Final project: A Low-Voltage Bandgap Reference

Please send your report to 黃元邦 <u>r10943037@ntu.edu.tw</u> in Rm 328

before Dec. 26, 2023, at 10:00a.m.

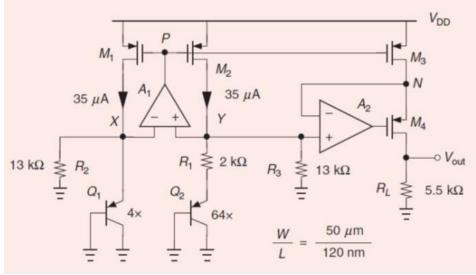


Fig. 1

Table I	
0.18um Virtual Process	
Single supply voltage	1.5V±10%
Output voltage	0.4~0.5V
Output voltage variation	<5mV from 0°C to 100°C
Power supply rejection ratio	>40dB
Power	<2mW

Design a low-voltage bandgap reference in Fig. 1 [1] to meet the specifications in Table I.

- [1] B. Razavi, The Design of a Low-Voltage Bandgap Reference, IEEE SOLID-STATE CIRCUITS MAGAZINE, pp. 6-12, Summer 2021.
- (a) Describe your design procedure (40%)
- (b) Please show the simulation results to verify the specifications in Table I (40%)
- (c) Summarize (a) and (b) in a two-column report by no more than fourpages (A-4) (20%).