



MAX77501

EE-Sim OASIS Schematic Documentation

MAX77501: Design Requirements

EE-Sim OASIS Schematic Documentation		Comments:
Part Number:	MAX77501	
Schematic Name:	PZ01 - AC_Bode Plot	
Mode:	PWM	
Default Simulation:	POP/ Bode Plot	
Vin(Min):	2.8V	
Vin(Max):	5.5V	
Vout:	70V	
GUI/ F11 Window		
FULL_SCALE	1	
Peak Current Limit	4	

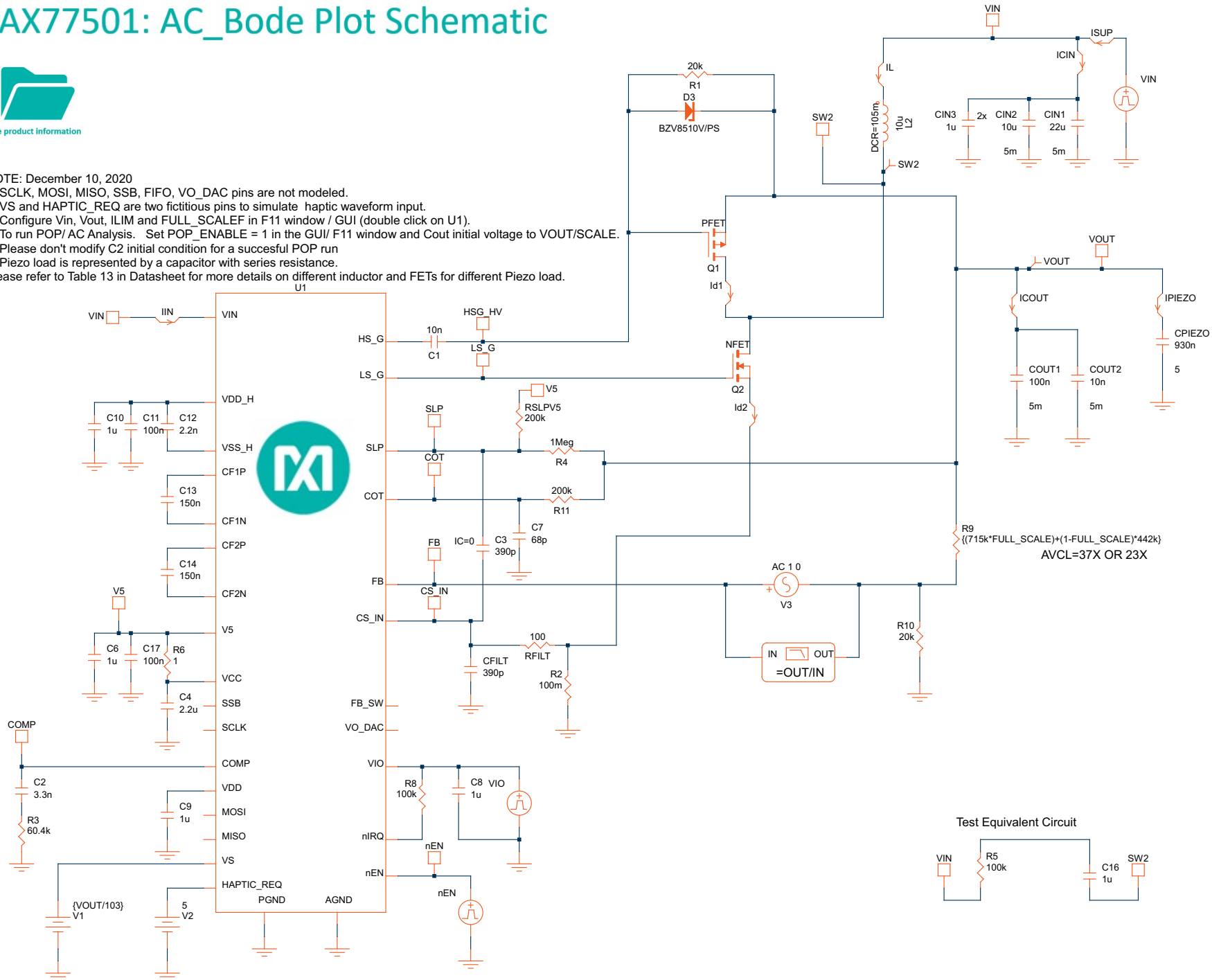
MAX77501: AC_Bode Plot Schematic



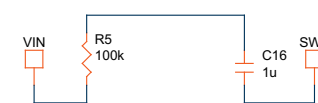
See product information

NOTE: December 10, 2020

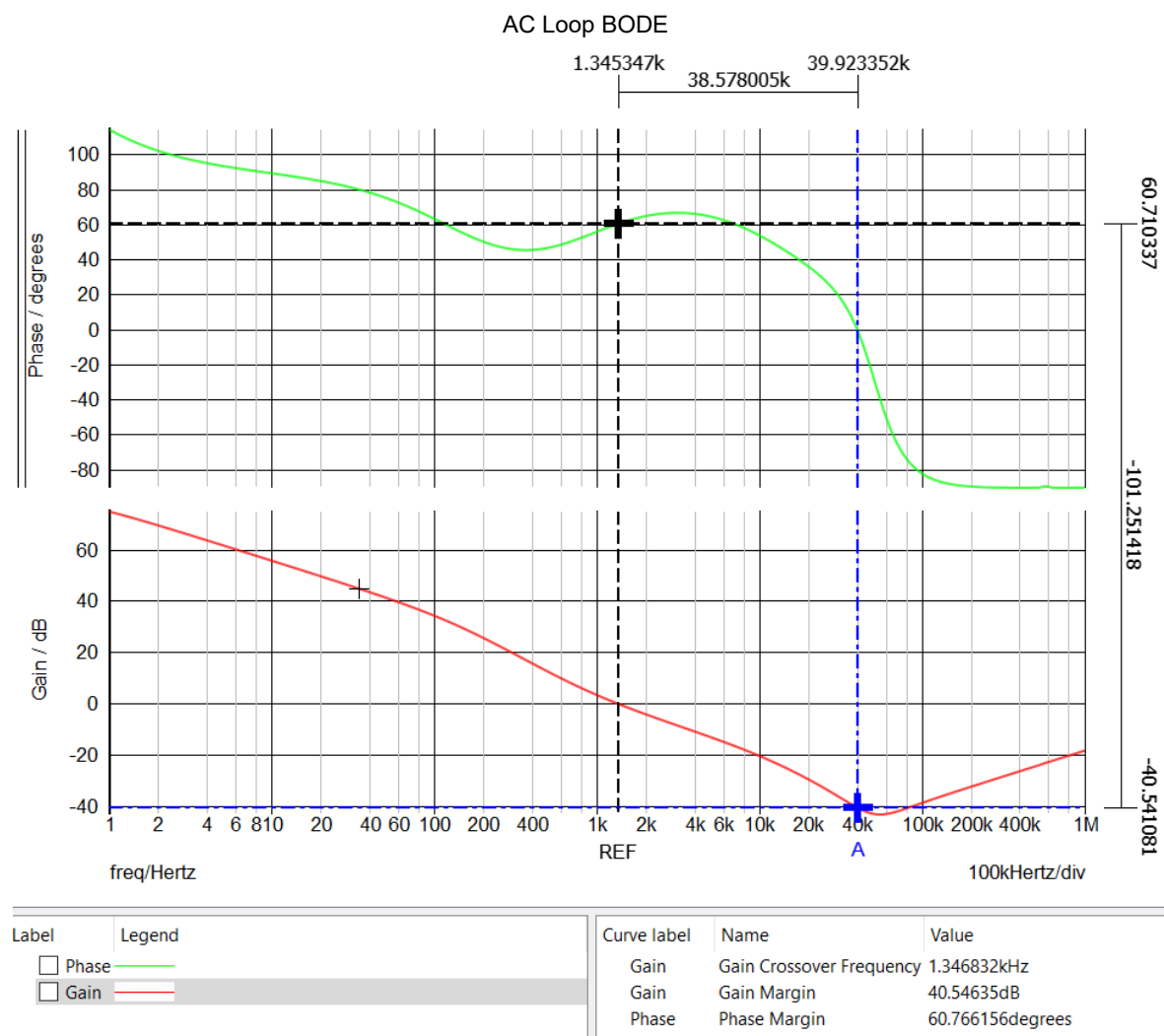
- 1) SCLK, MOSI, MISO, SSB, FIFO, VO_DAC pins are not modeled.
 - 2) VS and HAPTIC_REQ are two fictitious pins to simulate haptic waveform input.
 - 3) Configure Vin, Vout, ILIM and FULL_SCALEF in F11 window / GUI (double click on U1).
 - 4) To run POP/AC Analysis. Set POP_ENABLE = 1 in the GUI/ F11 window and Cout initial voltage to VOUT/SCALE.
 - 5) Please don't modify C2 initial condition for a succesful POP run
 - 6) Piezo load is represented by a capacitor with series resistance.
- Please refer to Table 13 in Datasheet for more details on different inductor and FETs for different Piezo load.



Test Equivalent Circuit



MAX77501: Bode Plot



MAX77501: Piezo Sine Waveform Design Requirements

EE-Sim OASIS Schematic Documentation		Comments:
Part Number:	MAX77501	
Schematic Name:	PZ01 - Sine	
Mode:	PWM	
Default Simulation:	Transient	
Vin(Min):	2.8V	
Vin(Max):	5.5V	
Vout:	Varies	
GUI/ F11 Window		
Number of Phases	3 Phase	
Peak Current Limit	4	
nEN_Delay	100uS	
SBY2HR_DELAY	2mS	
HR_LENGTH	10.816mS	

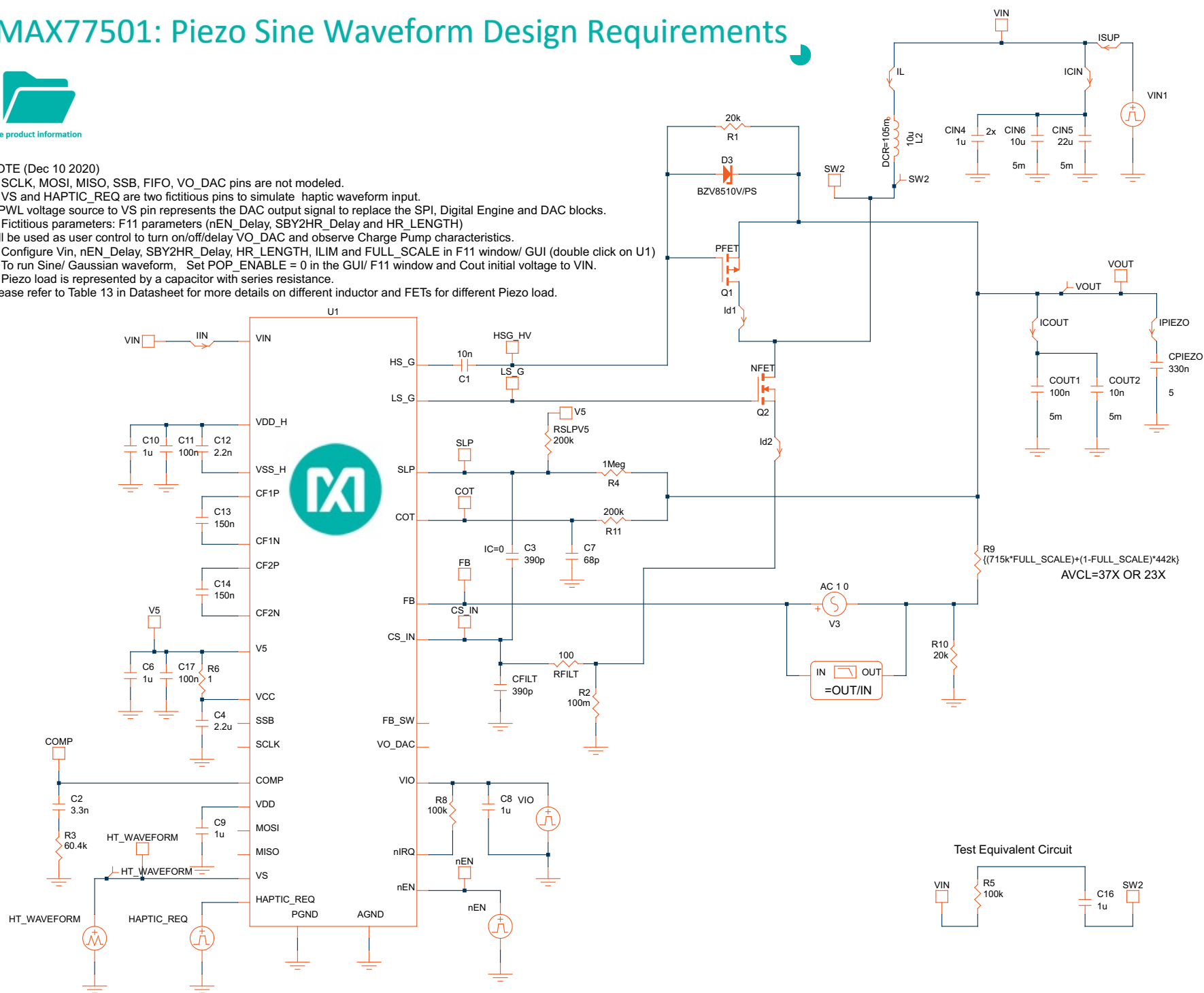
MAX77501: Piezo Sine Waveform Design Requirements



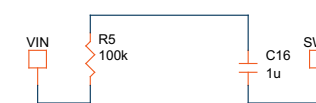
See product information

NOTE (Dec 10 2020)

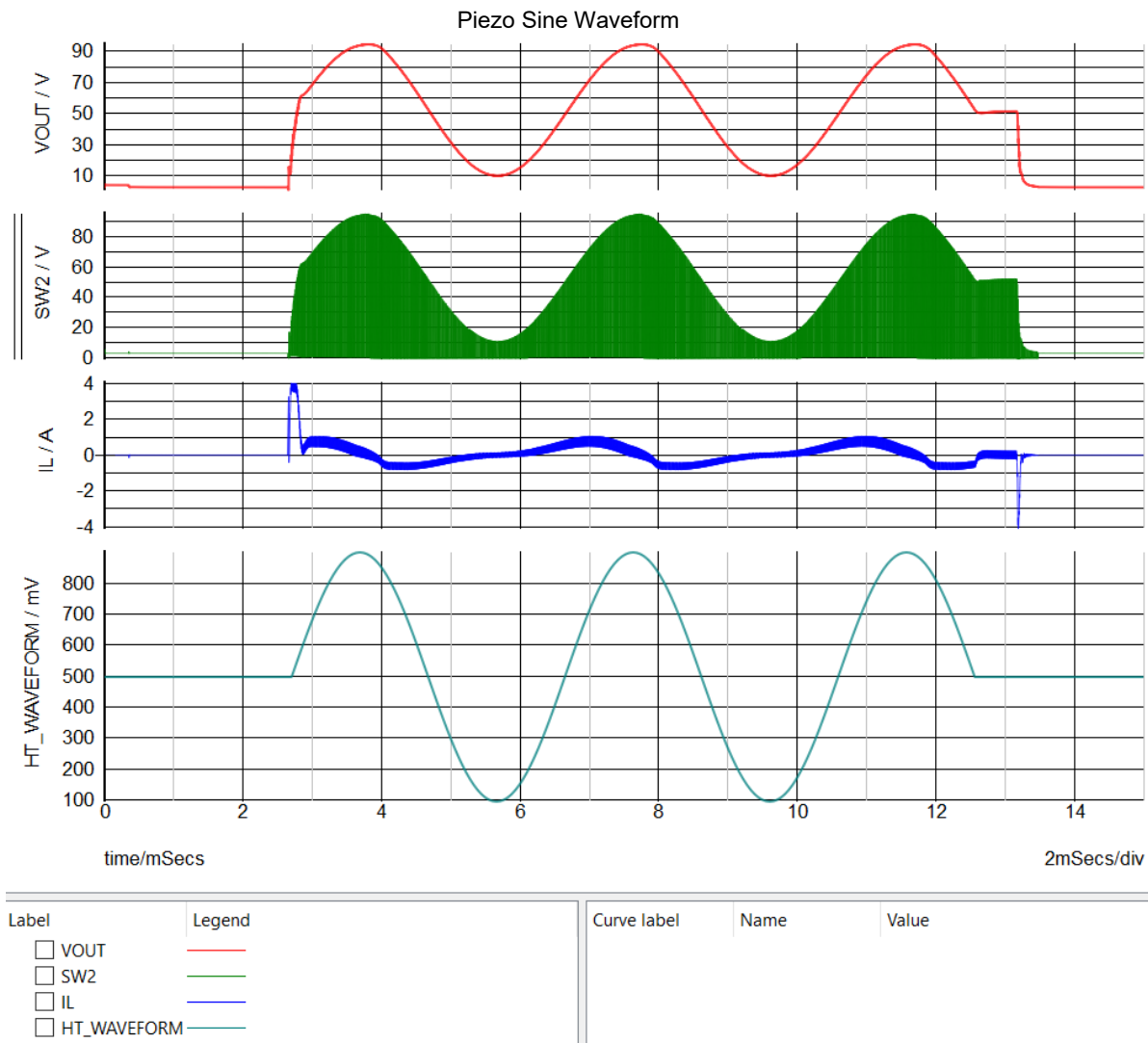
- 1) SCLK, MOSI, MISO, SSB, FIFO, VO_DAC pins are not modeled.
 - 2) VS and HAPTIC_REQ are two fictitious pins to simulate haptic waveform input.
 - 3) Fictitious parameters: F11 parameters (nEN_Delay, SBY2HR_Delay and HR_LENGTH) will be used as user control to turn on/off/delay VO_DAC and observe Charge Pump characteristics.
 - 4) Configure Vin, nEN_Delay, SBY2HR_Delay, HR_LENGTH, ILIM and FULL_SCALE in F11 window/ GUI (double click on U1)
 - 5) To run Sine/ Gaussian waveform, Set POP_ENABLE = 0 in the GUI/ F11 window and Cout initial voltage to VIN.
 - 6) Piezo load is represented by a capacitor with series resistance.
- Please refer to Table 13 in Datasheet for more details on different inductor and FETs for different Piezo load.



Test Equivalent Circuit



MAX77501: Piezo Sine Waveform



MAX77501: Piezo Gaussian Waveform Design Requirements

EE-Sim OASIS Schematic Documentation		Comments:
Part Number:	MAX77501	
Schematic Name:	PZ01 - Gaussian	
Mode:	PWM	
Default Simulation:	Transient	
Vin(Min):	2.8V	
Vin(Max):	5.5V	
Vout:	Varies	
GUI/ F11 Window		
FULL_SCALE	1	
Peak_Current_Limit	4	
nEN_Delay	100uS	
SBY2HR_DELAY	2mS	
HR_LENGTH	5.256mS	

MAX77501: Piezo Gaussian Waveform Schematic



See product information

NOTE: Dec 10 2020

1) SCLK, MOSI, MISO, SSB, FIFO, VO_DAC pins are not modeled.

2) VS and HAPTIC_REQ are two fictitious pins to simulate haptic waveform input.

A PWL voltage source to VS pin represents the DAC output signal to replace the SPI, Digital Engine and DAC blocks.

3) Fictitious parameters: F11 parameters (nEN_Delay, SBY2HR_Delay and HR_LENGTH)

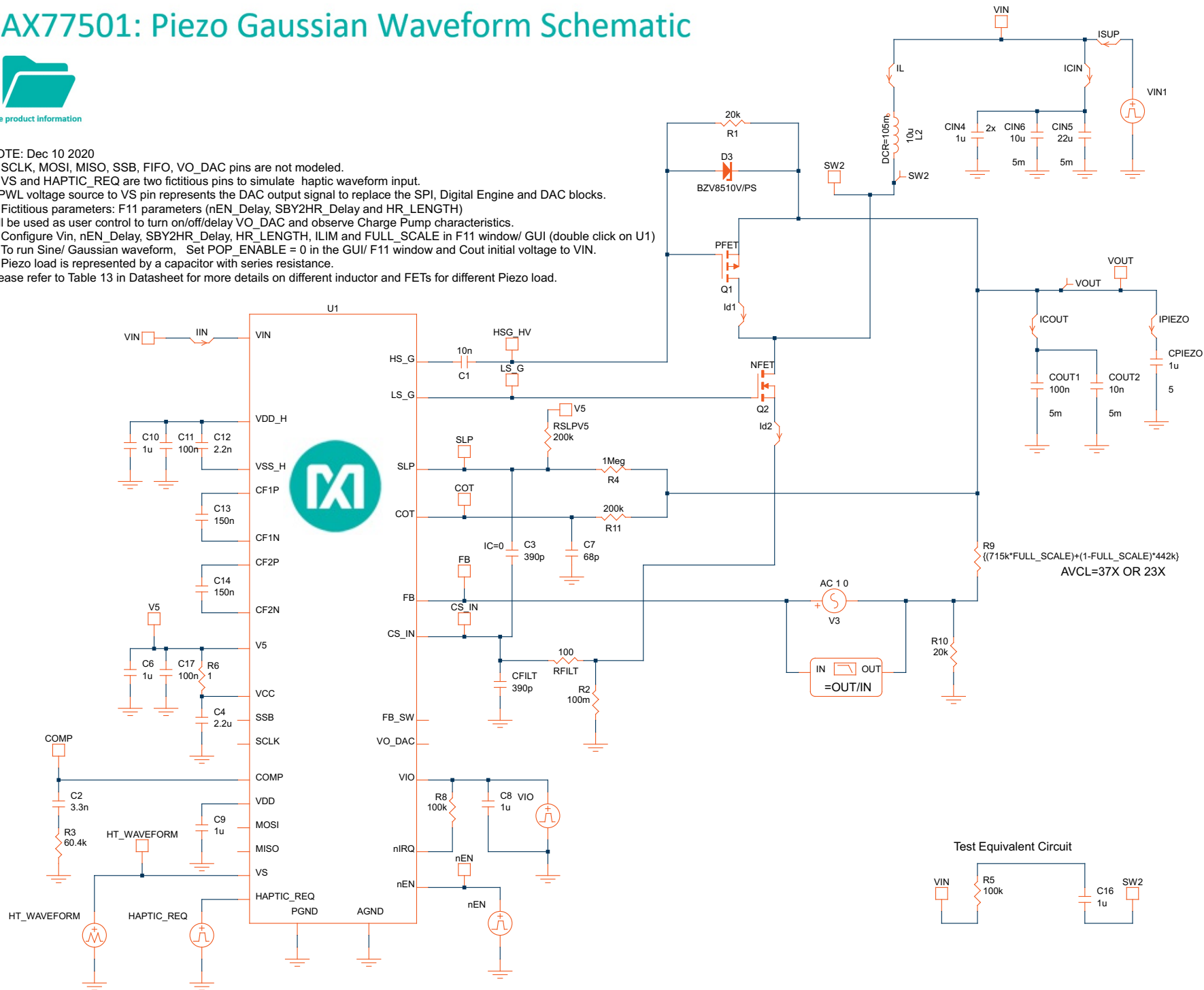
will be used as user control to turn on/off/delay VO_DAC and observe Charge Pump characteristics.

4) Configure Vin, nEN_Delay, SBY2HR_Delay, HR_LENGTH, ILIM and FULL_SCALE in F11 window/ GUI (double click on U1)

5) To run Sine/ Gaussian waveform, Set POP_ENABLE = 0 in the GUI/ F11 window and Cout initial voltage to VIN.

6) Piezo load is represented by a capacitor with series resistance.

Please refer to Table 13 in Datasheet for more details on different inductor and FETs for different Piezo load.



MAX77501: Piezo Gaussian Waveform

