 3.6W

## Applications

- Direct Digital Synthesis (DDS) for Broadband Applications
- Automatic Test Equipment (ATE)
- Instrumentation: Arbitrary Waveform Generator Screening

## Screening

- Temperature Range:
  - C grade: 0°C < Tc; Tj < 90°C
  - V grade: -40°C < Tc, Tj < 110°C

## Description

The TS86101G2B is a 10-bit 1.2 Gsps DAC with an integrated 4:1 multiplexer, allowing easy interfacing with standard FPGAs. The enhanced linearity and Noise Power Ratio (NPR) performance (9.5 bits equivalent at 1.2 Gsps) and over 550 MHz instantaneous bandwidth make this product particularly suitable for high-end applications such as arbitrary waveform generators and broadband DDS systems.



**4:1 10-bit  
1.2 Gsps  
MUX-DAC**

**TS86101G2B**

## Summary

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5343CS-BDC-08/04



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[www.atmel.com/literature](http://www.atmel.com/literature)

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