

CONTENTS

INTRODUCTION	5
1. STATE OF THE ART	5
2. THESIS OBJECTIVES AND RESULTS	6
2.1 New Design of Active Elements and Their Properties	6
2.1.1 LV LP BD-CCII± Based on Folded Cascode OTA	7
2.1.2 Ultra-LP FG-CCII+ Based on Folded Cascode OTA	8
2.1.3 LV Ultra-LP QFG-CCII Based On Folded Cascode OTA	9
2.1.4 LV Ultra LP FG-DVCC Based on Folded Cascode OTA	10
2.1.5 LV LP High-Precision BD-DBeTA	12
2.1.6 Ultra-LV BD-QFG Transconductor	13
2.1.7 High-Precision GD-CCDDBA	15
2.1.8 High-Precision GD-VDBA	15
2.1.9 Sub-Conclusion	17
2.2 Filters and Oscillators Applications	17
2.2.1 Current Mode Multifunction Filter Based on BD-CCII±	17
2.2.2 Current Mode Quadrature Oscillator Based on FG-CCII+	18
2.2.3 Current Mode Quadrature Oscillator Based on QFG-CCII±	19
2.2.4 Voltage Mode Multifunction Filter Based on FG-DVCC	20
2.2.5 Voltage Mode Oscillator Based on BD-DBeTA	22
2.2.6 Voltage Mode Multifunction G_m -C Filter Based on BD-QFG Transconductor	23
2.2.7 Electronically Tunable Voltage Mode Quadrature Oscillator Based on GD-CCDDBA	24
2.2.8 Voltage Mode Multifunction Filter Based On GD-VDBA	25
2.2.9 Sub-Conclusion	25
3 CONCLUSION	26
4 REFERENCES	27
CURRICULUM VITAE	28
ABSTRACT	31
ABSTRAKT	32