# LTspice Model
# MOSFET Drive Switching Regulator IC
# Nisshinbo Micro Devices Inc.
# NJW4140-Z2

## Model Information

**Model** A macro model
**Call Name** MDC_NJW4140-Z2_LT
**Pin Assign** 1:V+ 2:EN 3:IN- 4:FB 5:CT 6:GND 7:SI 8:OUT
**File List** Model Library MDC_NJW4140-Z2_LT01.lib
Model Report MDC_NJW4040-Z2_LT.pdf(this file)

**Verified Simulator Version** LTspice 17.1.8

**Note**

**References**
The information which was used for modeling is as follow:

[Data Sheet]
●Date/Version Ver. 1.1
●Product name NJW4140-Z2
●Company name Nisshinbo Micro Devices Inc.

[Characteristics listed]
●Characteristics Fosc1, Vosc, Fdiv, Fosc_low, Tss, Vb, Av, Gb
Fosc1, Vosc, fdiv, fos Iom+, Iom-, Vt_0, Vt_50, Vipk, Tdelay, Roh, Rol
Ioh, Volim, Vt_on, Vt_off, Von, Voff Rpd, Idd_stb

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

| Item | Condition | | | Unit |
|---|---|---|---|---|
| | Min | Typ | Max | |
| Supply Voltage | 3.0 | | 40.0 | |
| Temperature | | 25.0 | | deg C |

# Switching Regulator

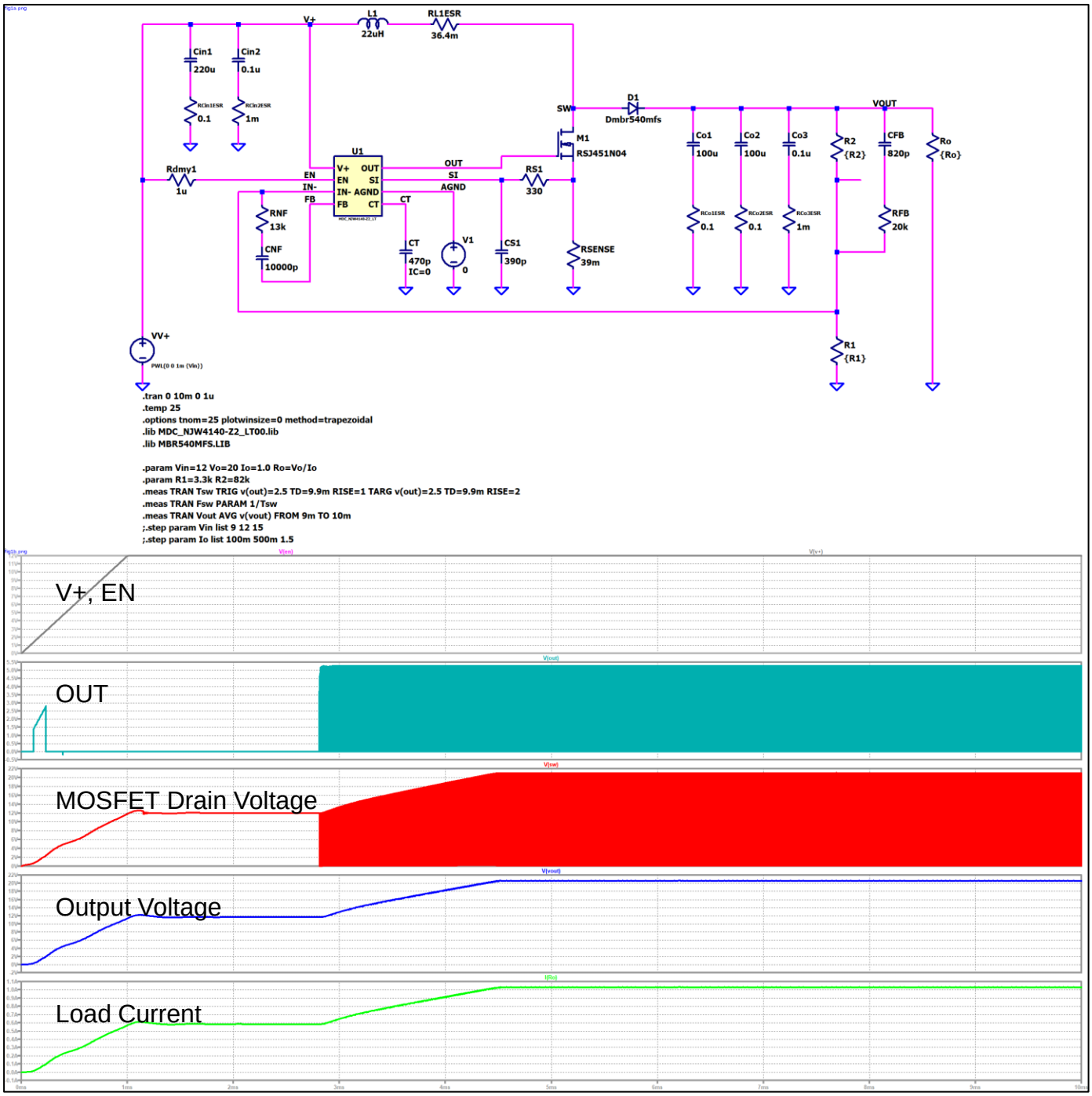
○ : Implemented
× : Not Implemented
— : Not applicable

**Model Functions Table**

| | RANK=1 | |
|---|---|---|
| **Functions** | **RANK** | **Implemented** |
| PWM Control | 1 | ○ |
| Wide Oscillating Frequency | 1 | ○ |
| Standby Function | 1 | ○ |
| Soft Start | 1 | ○ |
| Line Regulation | 1 | ○ |
| Load Regulation | 1 | ○ |
| UVLO | 1 | ○ |
| Over Current Protection | 1 | ○ |

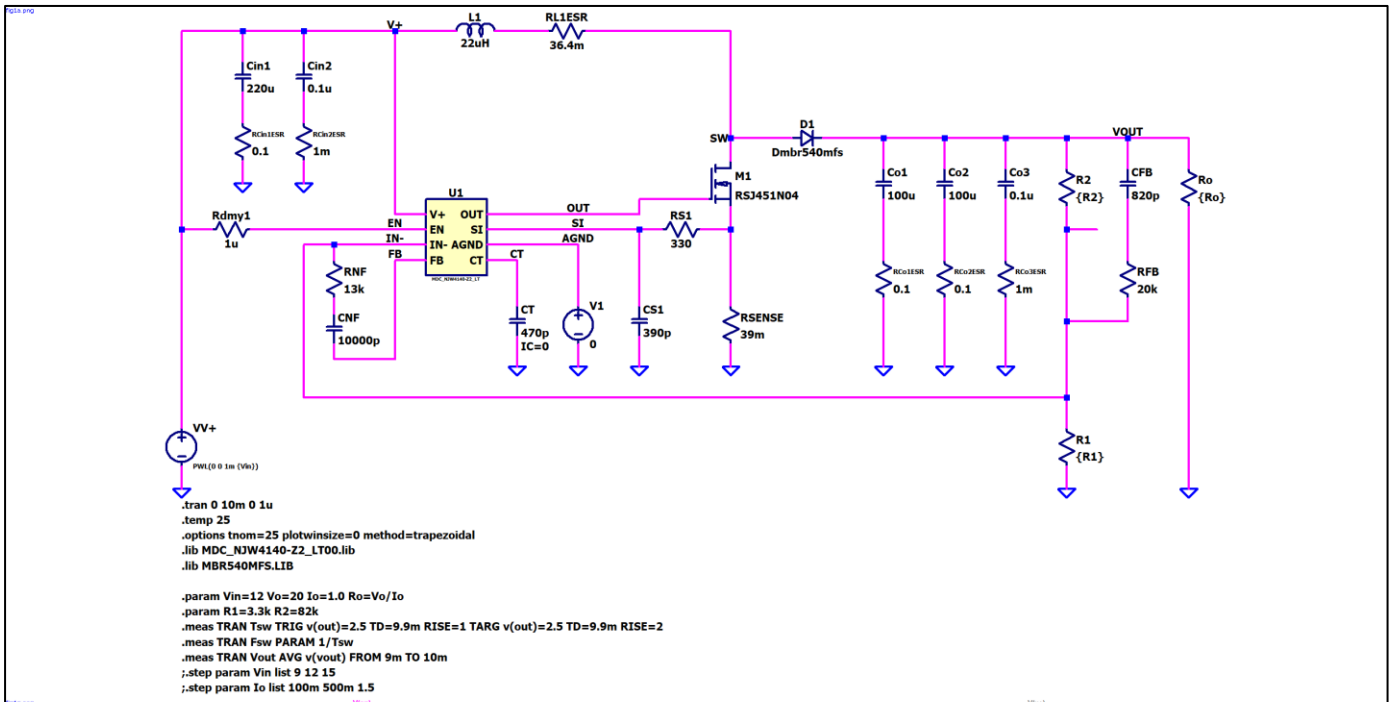
**Testbench for PWM control (V+ = 12[V], Vout = 20[V], Iout = 1.5[A])**

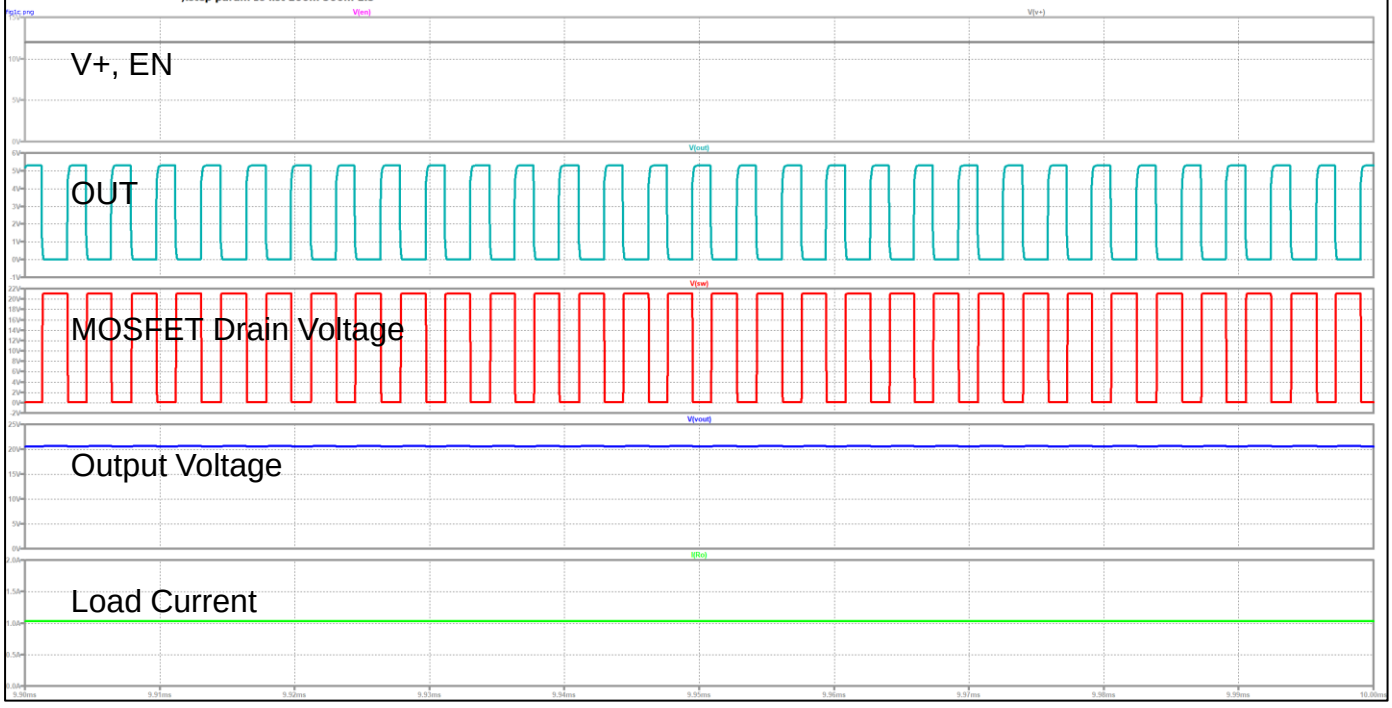
## Referred to Data Sheet



**Testbench for PWM control (V+ = 12[V], Vout = 20[V], Iout = 1.5[A]) [Extended view]**

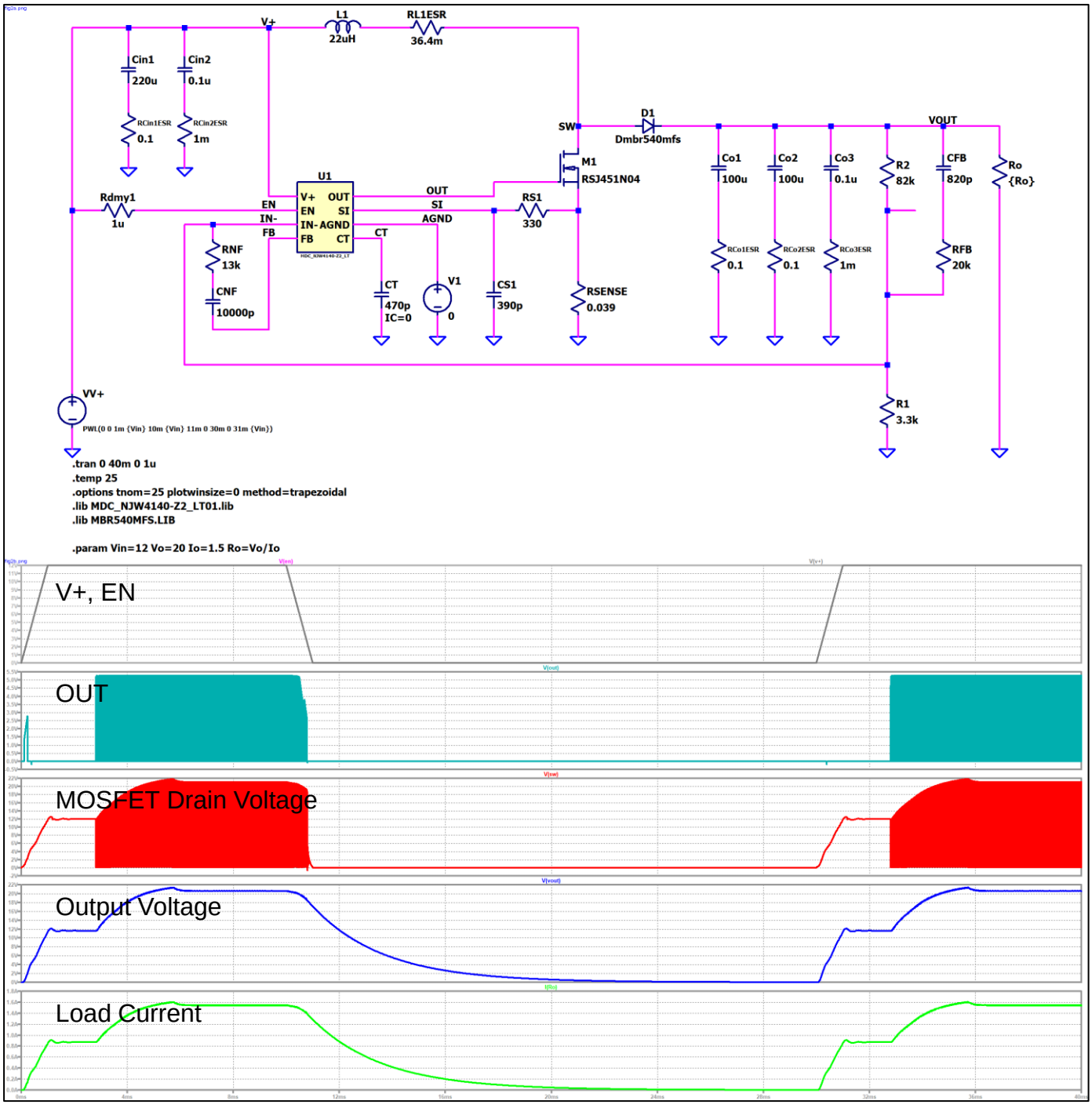
## Referred to Data Sheet



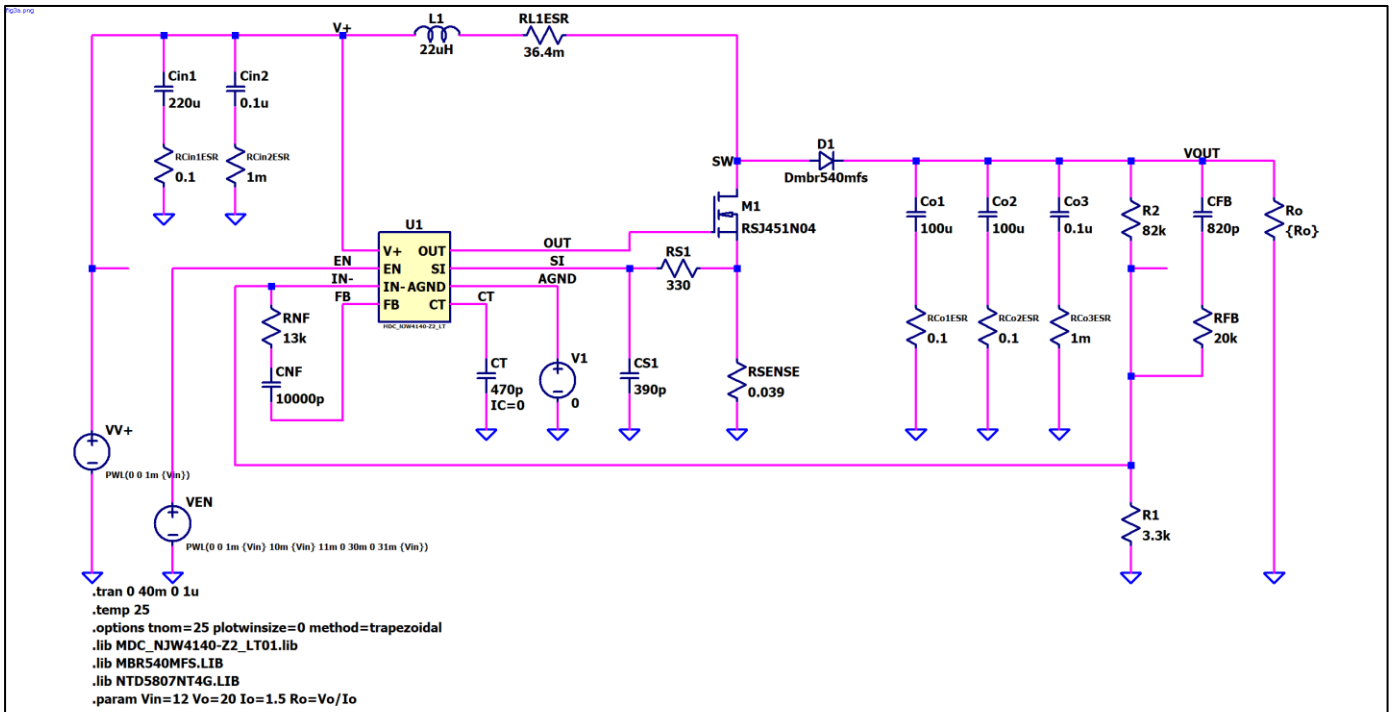
**Testbench for UVLO function (V+ = 12[V], Vout = 20[V], Iout = 1.5[A])**

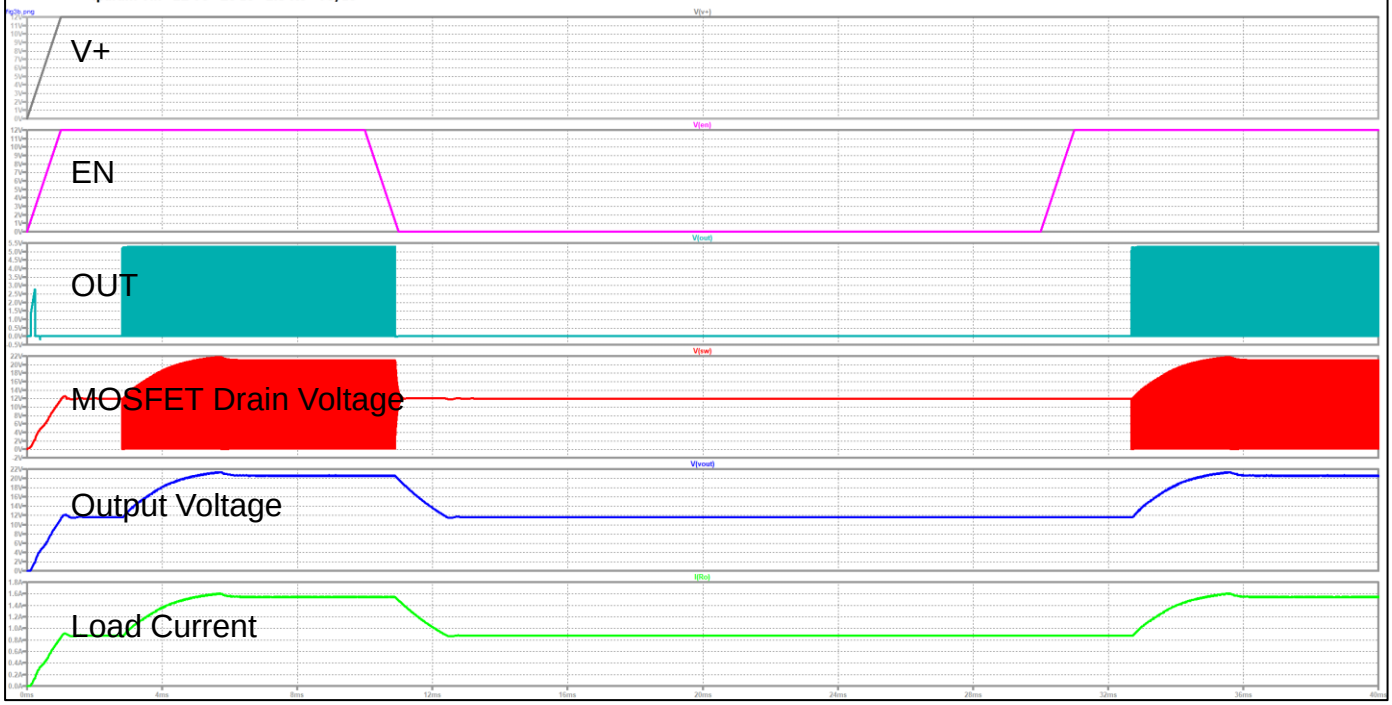
## Referred to Data Sheet



**Testbench for EN function (V+ = 12[V], Vout = 20[V], Iout = 1.5[A])**

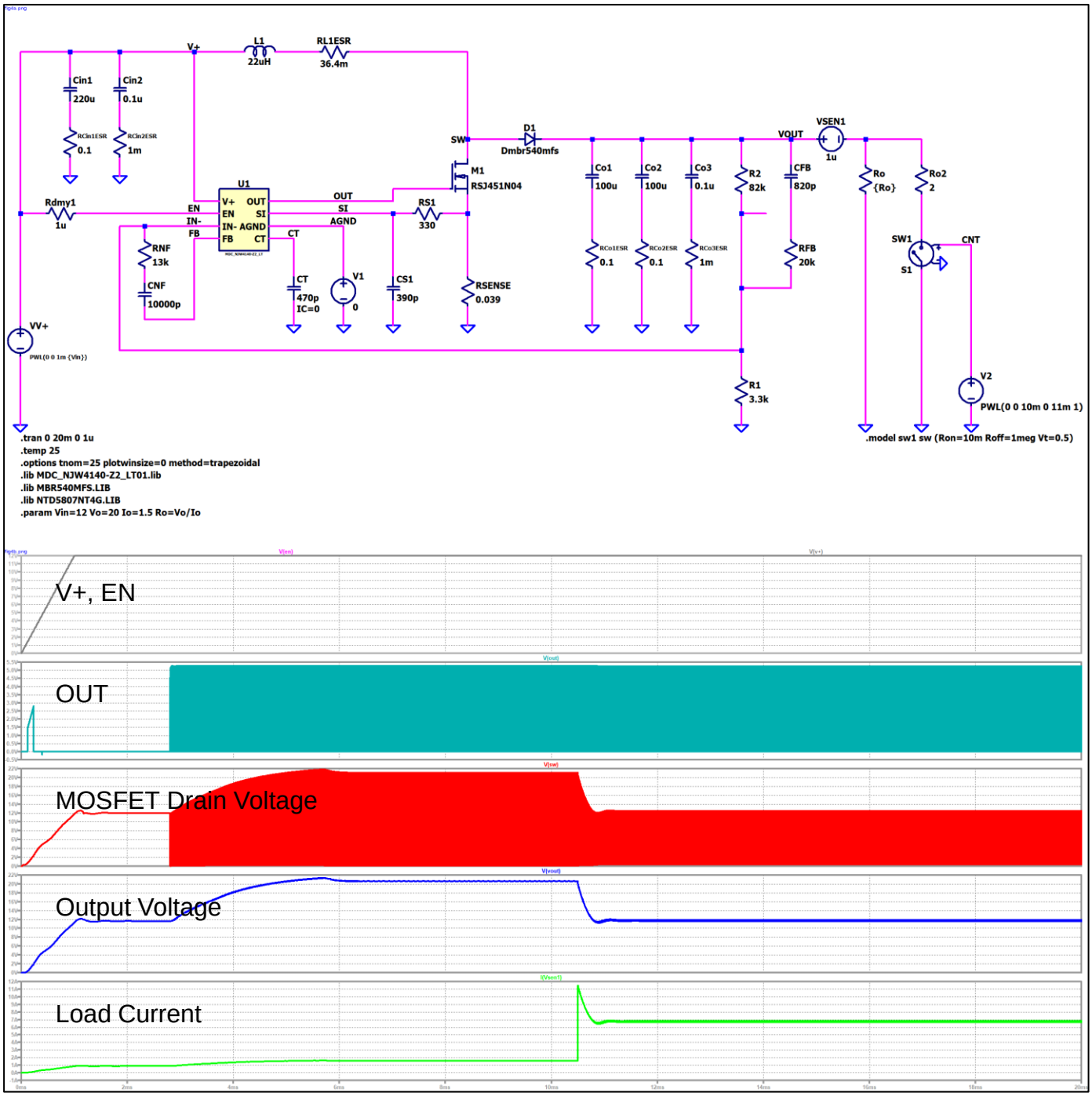
## Referred to Data Sheet



**Testbench for OPC function (V+ = 12[V], Vout = 20[V], Iout = 1.5[A] -> 10.0[A])**

## Referred to Data Sheet



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