AIN SHAMS UNIVERSITY
FACULTY OF ENGINEERING
Electronics and Communication Department

Design of High Speed Analog to Digital Converter

A Thesis
Submitted in Partial Fulfillment for Requirement of Master of Science Degree in Electrical Engineering

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2010

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Statement

This thesis is submitted to Ain Shams University for the degree of Master of Science in Electrical Engineering.

No part of this thesis has been previously submitted for obtaining a degree or a qualification before.

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Acknowledgements

All praise for our god who give us the ability to learn and learn more to grow in the direction of love and happiness for the others and for us.

I wish to express my gratitude to my supervisors, Professor Hassan Ahmed El-Ghitany and Professor Khaled Ali Shehata for their guidance, insightful thoughts, useful discussion, flexibility and encouragement. I have learned a lot from them in both the technical and personal levels .I' am no way capable of appropriately thanking them for their great help.

I deeply indebted for everybody who helped me to complete this work in Modern technology and Information University (MTI) and Ain Shams University.

Finally, I cannot express what's inside me for my parents who worked and worked hard to make from me a good man without anything in return. I just want to say, “I love you” for everything you have done.

Contents

List of abbreviations

A/D	Analog / Digital
AC	Alternating Current
ADC	Analog to Digital Converter
ADSC	Analog to Digital Sub Converter
CCD	Charge Coupled Device
CMFB	Common Mode Feed Back
CMOS	Complementary Metal Oxide Semi Conductor
CMR	Common Mode Rejection.
DAC	Digital Analog Converter
DC	Dynamic Characteristics
DLE	Differential linearity
DNL	Differential Non Linearity
DS-ADC	Dual slope -ADC
DSP	Digital Signal Processing
ENOB	Effective Number Of Bits
Fast	Means lower threshold voltage, higher leakage and driving current.
FF	Fast n-ch MOSFET and Fast p-ch MOSFE
FNSP	Fast n-ch MOSFET and Slow p-ch MOSFET
FFT	Fast Fourier Transform
FSR	Full Scale Range
GBW	Gain Bandwidth
HDTV	High Definition Television
INL	Integral Non-Linearity
LCD	Liquid crystal display
LED	Light Emitting Diode
LSB	Least Significant Bit
MDAC	Multiplying Digital to Analog converter

MHz	Mega Hertz
MSB	Most Significant Bit
MSps	Mega samples per second.
NMOS	Metal Oxide Transistor N-type
OTA	Operational Transconductance Amplifier
PDA	Personal Digital Assistant
PSR	Power Source Rejection
RMS	Root Mean Square
RSD	Redundant Sign Digit
S/H	Sampled / Hold
SAR	Successive Approximation Register
SC	Static Characteristics
SFDR	Spurious Free Dynamic Range
SS	Slow n-ch MOSFET and Slow p-ch MOSFET
Slow	Means higher threshold voltage, lower leakage and driving current.
SNFP	Slow n-ch MOSFET and Fast p-ch MOSFET
SINAD	Signal to Noise And Distortion Ratio
SNR	Signal to Noise Ratio
T/H	Track/Hold
THD	Total Harmonic Distortion
XDSL	Digital Subscriber Line –"x" signifies that there are various flavors of DSL

List of Figures