

FPGA IP

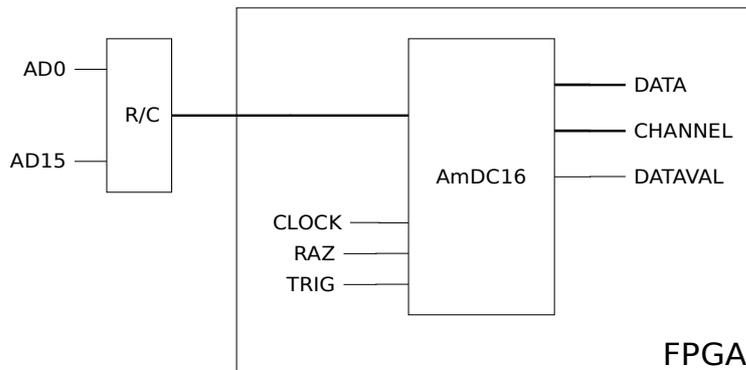
16-Channel, 1 MSPS, ADC

AmDC16

Preliminary Data

FEATURES

- Mainly digital
- No active external components
- Designed for FPGA
- 16 inputs with simultaneous sampling
- External trigger
- Customizable sample rate
- Customizable quantification
- Customizable digital filter



GENERAL DESCRIPTION

The AmDC16 is an ADC mainly digital for FPGA that only requires a small external R/C network, the rest of the ADC is implemented inside the FPGA providing a very economical multi channel solution for analogical measurement with FPGAs.

The 16 single-ended analog inputs with simultaneous sampling, The reduction of the output ports with time-multiplexed data and the two additional outputs, the channel index and DATAVAL provide a simple synchronous interface, allowing the device to easily connect with FPGA logic, embedded processors or other IP

Signal	Description	Mode
CLOCK	IP Clock	IN
RAZ	ADC return to zero	IN
TRIG	Synchronism	IN
DATA	Multiplexed data	OUT
CHANNEL	Channel number	OUT
DATAVAL	Data valid	OUT
AD0..AD15	Analog inputs	

The conversion process and data acquisition are controlled by TRIG and CLOCK signals. The input signal is sampled synchronously with the TRIG rising edge detection. If TRIG is kept at a high level the IP will operate in free running mode.

The AmDC16 uses advanced design techniques to achieve very low power dissipation even at maximum sampling rates.

By setting the relevant options in the IP, the analog input range can be selected to be coded as binary or two's complement. A very special feature allows to establish different qualification ratios, channel by channel, so that an optimized dynamic range can be obtained in every channel without using an additional signal conditioner.

The features of high sampling rate plus the two customizable digital filters help to reduce the anti-aliasing filter requirements and also help to reduce the outside the band noise effects.

The AmDCE is the version for "special orders", it can be delivered with special digital signal processing capacities including, for example, logarithmic output, data compression, detection of minimum and maximum and others.

Part Number	Description
AmDC16	ADC IP + 1 week application support
AmDC16EV	Evaluation board
AmDCE	ADC IP Special Order

Contact :
web : www.waltergallegos.com
email : info@waltergallegos.com