OTA1A_50 Amplifier

Dr. Godi Fischer
Department of Electrical Engineering
University of Rhode Island
fischer@ele.uri.edu

April 28, 2002

CMOS Operational Transconductance Amplifier

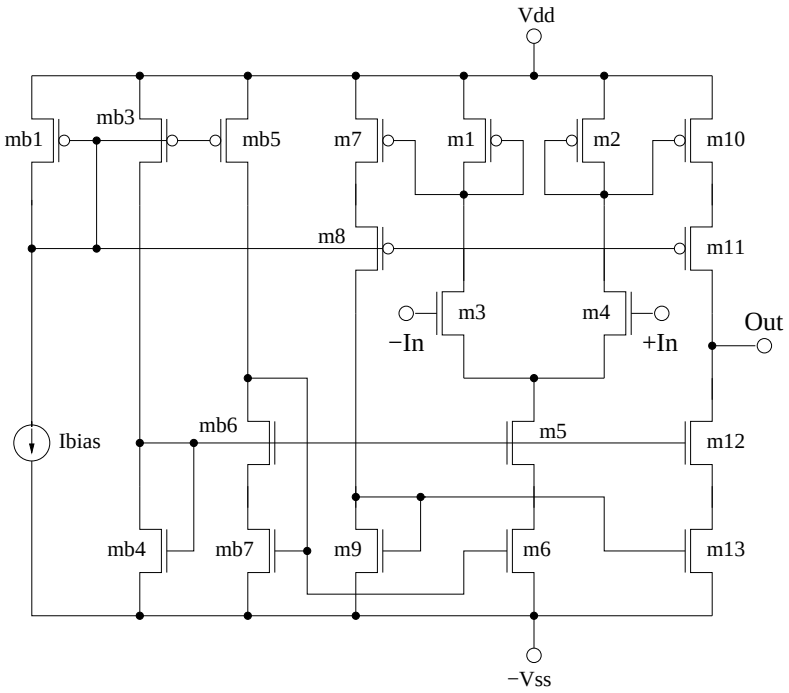

Figure 1: Schematic of the OTA1A_50

Parameter	Simulated Value
Voltage Swing	$\pm$ 1.2V
Open Loop Gain	78.319dB
Gain Bandwidth	5.63MHz
Phase Margin	79^o
Slew Rate @ C_l=5pF	$3\frac{V}{\mu s}$
CMRR @ DC	129.6dB
CMRR @ AC 100KHz	108dB
PSRR+ @ DC	98.319dB
PSRR+ @ AC 100KHz	84dB
PSRR- @ DC	79dB
PSRR- @ AC 100KHz	61dB
Power Supply Rails	$\pm$ 1.5V
$I_{V_{ss}}$	41.49μA

Table 1: **Various Parameters of the OTA1A_50 from Simulation**

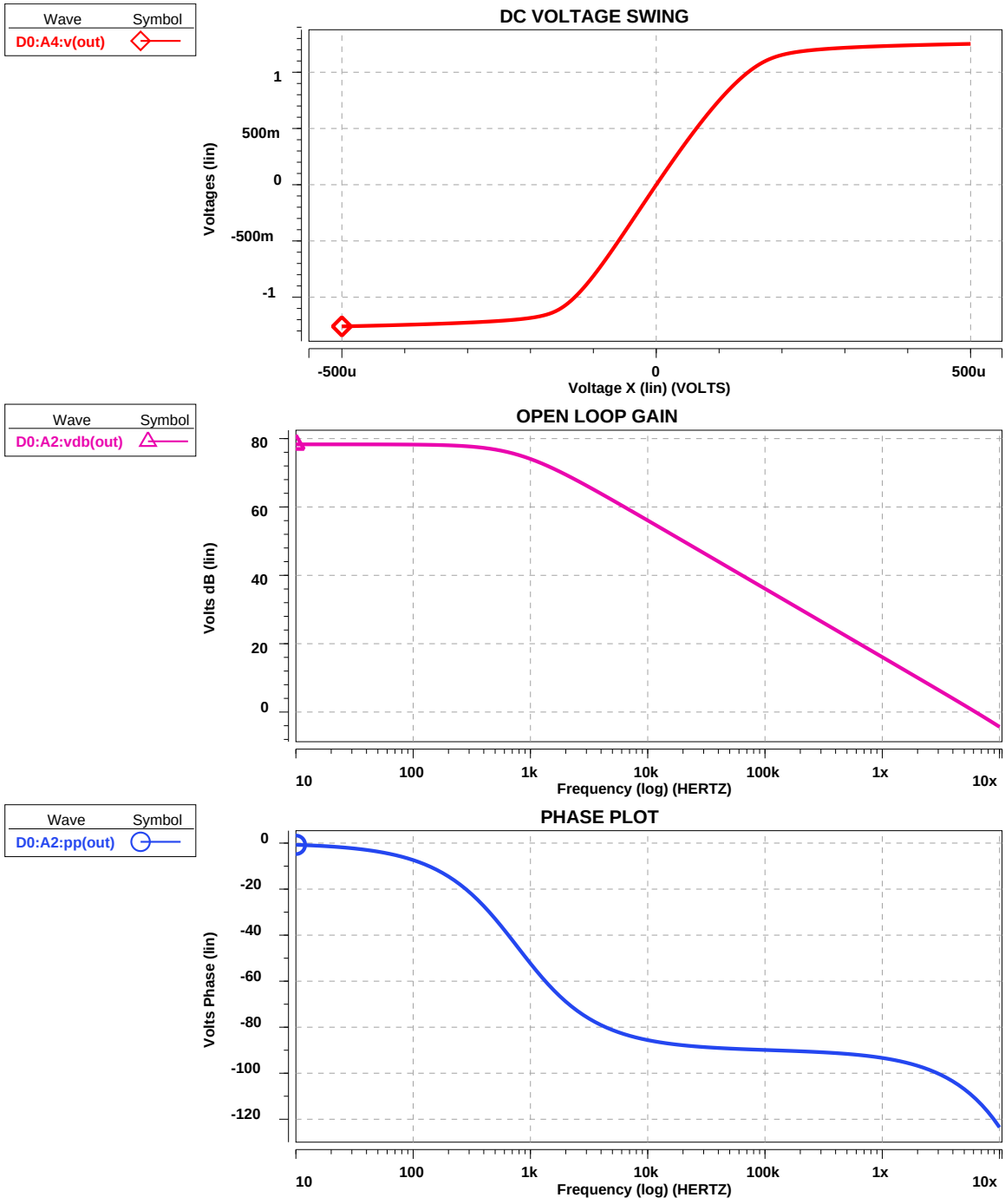

Figure 2: OTA1A_50 Simulations (a) Voltage Swing (b) Gain (c) Phase Plot

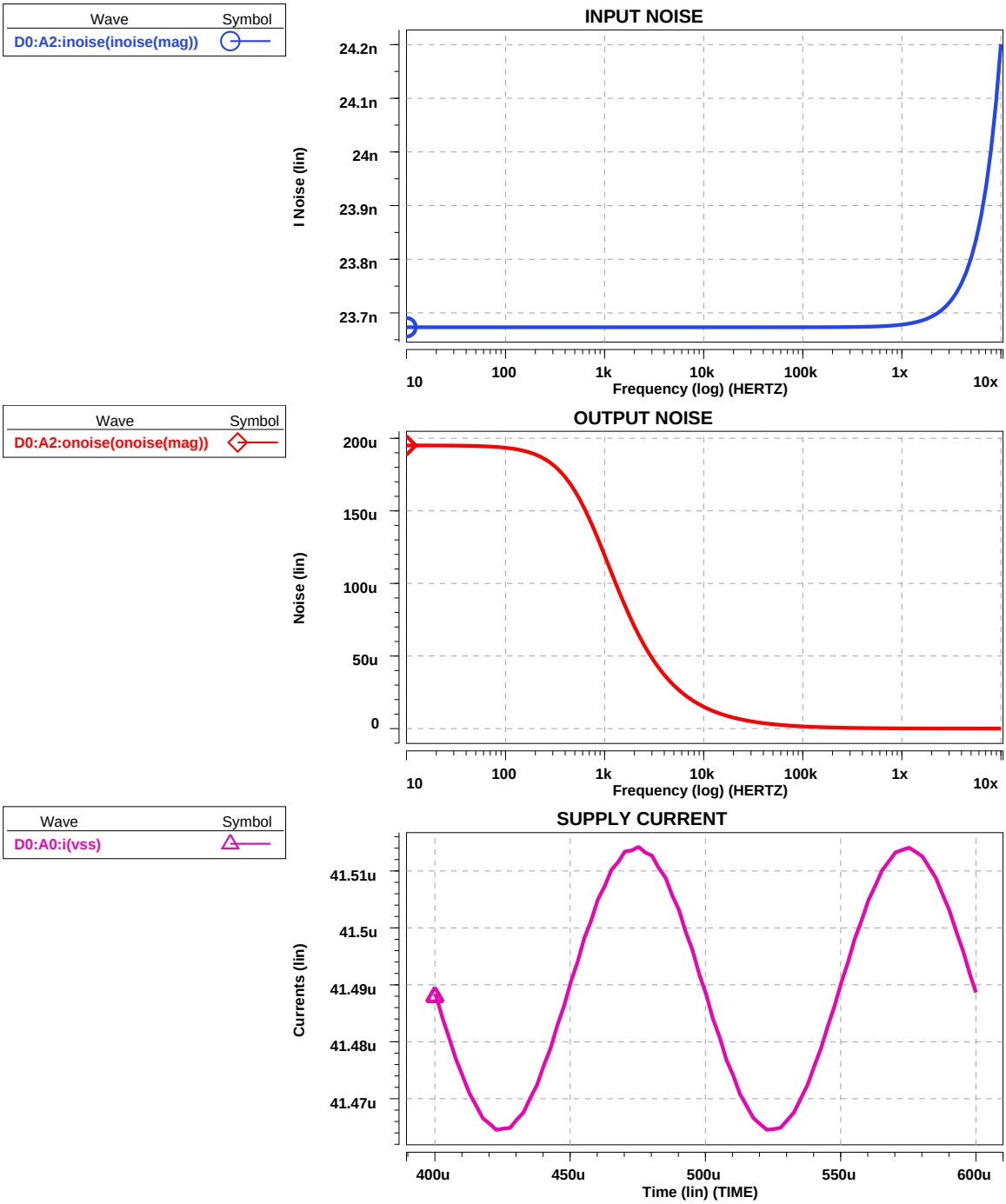

Figure 3: OTA1A_50 Simulations (a) Input Noise (b) Output Noise (c) Supply Current

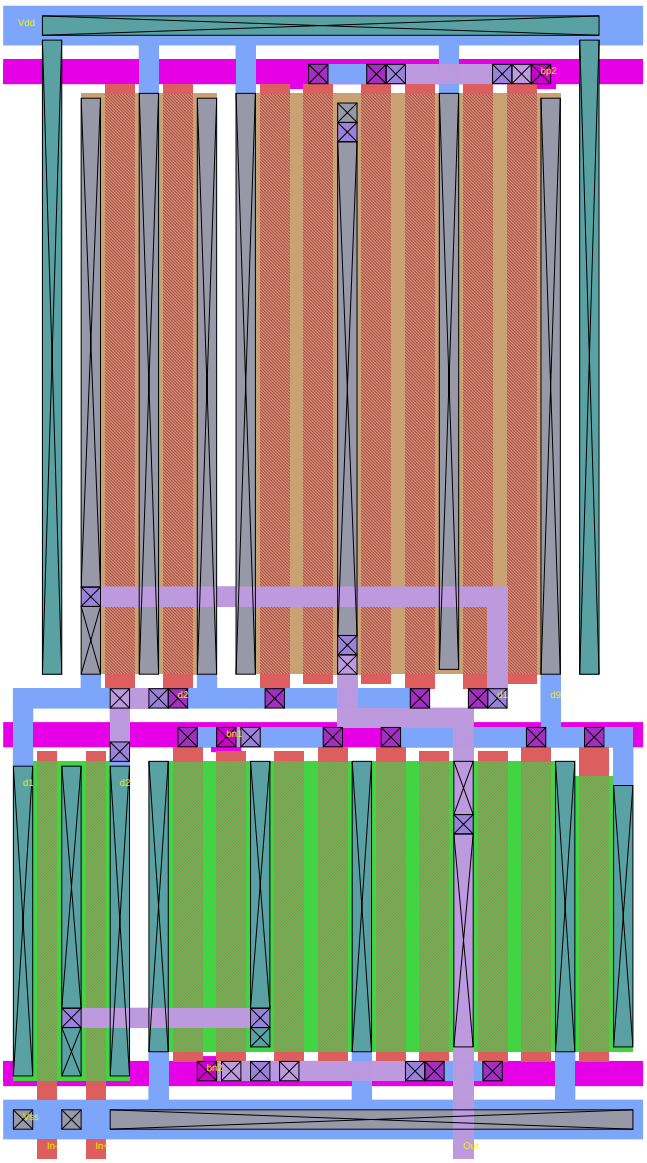

Figure 4: OTA1A_50 Magic Layout 0.5μm Process