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Analog to Digital

Converters

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Design Center

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AD9233 12-Bit, 80 MSPS/105 MSPS/125 MSPS, 1.8 V Analog-to-Digital Converter

Data Sheets

- [Rev A](#), 08/2006 (pdf, 1262K)
- [Lead\(Pb\) - Free Data](#)

[Email PDF](#)
(Data Sheet Help)

Application Notes

Evaluation Boards

Price, Pack
and Availa

Product Description

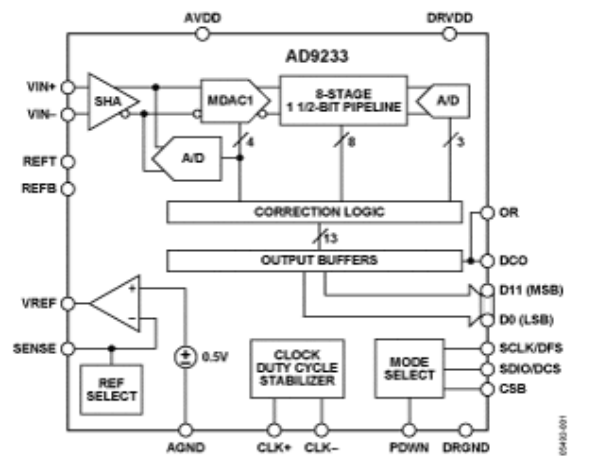
The AD9233 is a monolithic, single 1.8 V supply, 12-bit, 80 MSPS/ 105 MSPS/125 MSPS analog-to-digital converter (ADC) featuring a high performance sample-and-hold amplifier (SHA) and on-chip voltage ...[More](#)

Specifications

Resolution (Bits)	12bit
T-Put Rate	125MSPS
# Chan	1
Supply V	Multi(+1.8Anlg, +3.3Dig)
Pwr Diss (max)	425mW
Interface	Par
Ain Range	(2Vref) p-p, 2 V p-p
SNR (dB)	69.5dB
Pkg Type	CSP

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Functional Block Diagram



[Symbols and Footprints](#)

Other Diagrams: [Pin Out Diagram](#)

Features

- 1.8 V analog supply operation
- 1.8 V to 3.3 V output supply
- SNR = 69.5 dBc (70.5 dBFS) to 70 MHz input
- SFDR = 85 dBc to 70 MHz input
- Low power: 395 mW @ 125 MSPS
- Differential input with 650 MHz bandwidth
- On-chip voltage reference and sample-and-hold amplifier
- DNL = ± 0.15 LSB
- Flexible analog input: 1 V p-p to 2 V p-p range
- Offset binary, Gray code, or twos complement
- Data output clock and clock duty cycle stable
- Serial port control
- Built-in selectable digital test pattern generator
- Programmable clock and data alignment

Design Tools

[High-Speed ADC FIFO Evaluation Kit](#)

There are two [high speed ADC evaluation kits](#) available. The FIFO-based data acquisition board has a 32kB FIFO depth up to 133MSPs on each channel. The FPGA-based data acquisition board has a 64kB FIFO depth and acquires up to 8 channels on each channel.

[ADIsimADC](#)

ADIsimADC simulates behavior using many critical specifications of data converters, including offset, gain, sample rate error, jitter, latency, both AC and DC linearity. These models provide a way to validate performance of the converter at the system level to determine the applicability of a selected device. Users can run real-time FFT and time-domain analysis; analyze SNR, THD, and harmonics; export data for additional analysis.

Price, Packaging, and Availability

AD9233 Model Options

Model	Status	Package	Pins	Temp Range	Price* (1000 pcs.)	Available	RoHS Compliant	Samples Cart	Purchase Cart
AD80141BCPZ-140	Prodn	48 ld LFCSP (7x7x.85mm w/4.1mm Pad)	48	Ind	\$17.40	9/21/2007	Y Material Declaration	Add to Cart	Add to Cart
AD9233-105EB	LAST TIME BUY	EVALUATION BOARDS	48	TBD	-	-	N	Contact ADI	Contact ADI
AD9233-105EBZ	Prodn	EVALUATION BOARDS	48	TBD	-	-	Y	Contact ADI	Add to Cart
AD9233-125EBZ	Prodn	EVALUATION BOARDS	48	TBD	\$200.00	9/21/2007	Y	Contact ADI	Add to Cart
AD9233BCPZ-105	Prodn	48 ld LFCSP (7x7x.85mm w/4.1mm Pad)	48	Ind	\$22.75	9/21/2007	Y Material Declaration	Add to Cart	Add to Cart
AD9233BCPZ-125	Prodn	48 ld LFCSP (7x7x.85mm w/4.1mm Pad)	48	Ind	\$26.95	9/21/2007	Y Material Declaration	Add to Cart	Add to Cart
AD9233BCPZ-80	Prodn	48 ld LFCSP (7x7x.85mm w/4.1mm Pad)	48	TBD	\$16.70	9/21/2007	Y Material Declaration	Add to Cart	Add to Cart
AD9233BCPZRL7-105	Prodn	48 ld LFCSP (7x7x.85mm w/4.1mm Pad)	48	Ind	\$22.75	9/21/2007	Y Material Declaration	Contact ADI	Add to Cart
AD9233BCPZRL7-125	Prodn	48 ld LFCSP (7x7x.85mm w/4.1mm Pad)	48	Ind	\$26.95	10/12/2007	Y Material Declaration	Contact ADI	Add to Cart

The USA list pricing shown is for BUDGETARY USE ONLY, shown in United States dollars (FOB USA per unit for the stated volume), and is subject to change. International prices may differ due to local duties, taxes, fees and exchange rates. For volume-specific price or delivery quotes, please contact your local Analog Devices, Inc. sales office or authorized distributor. Pricing displayed for Evaluation Boards and Kits is based on 1-piece pricing.

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Parametric Selection Table

Part#	Res	Throughput Rate	# of Inputs	Operating Pwr Diss
AD9233-125	12	125MSPS	1	425mW
AD9230-170	12	170MSPS	1	407mW
AD9211-200	10	200MSPS	1	356mW
AD9230-250	12	250MSPS	1	463mW
AD9430-170	12	170MSPS	1	1.43W
AD9433-125	12	125MSPS	1	1.5W
AD9233-105	12	105MSPS	1	350mW
AD9430-210	12	210MSPS	1	1.7W
AD9236	12	80MSPS	1	411mW
AD9237-65	12	65MSPS	1	270mW
AD9235-65	12	65MSPS	1	350mW

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