PSpice Model
2ch Half-Bridge Gate Driver
ROHM
BD16950EFV-CE2

Model Information

Model	A macro model
Call Name	MDC_BD16950EFV-CE2_PS
Pin Assign	1:VS 2:CP 3:DRAIN 4:GH1 5:SH1 6:GH2 7:SH2 8:N.C. 9:GL1 10:GL2 11:SL 12:PGND 13:PWM2 14:RSTB 15:CSB 16:SCLK 17:SO 18:SI 19:VCC 20:PWM1 21:SGND 22:CPM 23:N.C. 24:CPP 25:SF_POR 26:EN 27:CPEN 28:DRVEN 29:CH2_MODE 30:CH1_MODE 31:CUR_SOURCE 32:CUR_SINK 33:UVLO 34:POR 35:ST_CLR
File List	Model Library MDC_BD16950EFV-CE2_PS01.lib
	Model Report MDC_BD16950EFV-CE2_PS.pdf(this file)

Verified Simulator Version   PSpice 17.2

Note   Pin25-35 added for only this model

References

The information which was used for modeling is as follow:

[Data Sheet]
- ●Date/Version   01.MAR.2017 Rev.001
- ●Product name   BD16950EFV-CE2
- ●Company name   ROHM

[Characteristics listed]
- ●Characteristics   Channel Control Mode1
  Channel Control Mode2
  Channel Control Mode3
  Channel Control Mode4
  Channel Control Mode5
  Channel Control Mode6
  Channel Control Mode7
  Channel Control Mode8
  Channel Control Mode9
  Constant Current Control 0mA
  Constant Current Control 1mA
  Constant Current Control 10mA
 Constant Current Control 31mA

Simulation Condition

This table shows the range of evaluated simulation range that was not occurs any convergence problems in this area.

Item	Condition	Unit
Temperature	25	deg C

2

Model Functions Table

Functions	Implemented
PWM Control	○
Charge Pump	○
VCC Power On Reset(POR)	○
Under Voltage Lock Out(UVLO)	○
Constant Current Control	○
Channel Control Mode	○

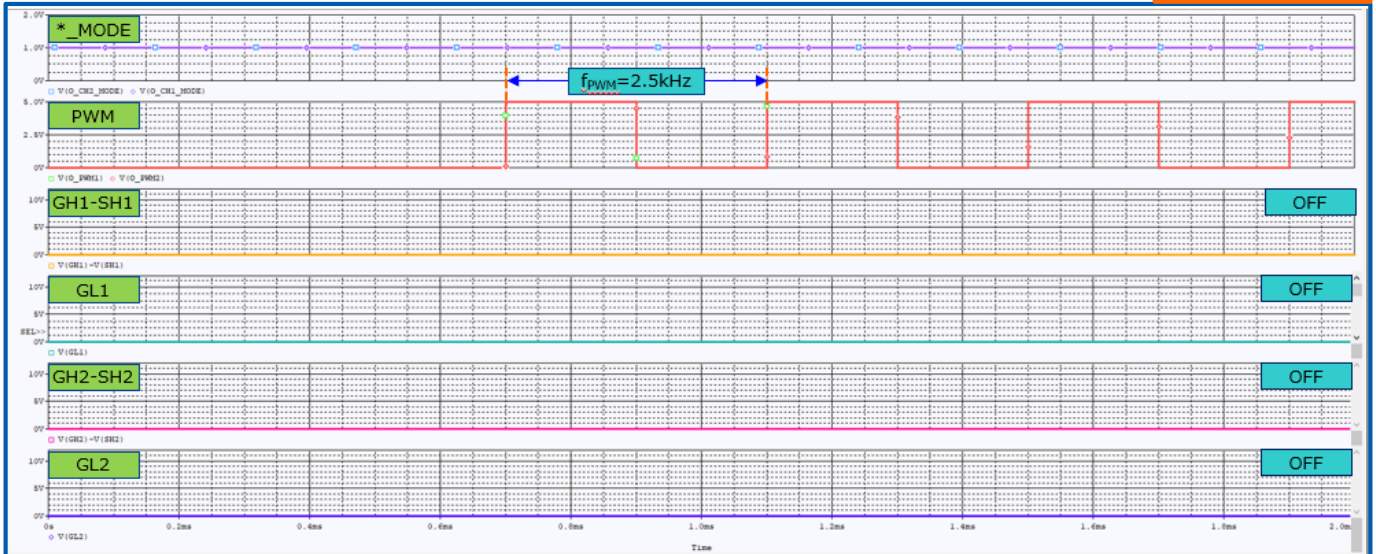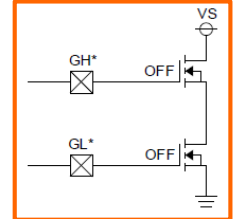## Channel Control Mode Testbench
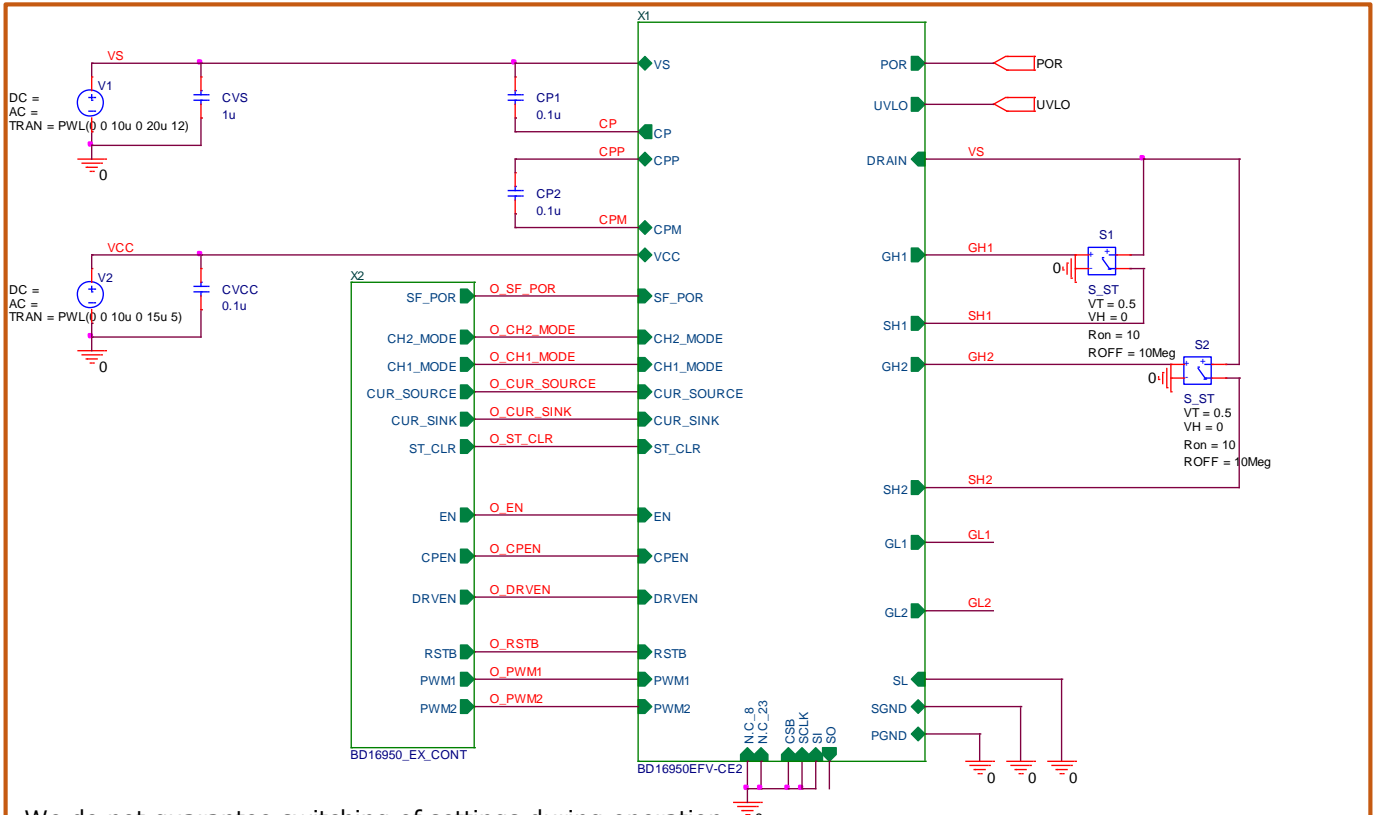
We do not guarantee switching of settings during operation.

When activating DRVEN, please consider Charge up time: 0.2ms and secure at least 0.4ms after CPEN is activated.
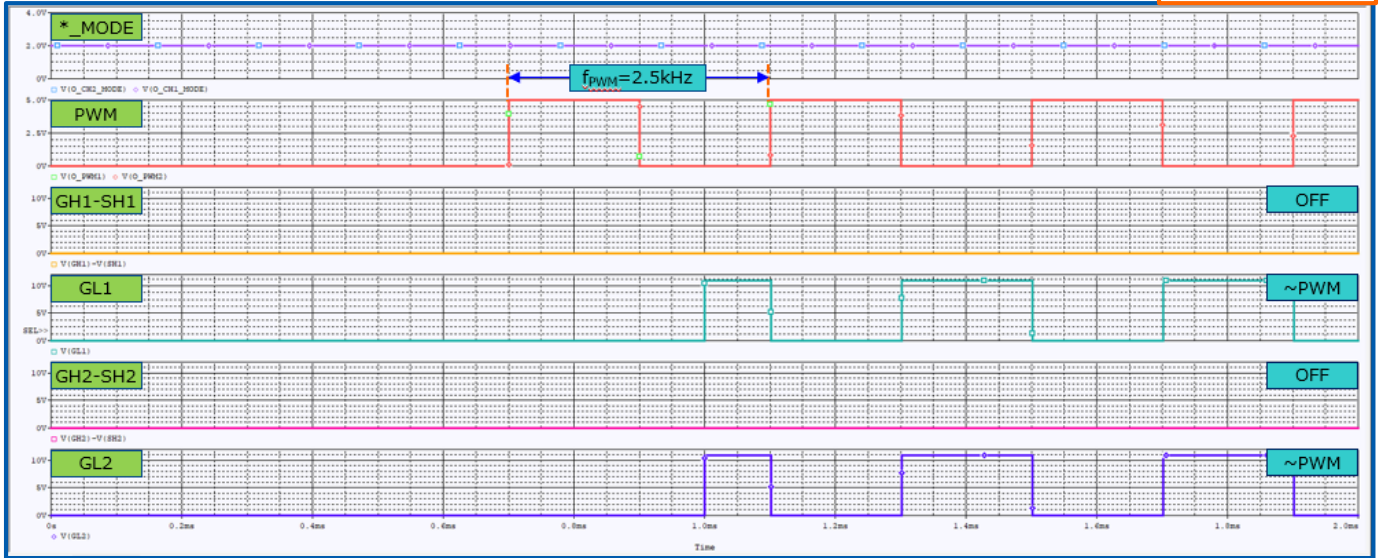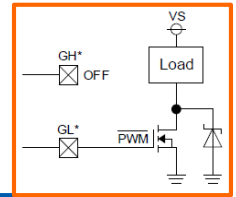
Simulation results are following.
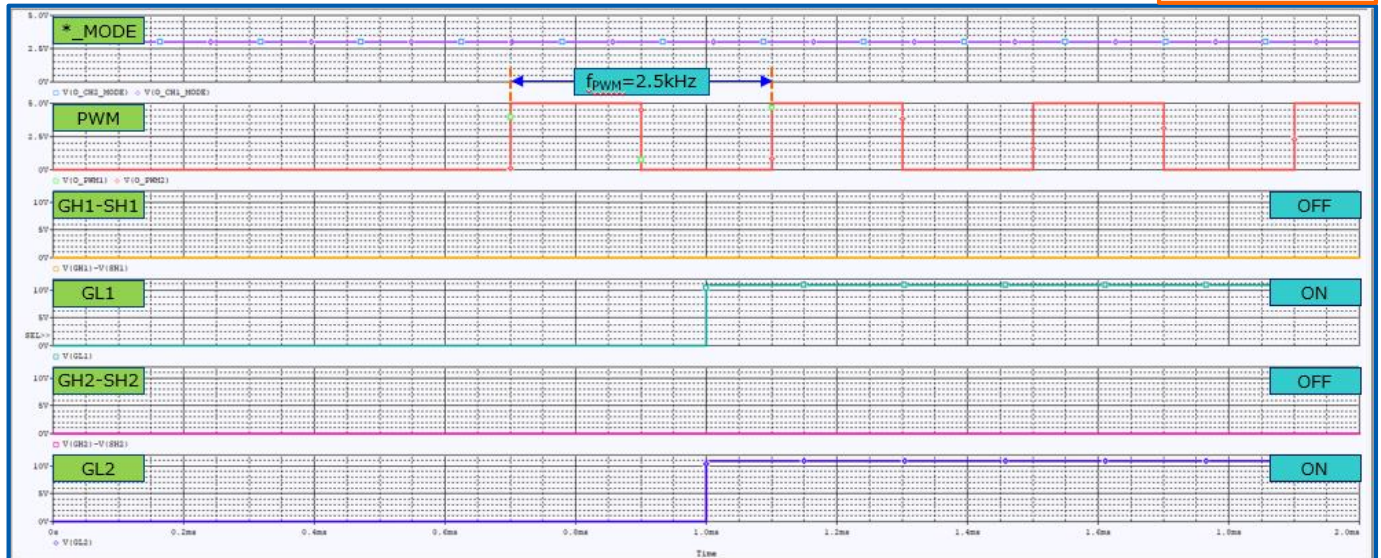Explanatory notes ― : simulated
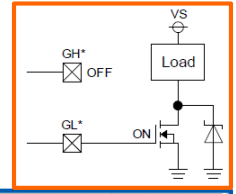
Channel Control Mode1

Simulation results are following.
Explanatory notes　　— : simulated

Channel Control Mode2

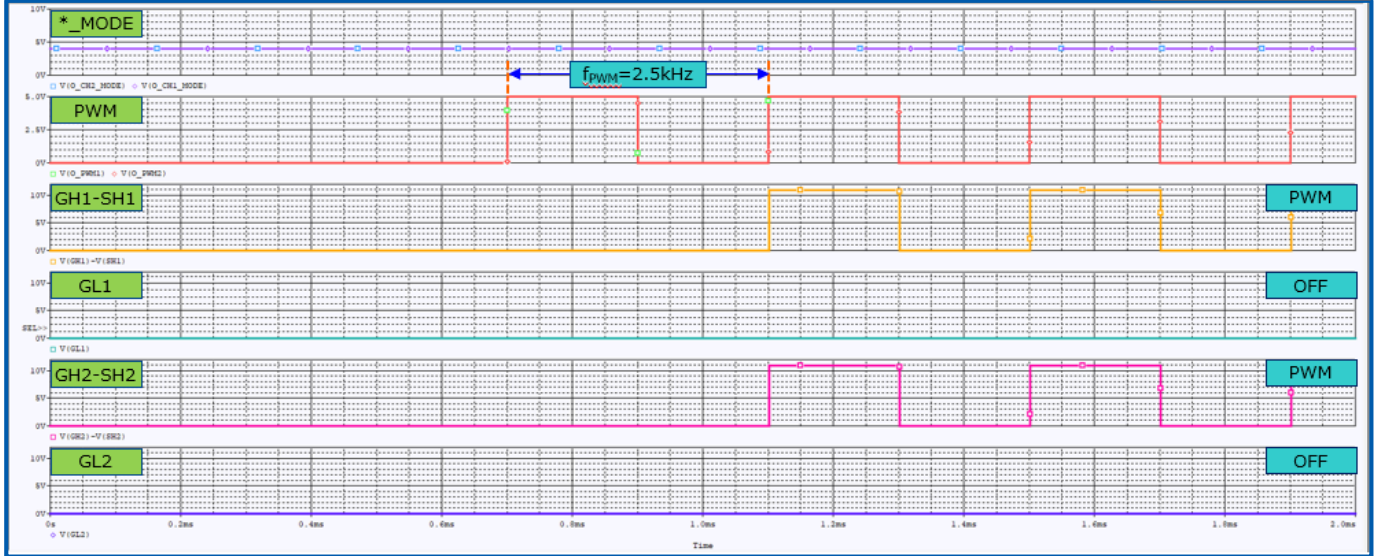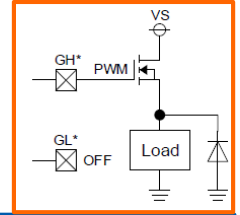Simulation results are following.
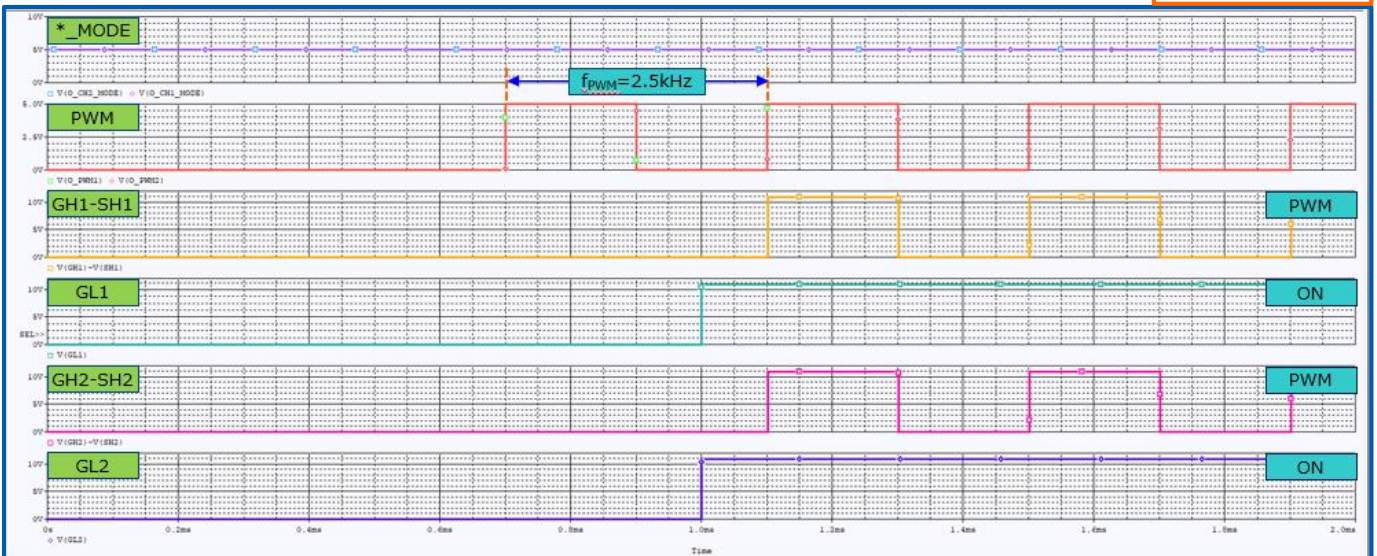Explanatory notes　　— : simulated

Channel Control Mode3

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Simulation results are following.
Explanatory notes　　— : simulated

Channel Control Mode4

Simulation results are following.
Explanatory notes　　— : simulated
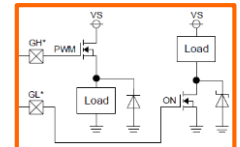
Channel Control Mode5

Simulation results are following.
Explanatory notes　　— : simulated

Channel Control Mode6

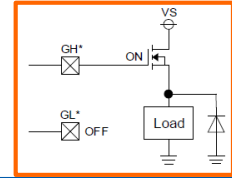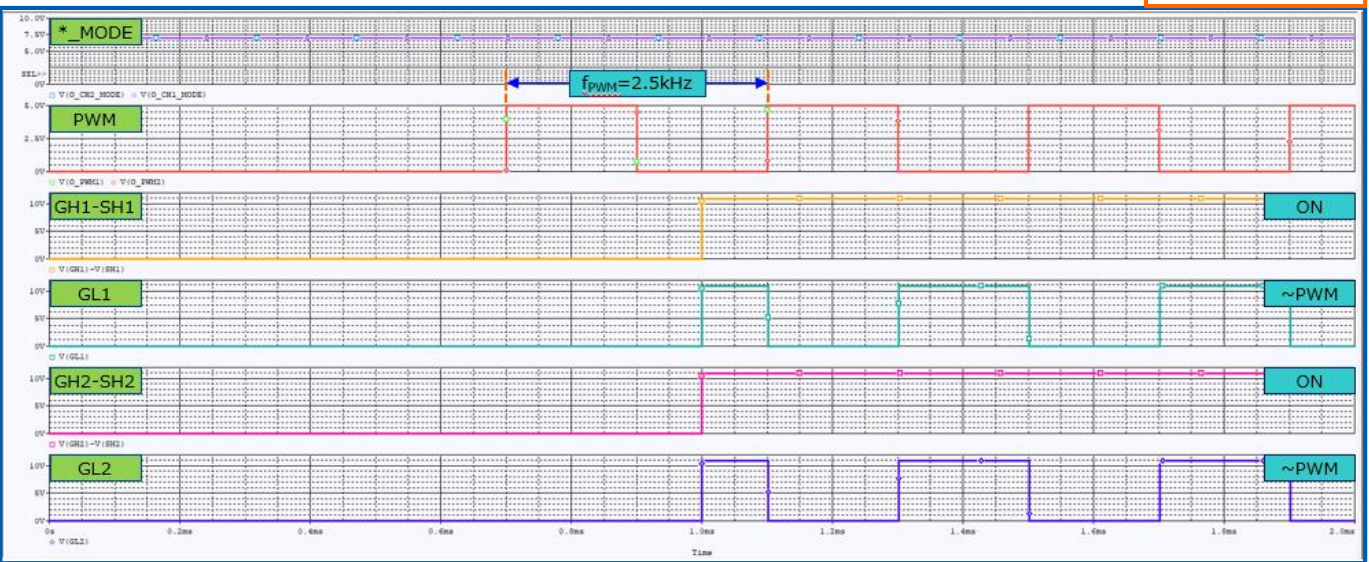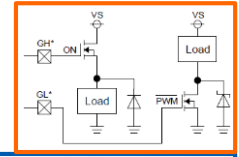Simulation results are following.
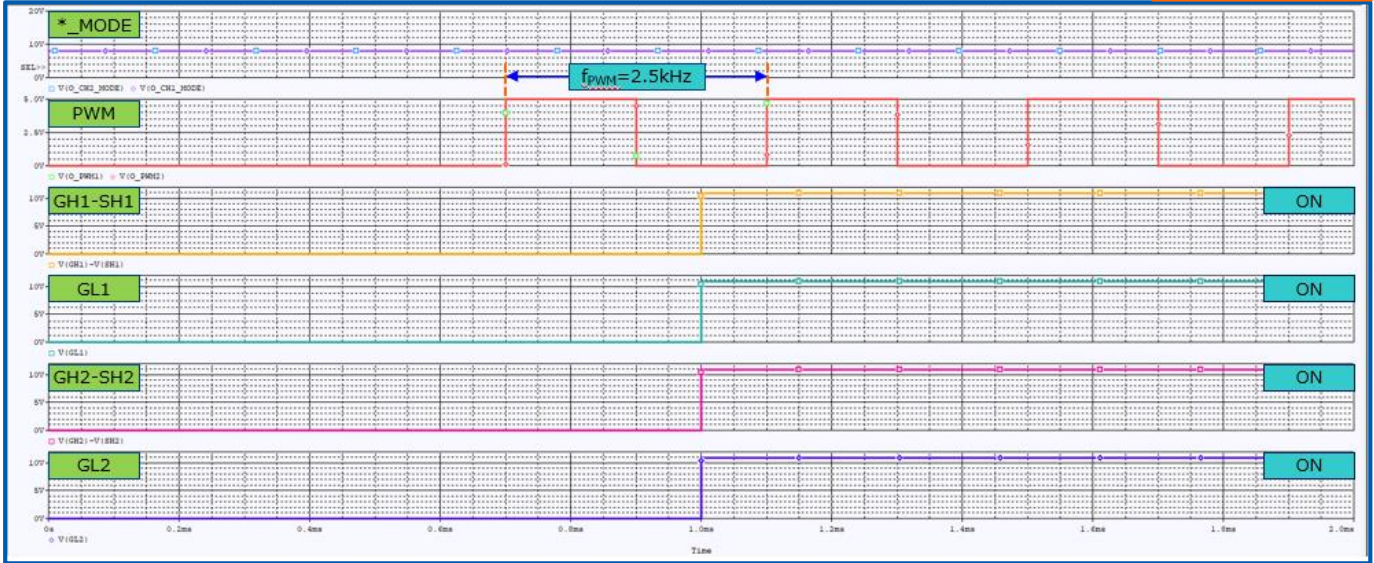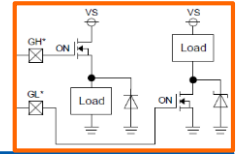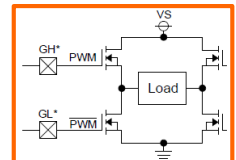Explanatory notes　　— : simulated

Channel Control Mode7

Simulation results are following.
Explanatory notes 　　 — : simulated

Channel Control Mode8

Channel Control Mode9
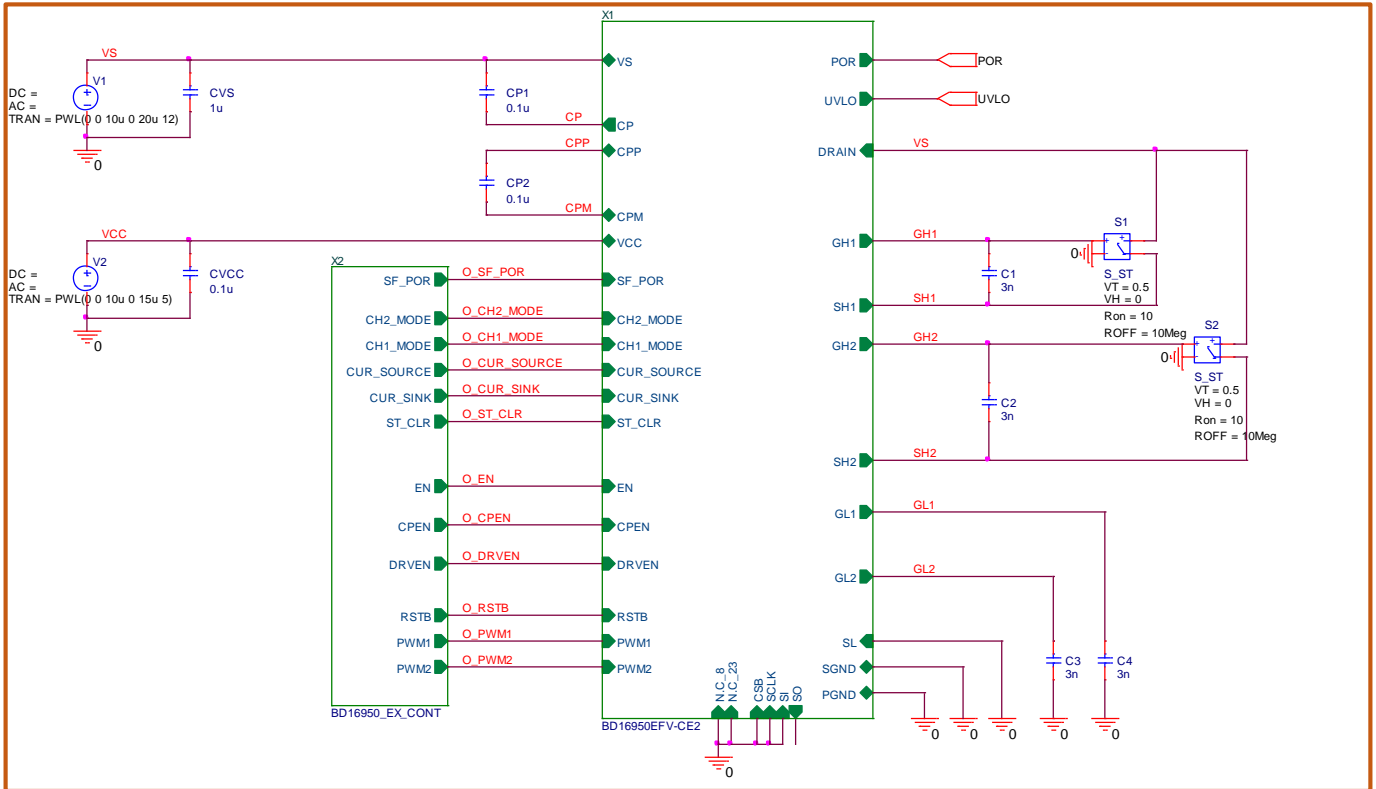
Simulation results are following.
Explanatory notes 　　 — : simulated

Constant Current Control Testbench

We do not guarantee switching of settings during operation.
When activating DRVEN, please consider Charge up time: 0.2ms and secure at least 0.4ms after CPEN is activated.

Simulation results are following.
Explanatory notes　 — : simulated

Constant Current Control 0mA

Simulation results are following.
Explanatory notes   — : simulated

Constant Current Control 1mA

Simulation results are following.
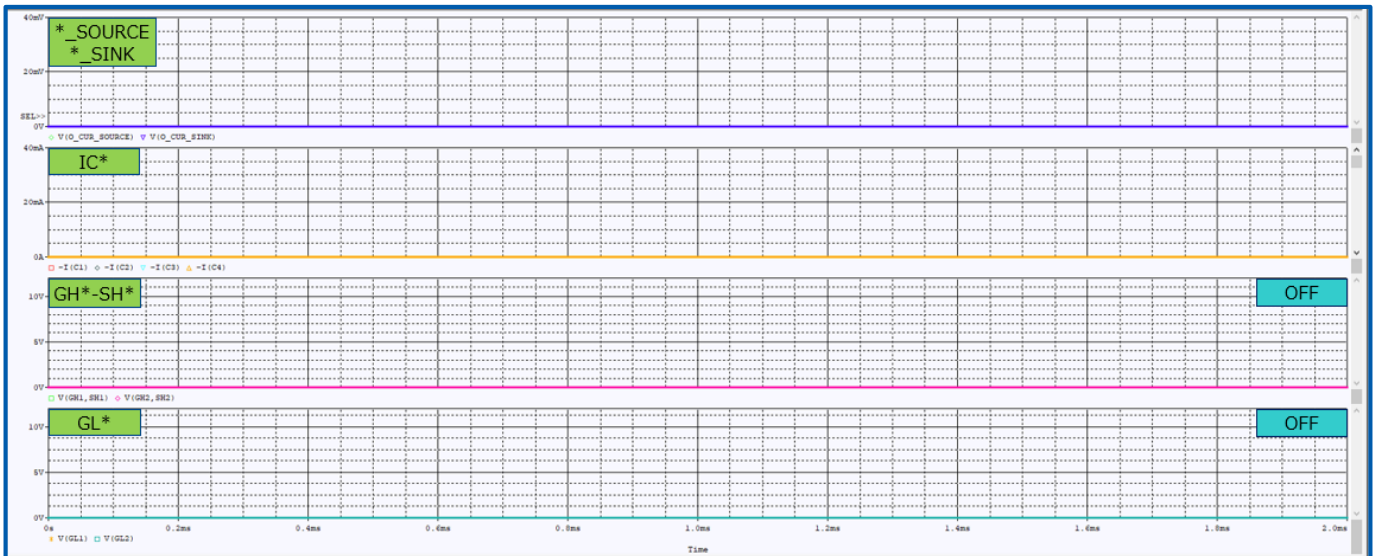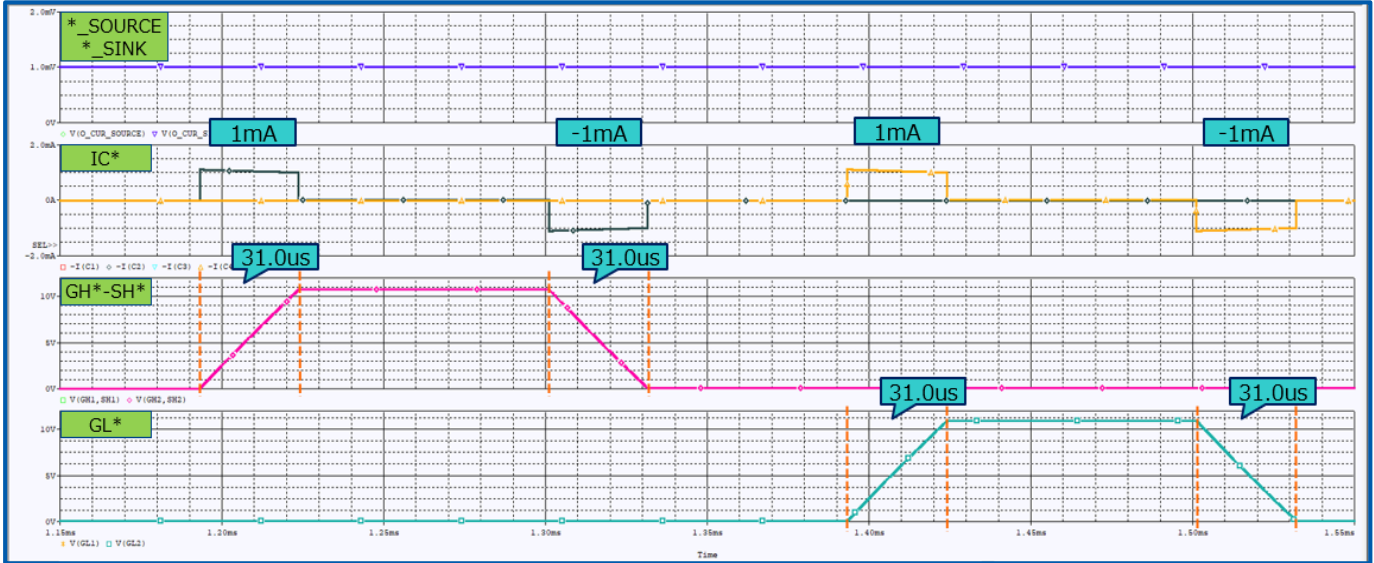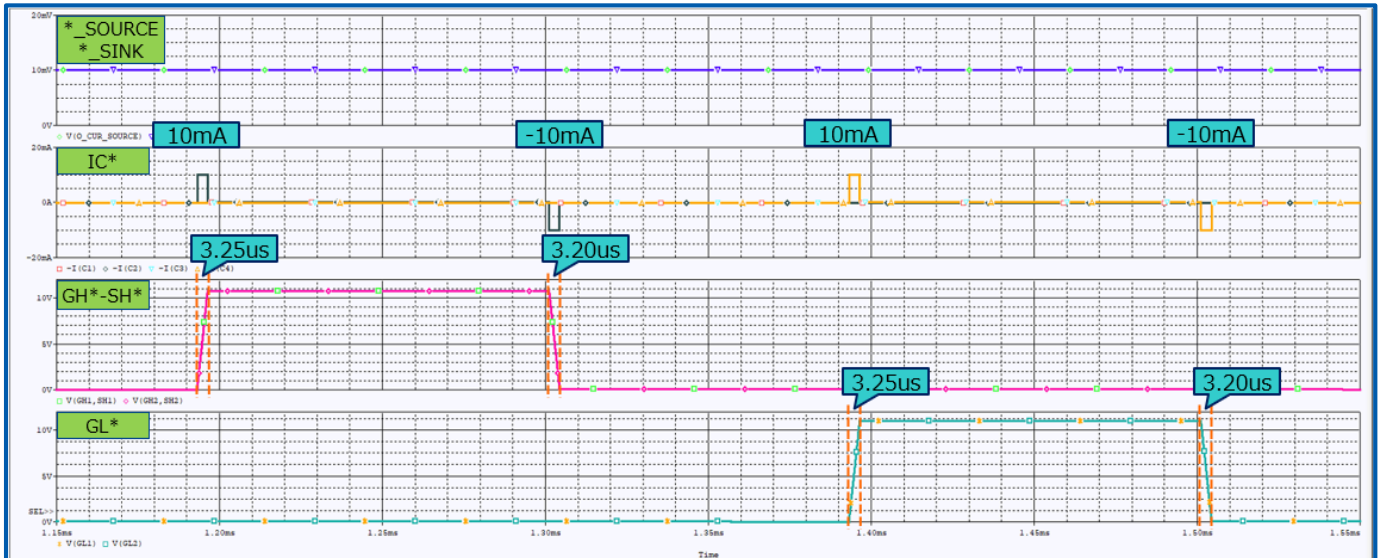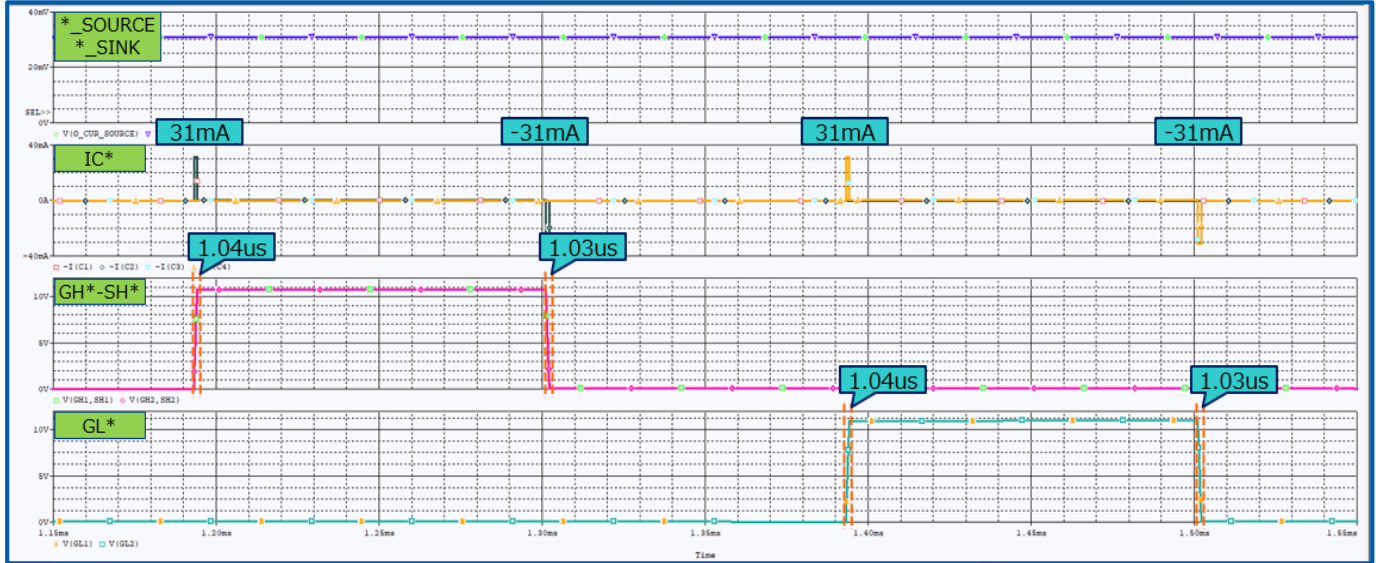Explanatory notes   — : simulated

Constant Current Control 10mA

Simulation results are following.
Explanatory notes ― : simulated

Constant Current Control 31mA

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