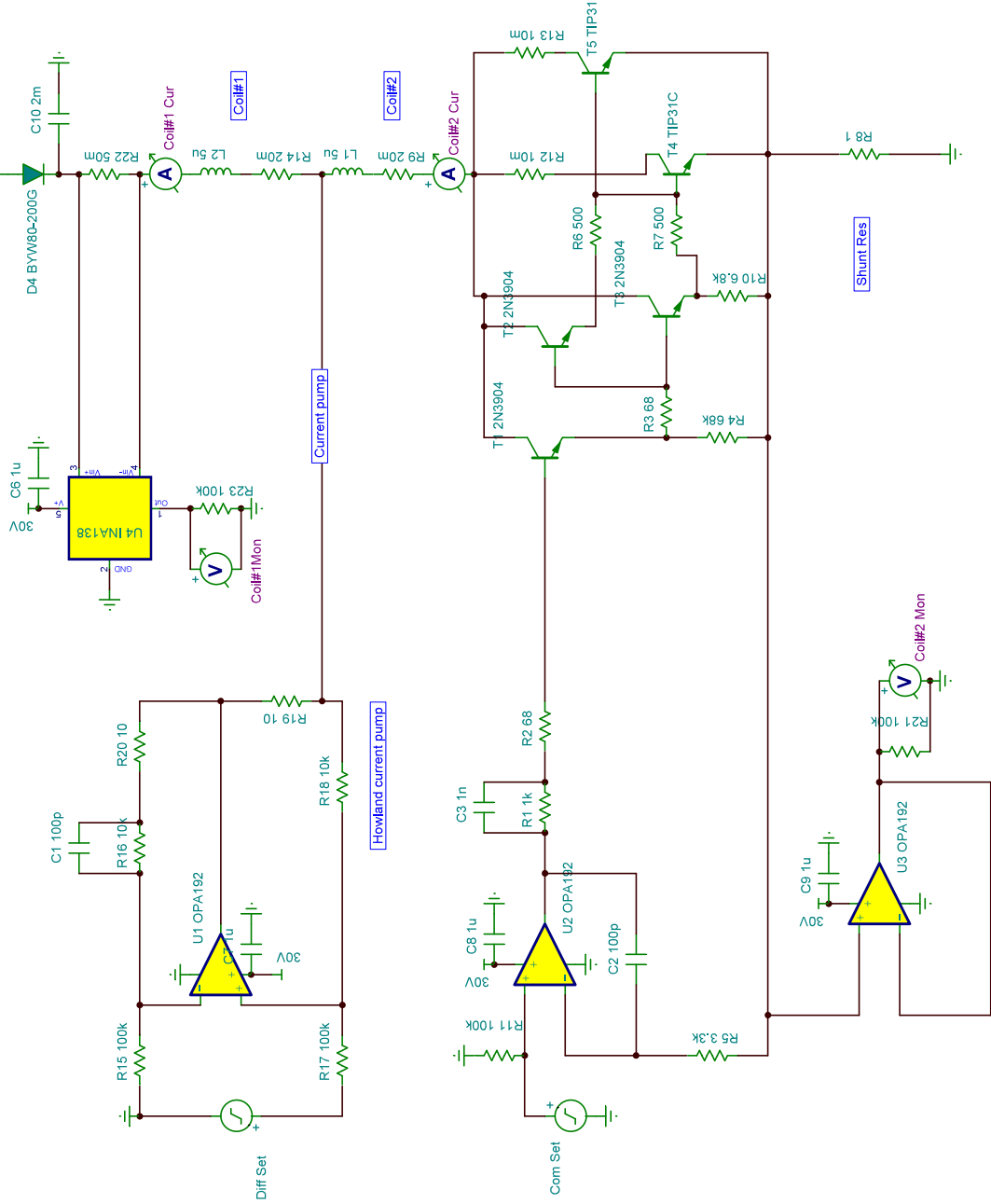


Title	Fast-Coil current driver with current differential generator by Howland current pump			
Size	Document No. CS001	Rev 1.1		
Date	2019.12.05	Sheet	1	of 1



20W MAX

30V power supply
Total Power 150W MAX

100W MAX

25W MAX

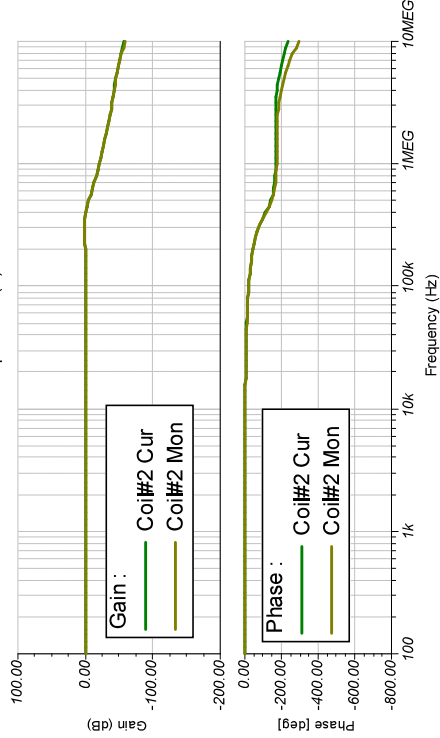
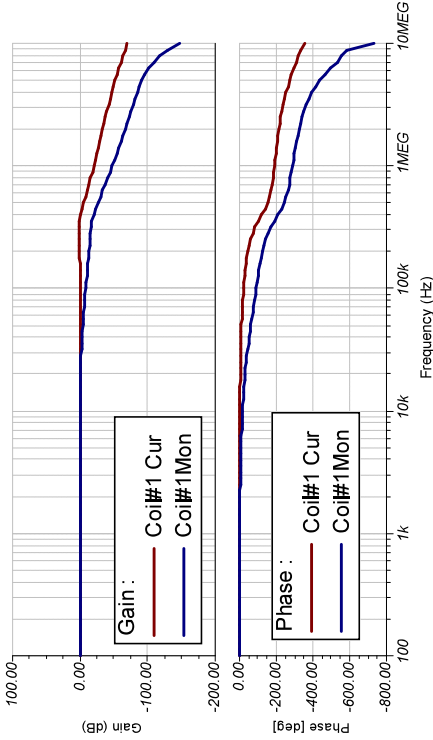
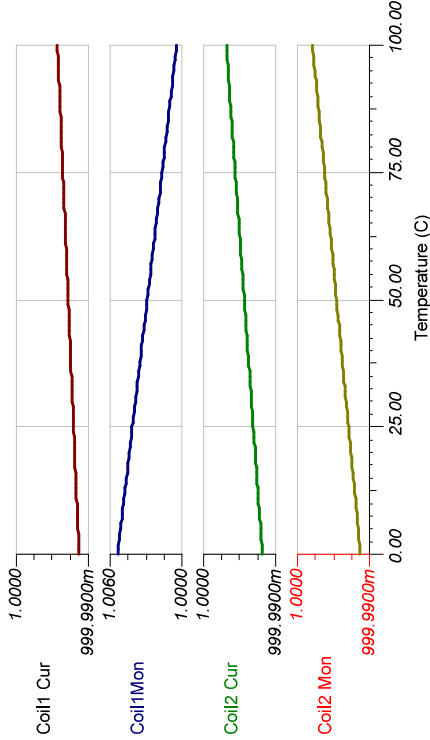
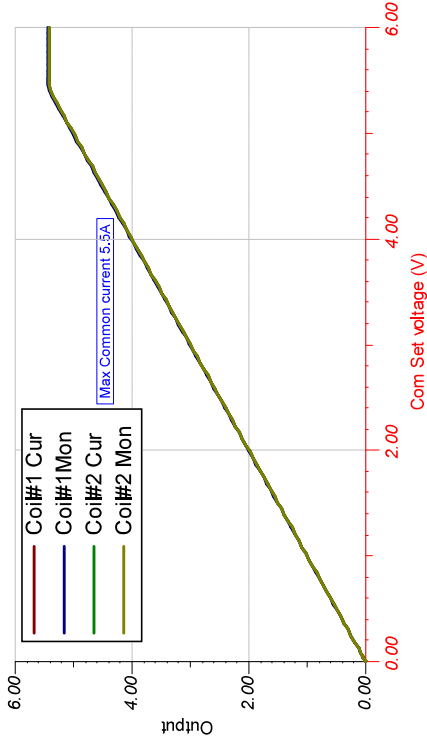
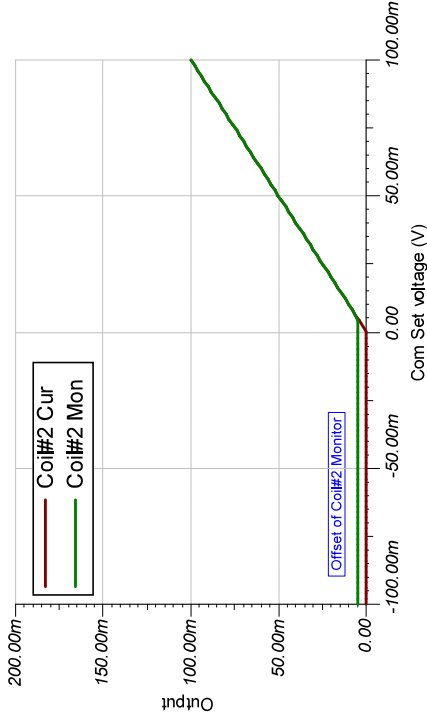
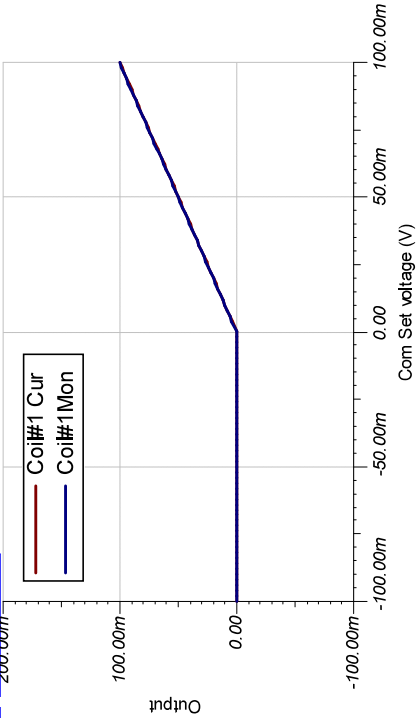
Simulated with TINA-TI Version 9.3.200.277 SF-TI

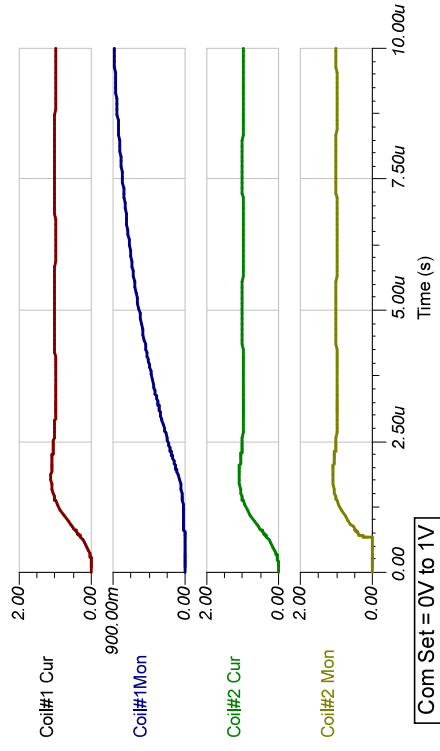
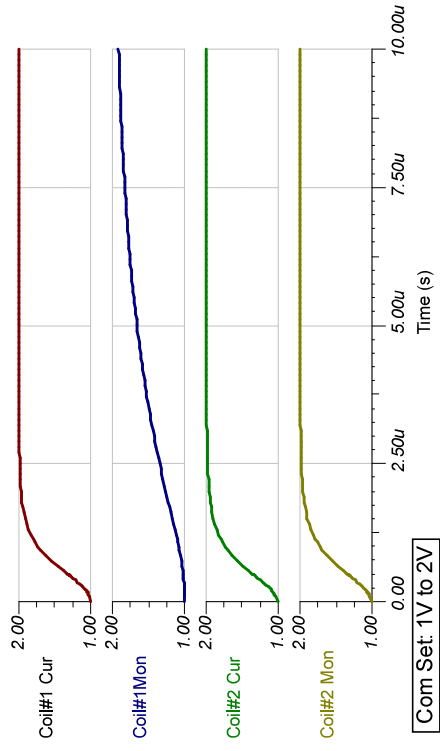
- Fast Coil Driver - Rev. 1.0
- Created by Zhichao Guo, Nov. 25th, 2019
- E-mail: guozc12@gmail.com
- Designed by Lintao Li
- Copyright 2019 by Dajun Wand's Cold Atom group @CUHK

MACRO-MODEL SIMULATED PARAMETERS:

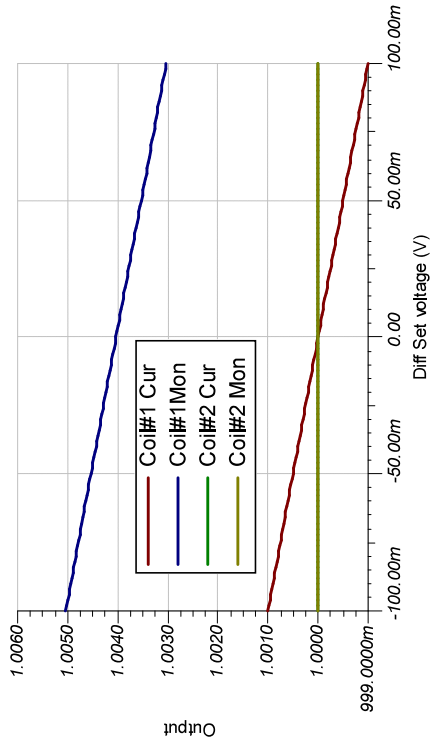
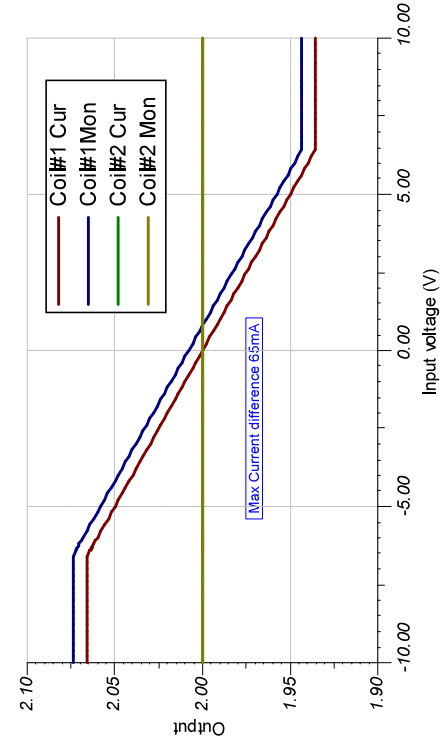
- TEST W/O DIFFERENTIAL PUMP (Diff set = 0V)
 - DC transfer characteristic (com set around 0V)
 - DC transfer characteristic (com set from 0V to 6V)
 - Temperature analysis
 - AC transfer characteristic
 - Transient (com set from 0V to 1V)
 - Transient (com set from 1V to 2V)
- TEST of DIFFERENTIAL PUMP (Com set = 1V)
 - DC transfer characteristic (diff set around 0V)
 - DC transfer characteristic (diff set from -10V to 10V)
 - AC transfer characteristic
 - Transient (dif set from 0V to 1V)

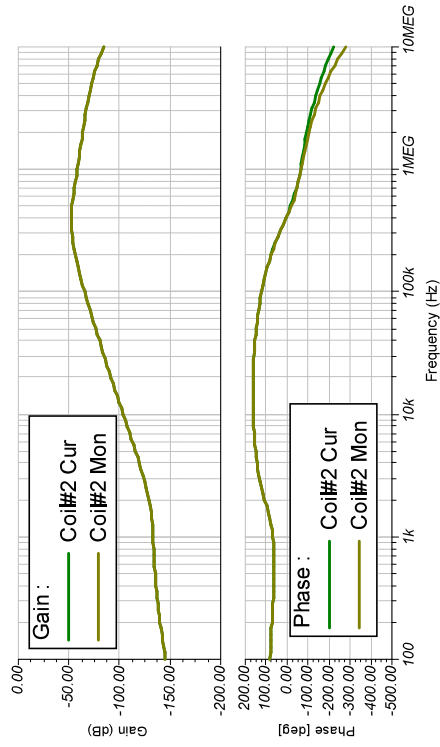
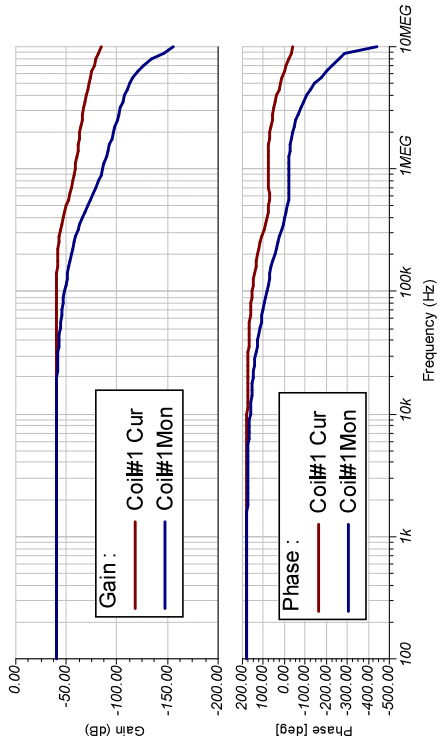
Diff Set = 0V





Com Set = 1V





Differential Pump only affect coil#1 current w/o changing Coil#2 current

