

## Initial Design

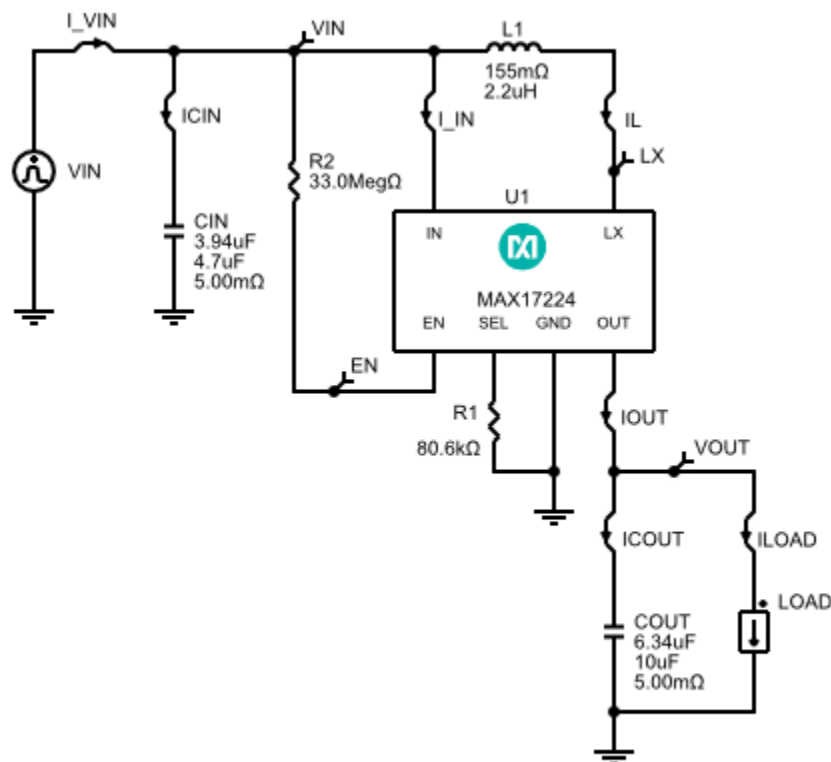
1.0

**Design Requirements**

---

Parameter	Value
Package	WLP
Minimum Input Voltage	1.4V
Maximum Input Voltage	1.6V
Nominal Input Voltage	1.5V
Output Voltage	3.3V
Output Current	0.2A
Performance Priority	Balance Efficiency and Size
BOM Priority	Cost
Ambient Temperature	25°C

## Schematic



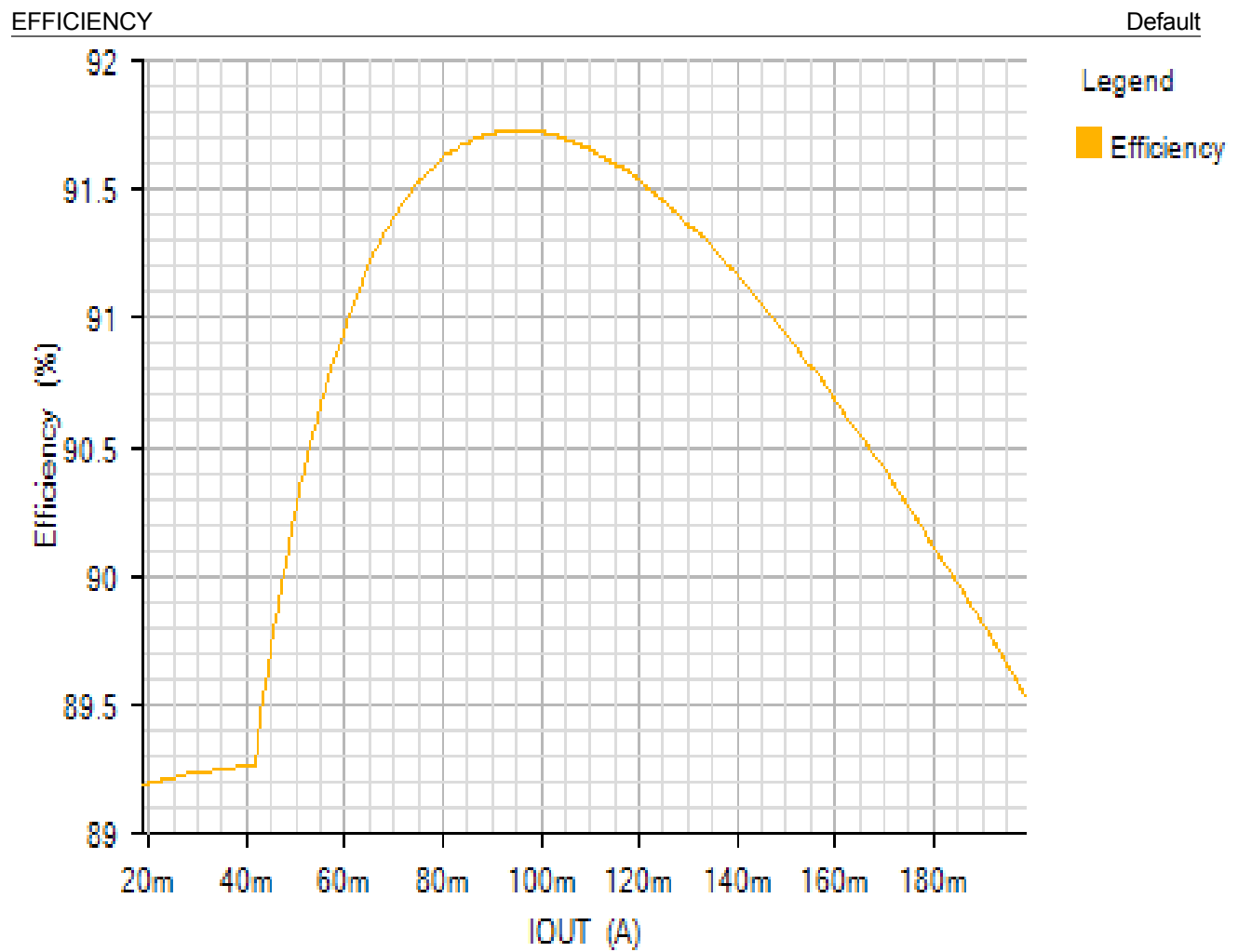
If the current level (starting current for Load Steps) is too low, Steady State and Load Step analyses may fail due to PFM operation.

## BOM

Ref	Qty	Part Number	Manufacturer	Description
U1	1	MAX17224	User-Defined	IC
CIN	1	<a href="#">C1608X7S1A475K080AC</a>	TDK	Cap Ceramic 4.7uF 10V 0603 125C
COUT	1	<a href="#">C2012X6S1C106K085AC</a>	TDK	Cap Ceramic 10uF 16V 0805 105C
L1	1	<a href="#">HMLE20161B-2R2MDR</a>	Cyntec	Inductor 2.2uH 133mOhm 1.9A Isat 1.8A Irms
R1	1	<a href="#">ERJ2RKF8062X</a>	Panasonic	Res Thick Film 0402 80.6K Ohm 1% 0.1W(1/10W) ±100ppm/°C Pad SMD Automotive T/R
R2	1	<a href="#">HMC0402JT33M0</a>	Stackpole Electronics, Inc	Res Thick Film 0402 33M Ohm 5% 0.063W(1/16W) ±400ppm/°C Pad SMD T/R

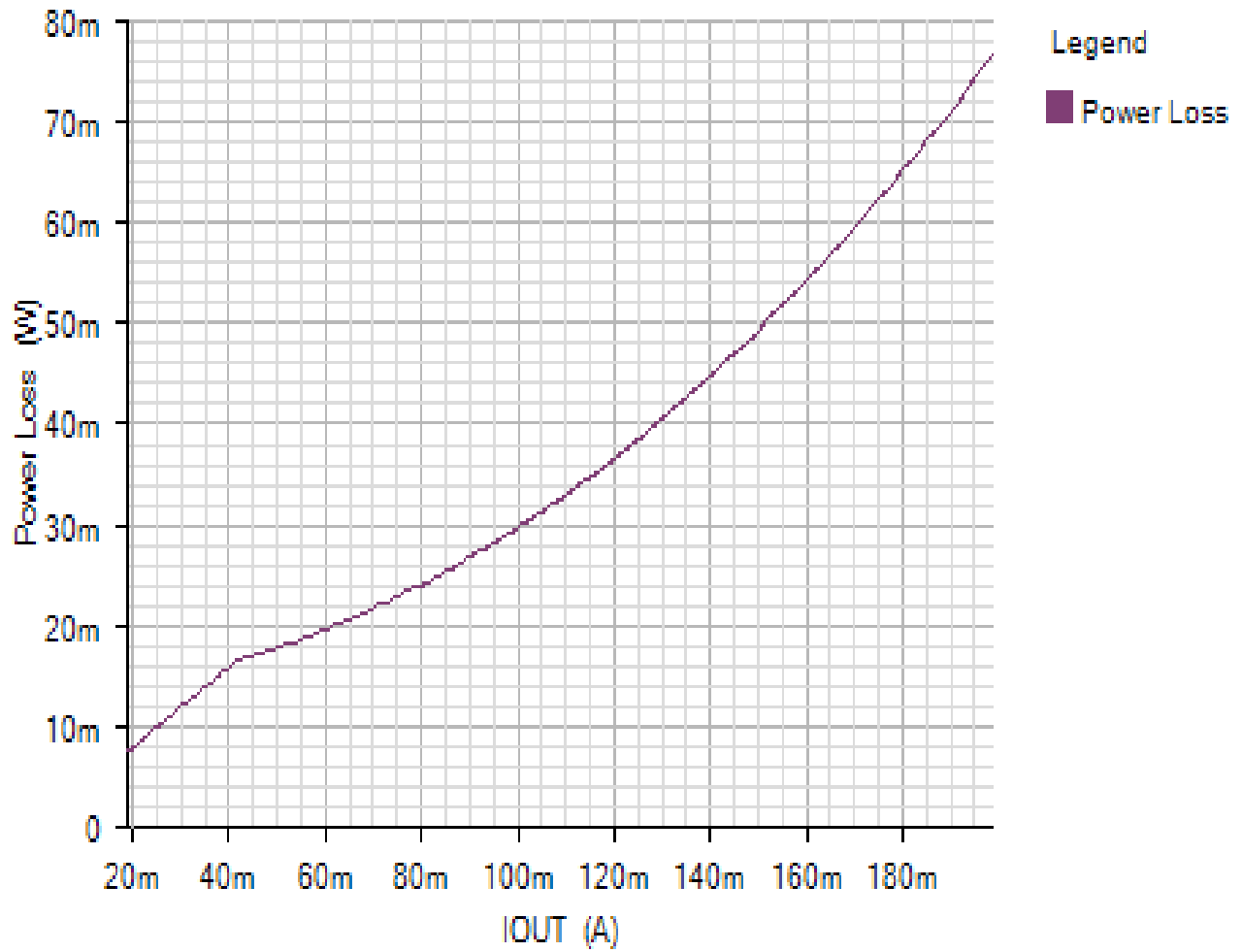
## Simulation Results

Efficiency - Sun Nov 18 2018 19:11:57



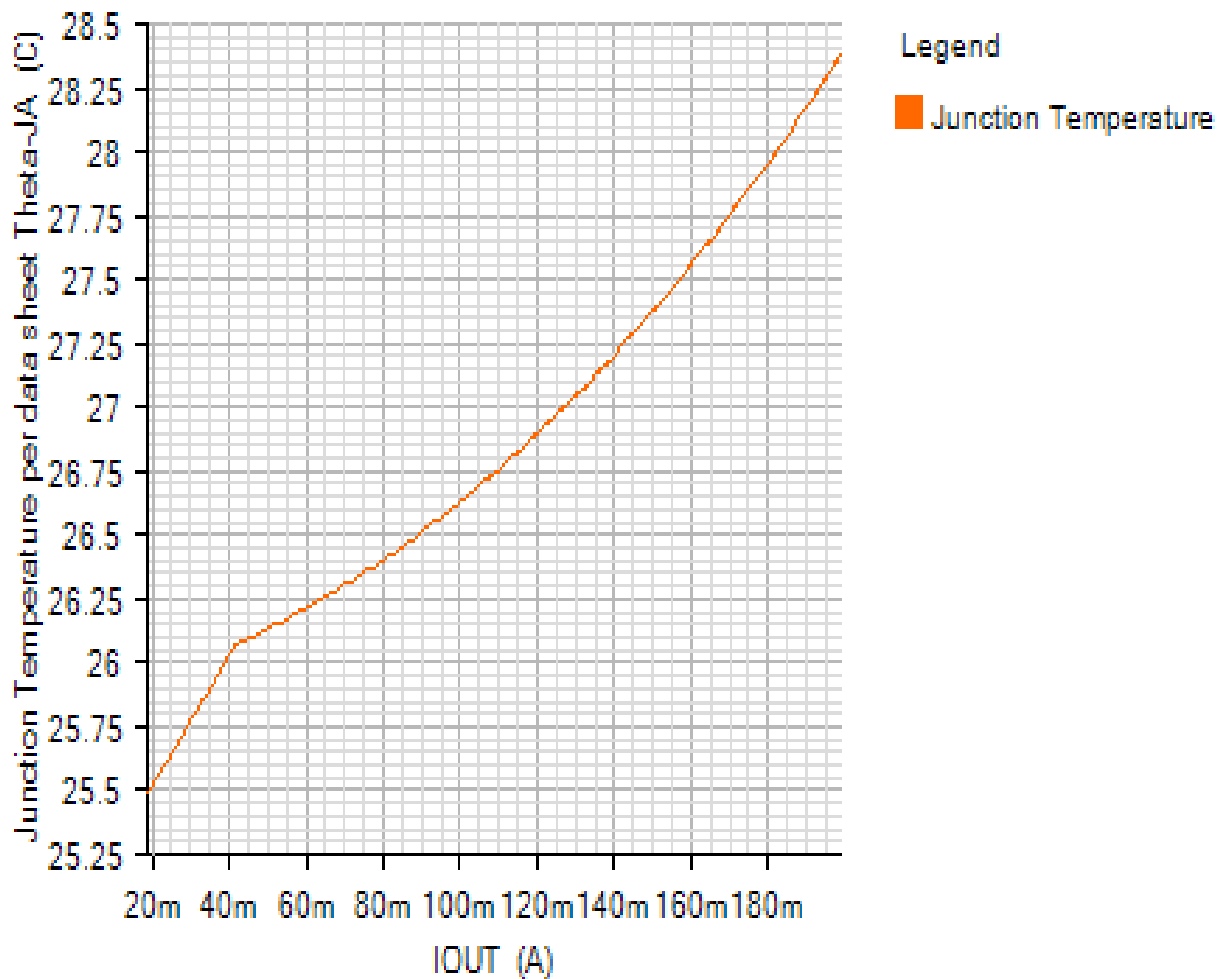
POWER\_LOSS

Default



## JUNCTION\_TEMPERATURE

Default



## Losses



Component

Loss (W)

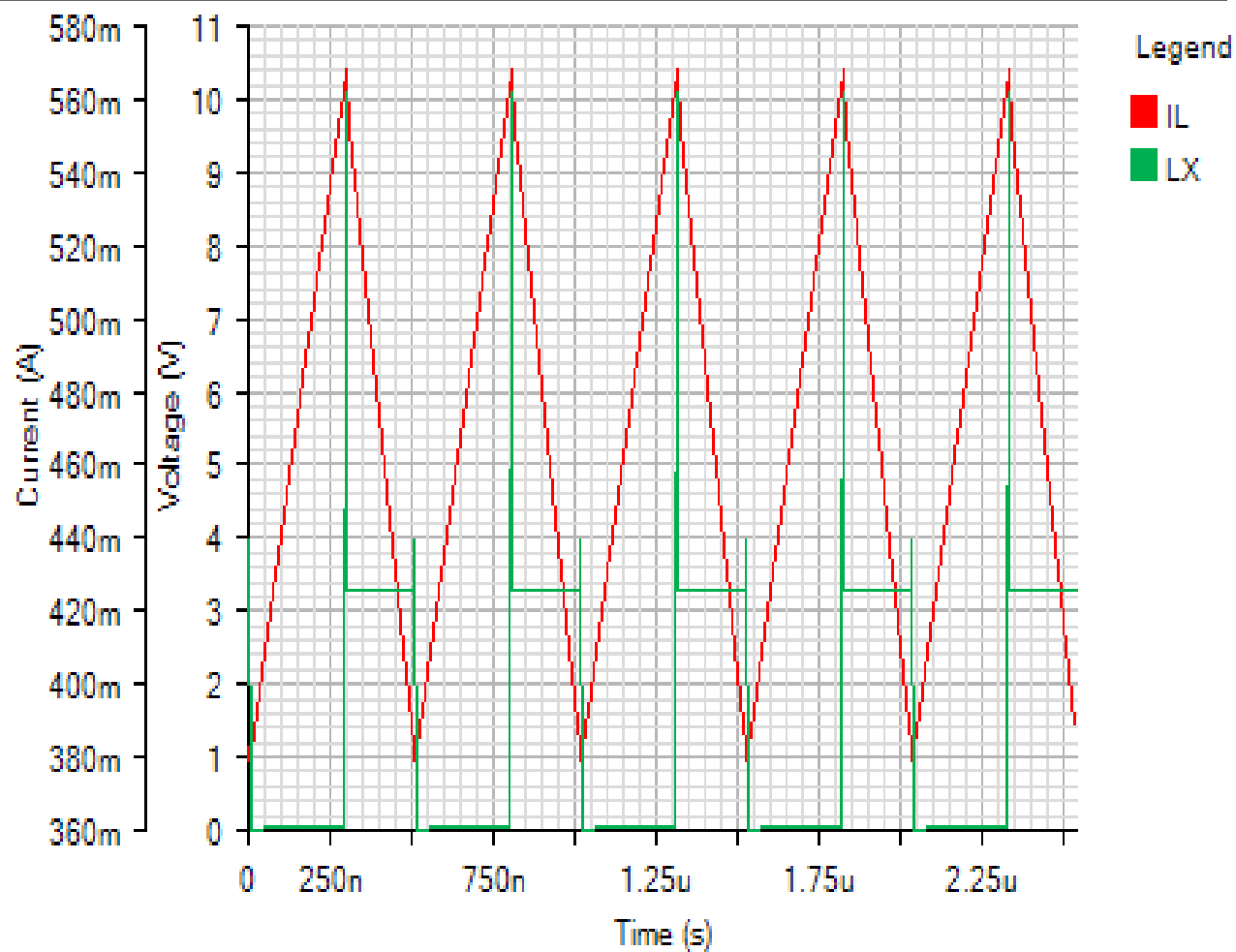
% of total

Component	Loss (W)	% of total
Output Capacitor Loss	0.000678	0.9
Inductor Loss	0.041617	53
Input Capacitor Loss	0.000017	0
FET Conduction Losses	0.020067	25.6
FET Switching Losses	0.015694	20
Quiescent Loss	0.00043	0.5
Total	0.078504	100

Steady State - Sun Nov 18 2018 19:11:57

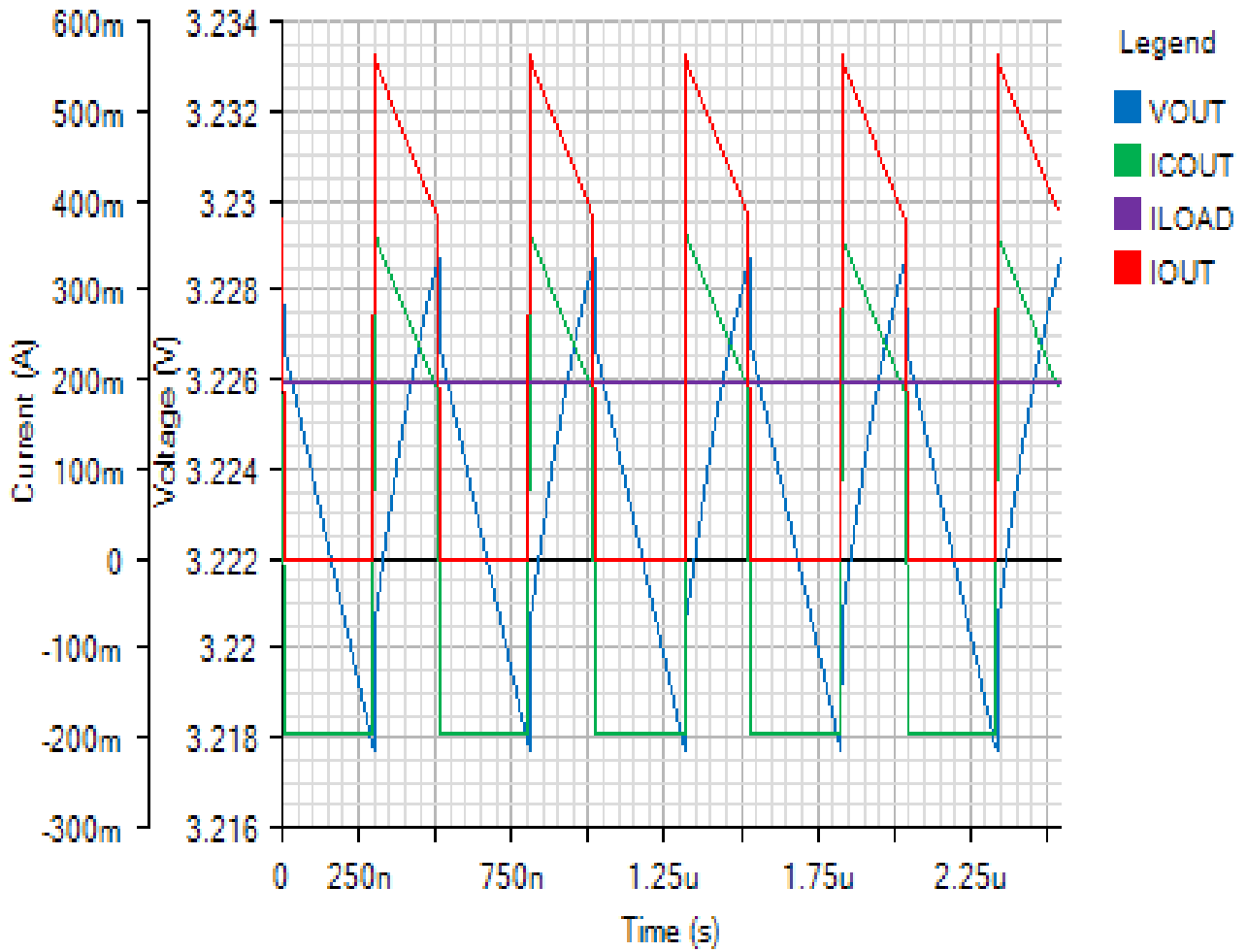
SWITCHING

Default



OUTPUT

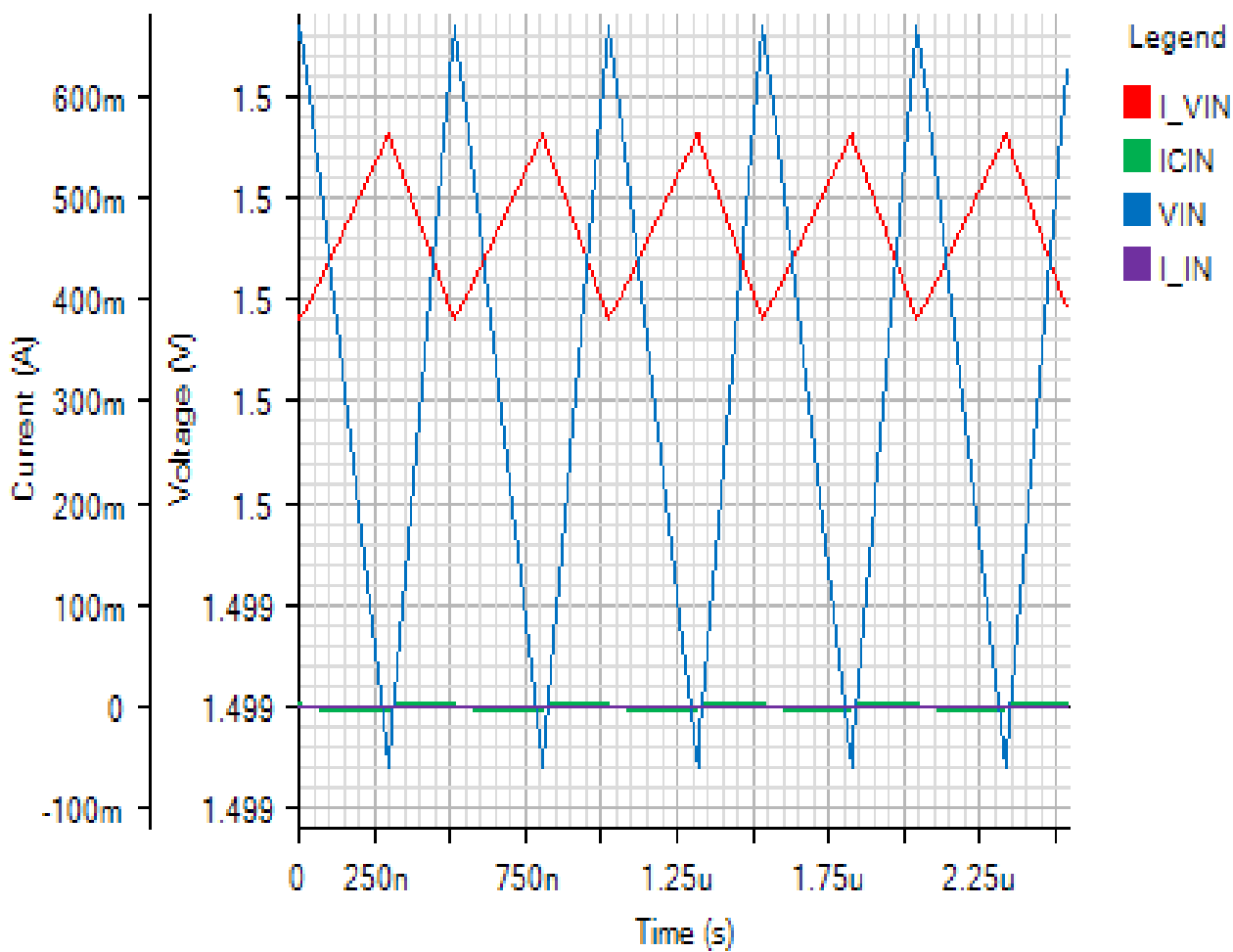
Default

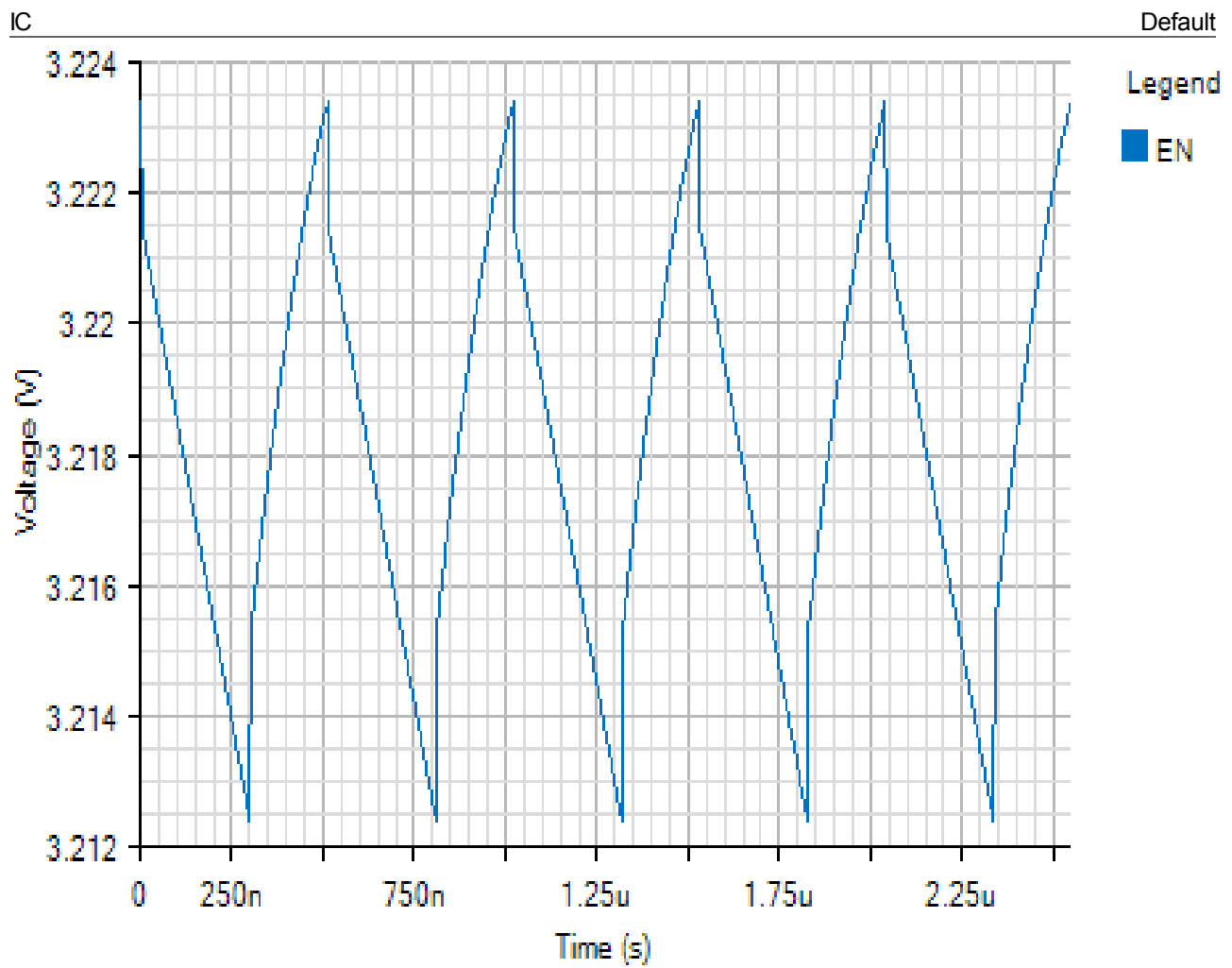




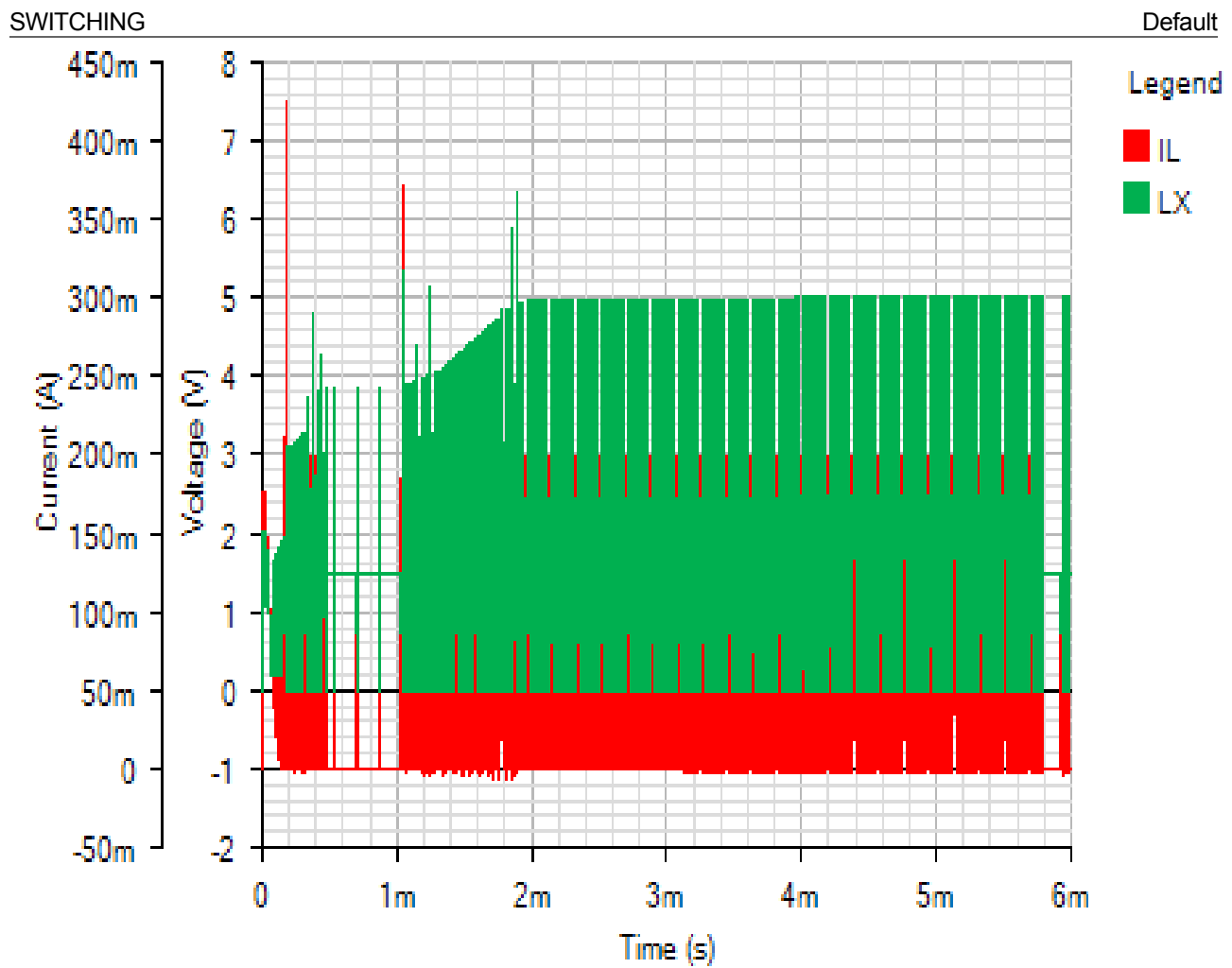
INPUT

Default



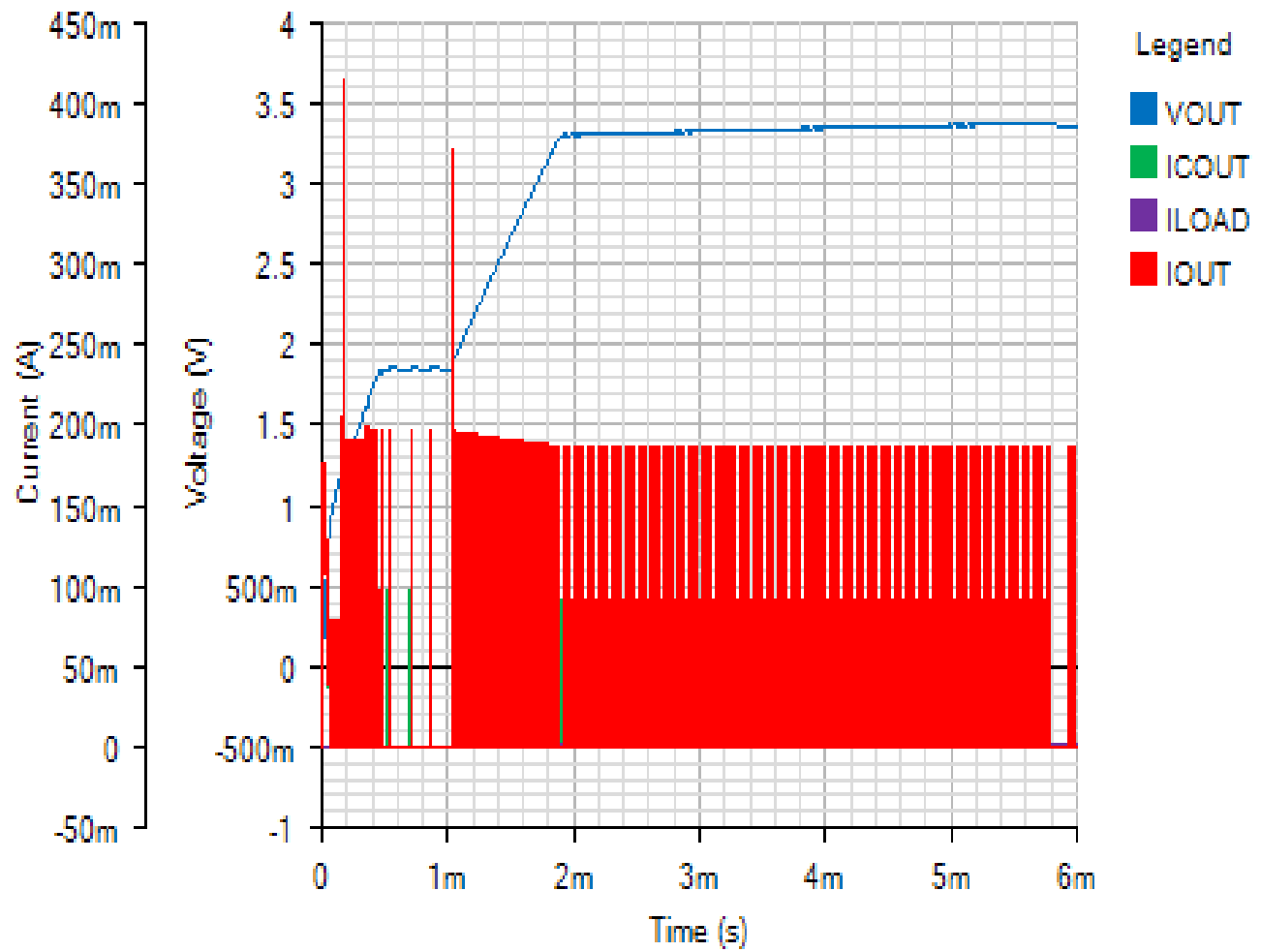


Start Up - Sun Nov 18 2018 19:11:57



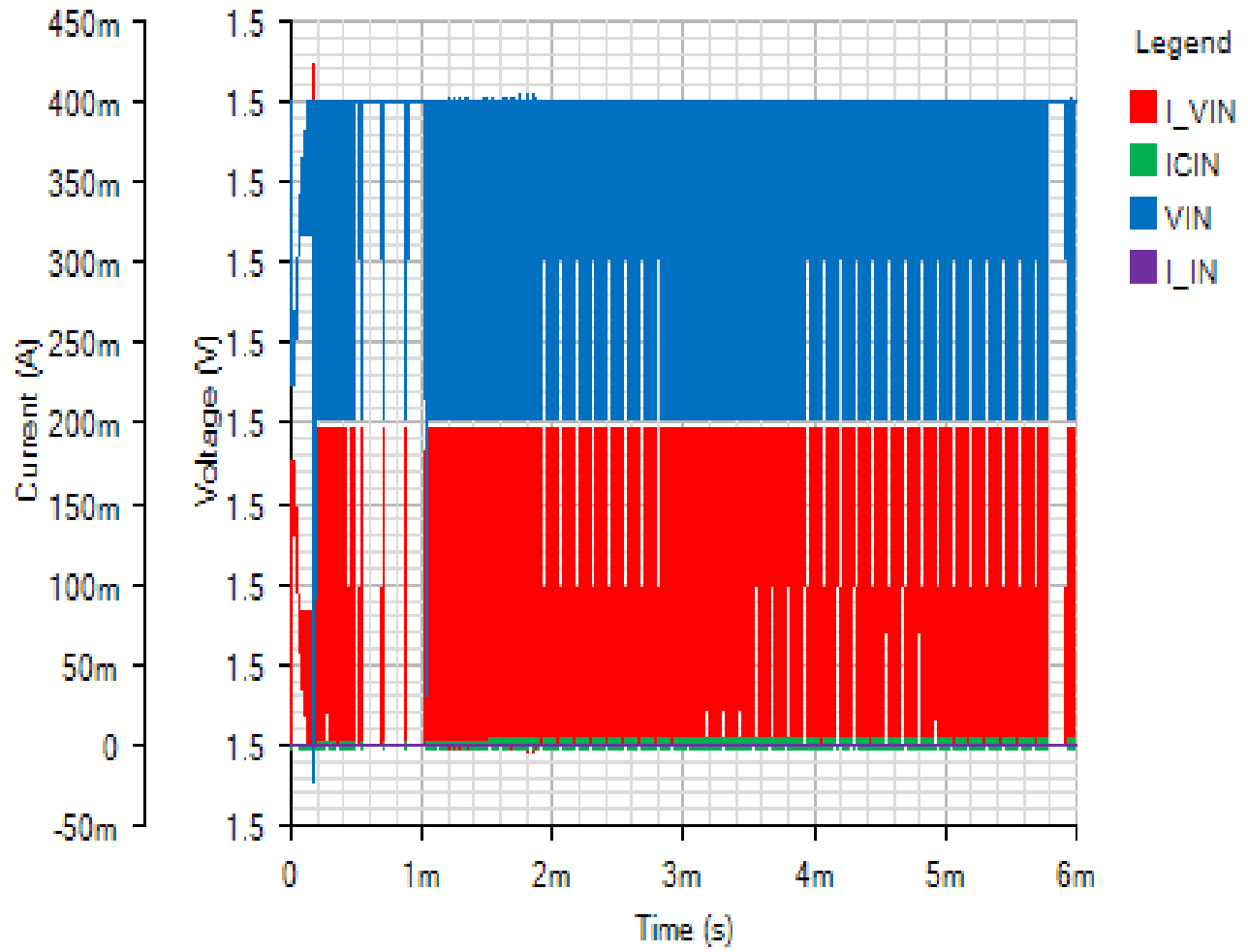
OUTPUT

Default



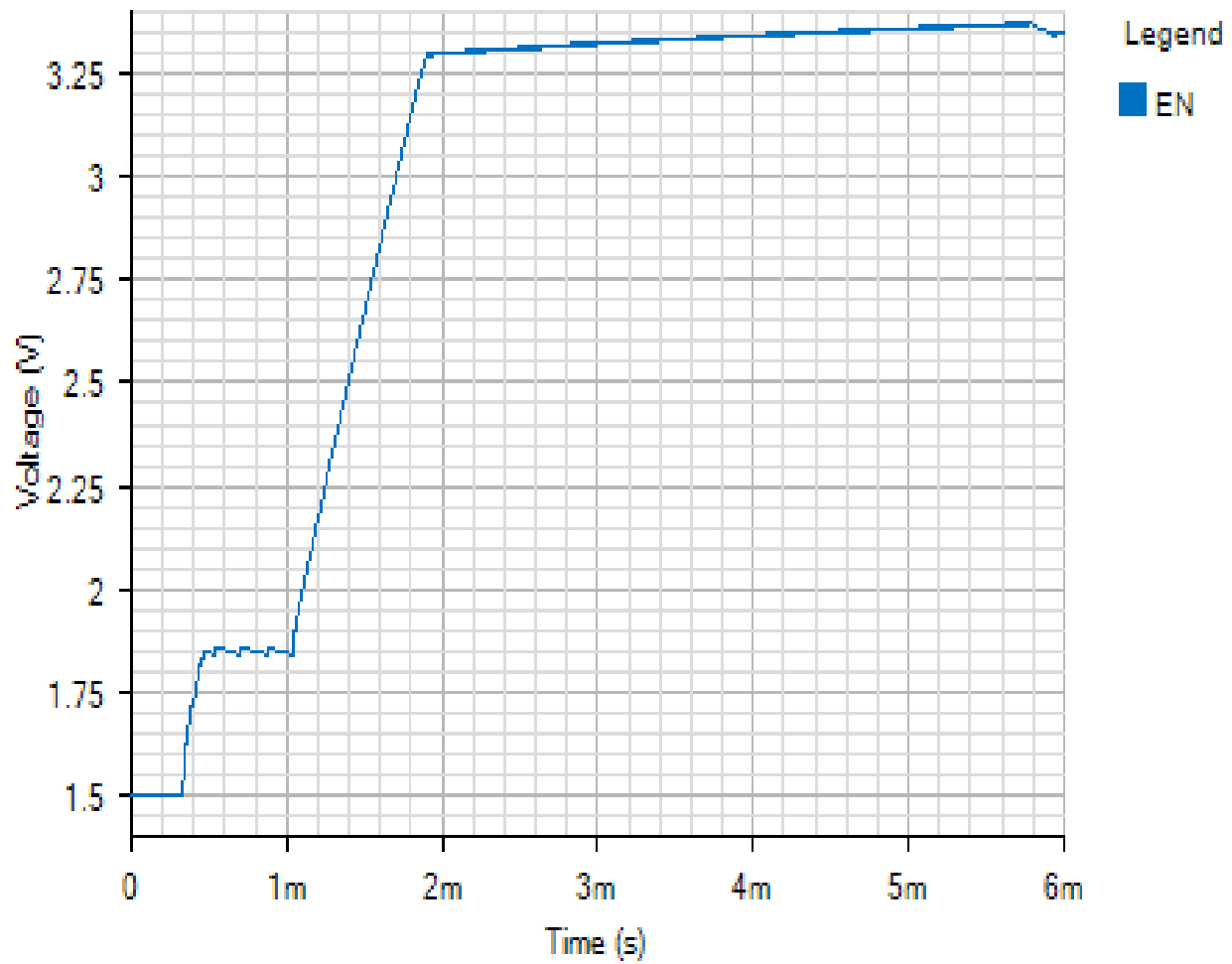
INPUT

Default



IC

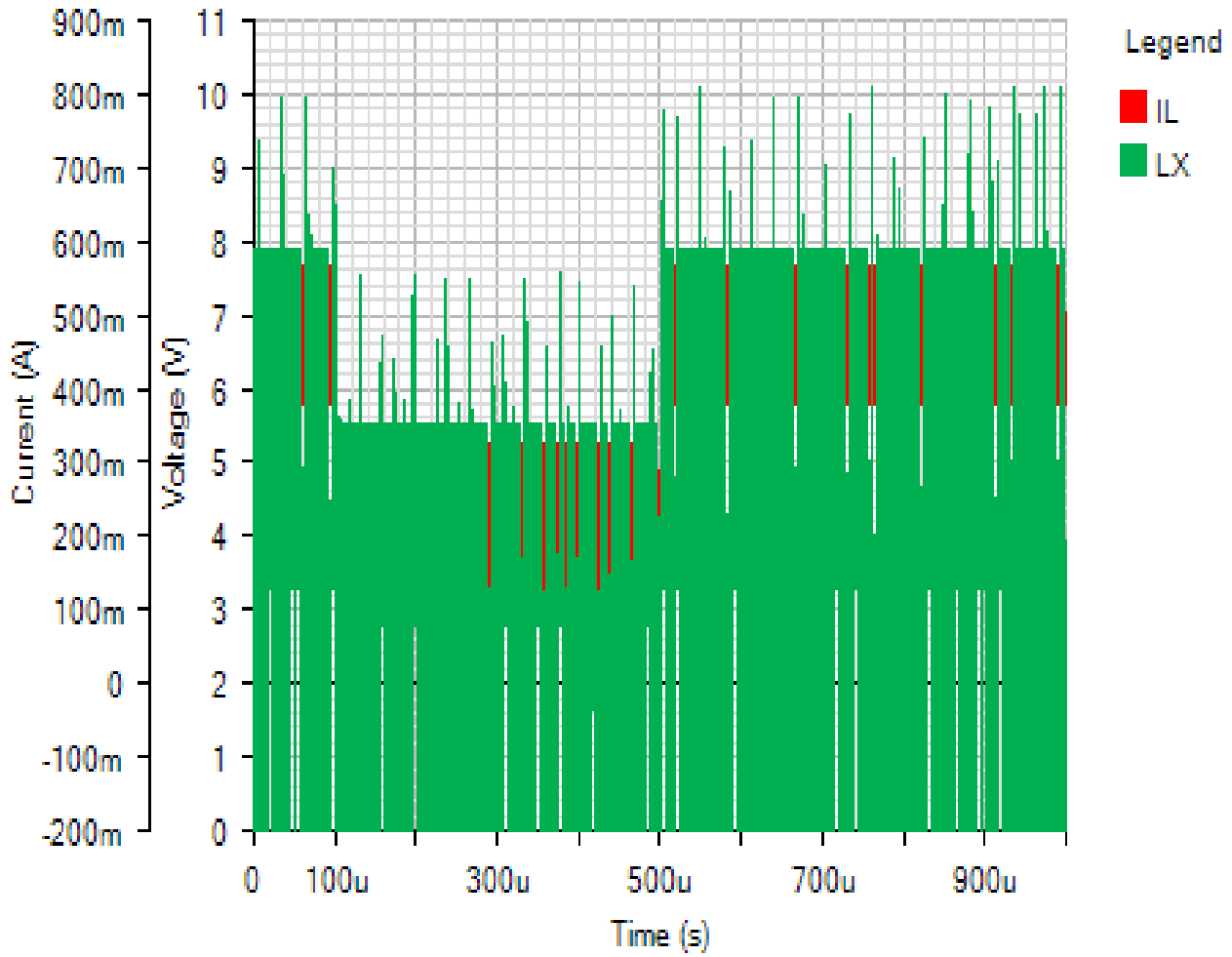
Default



Load Step - Sun Nov 18 2018 19:11:57

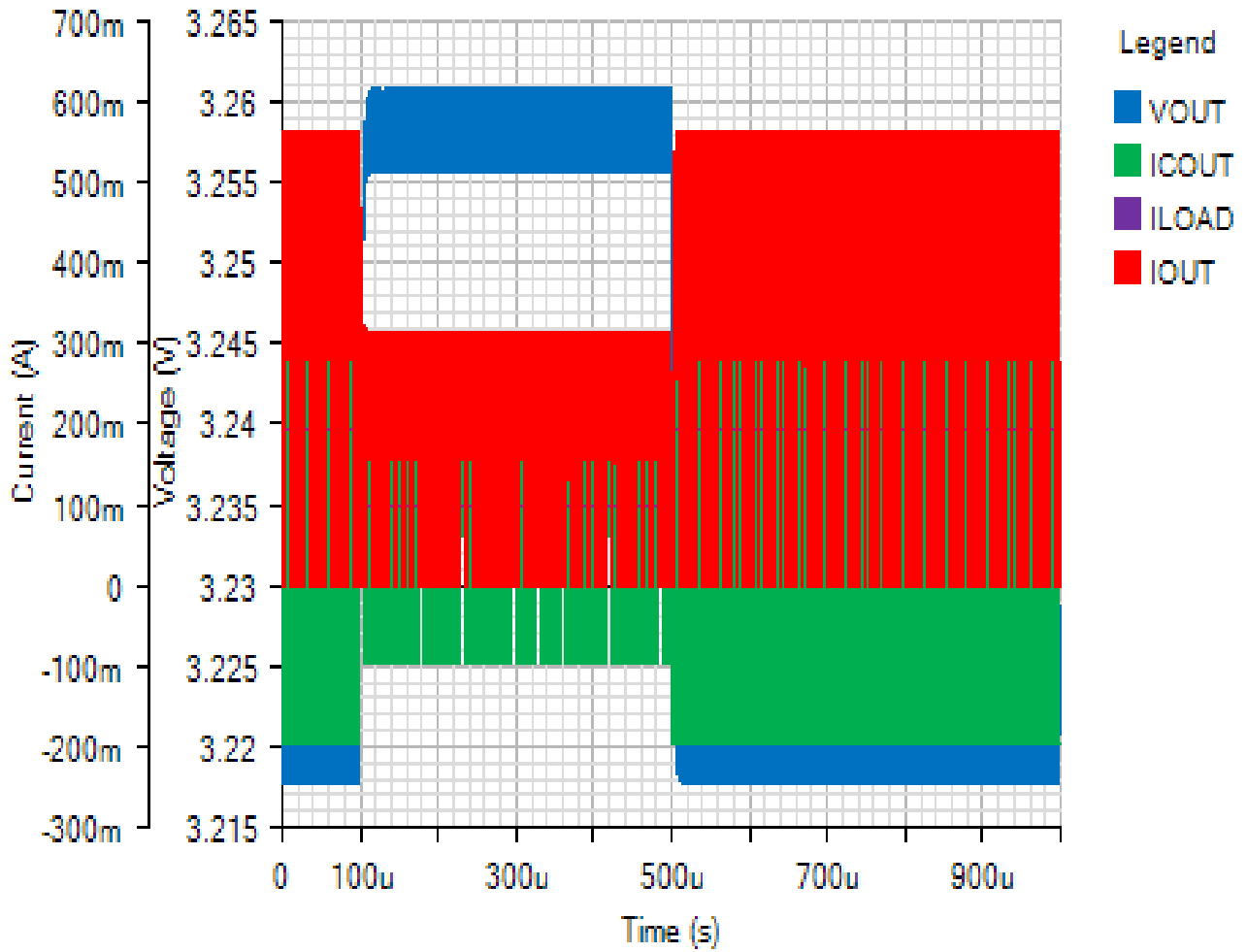
SWITCHING

Default



OUTPUT

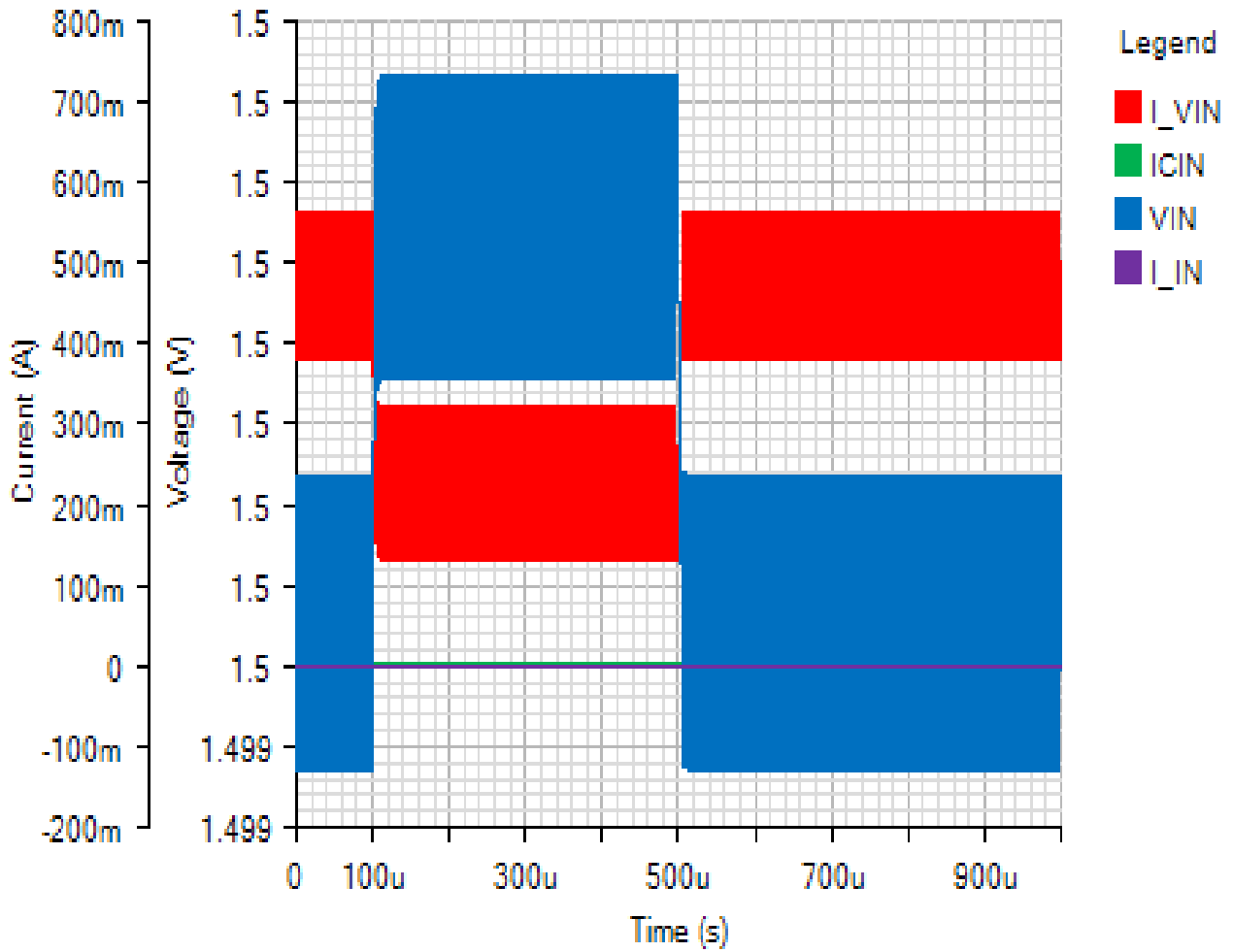
Default

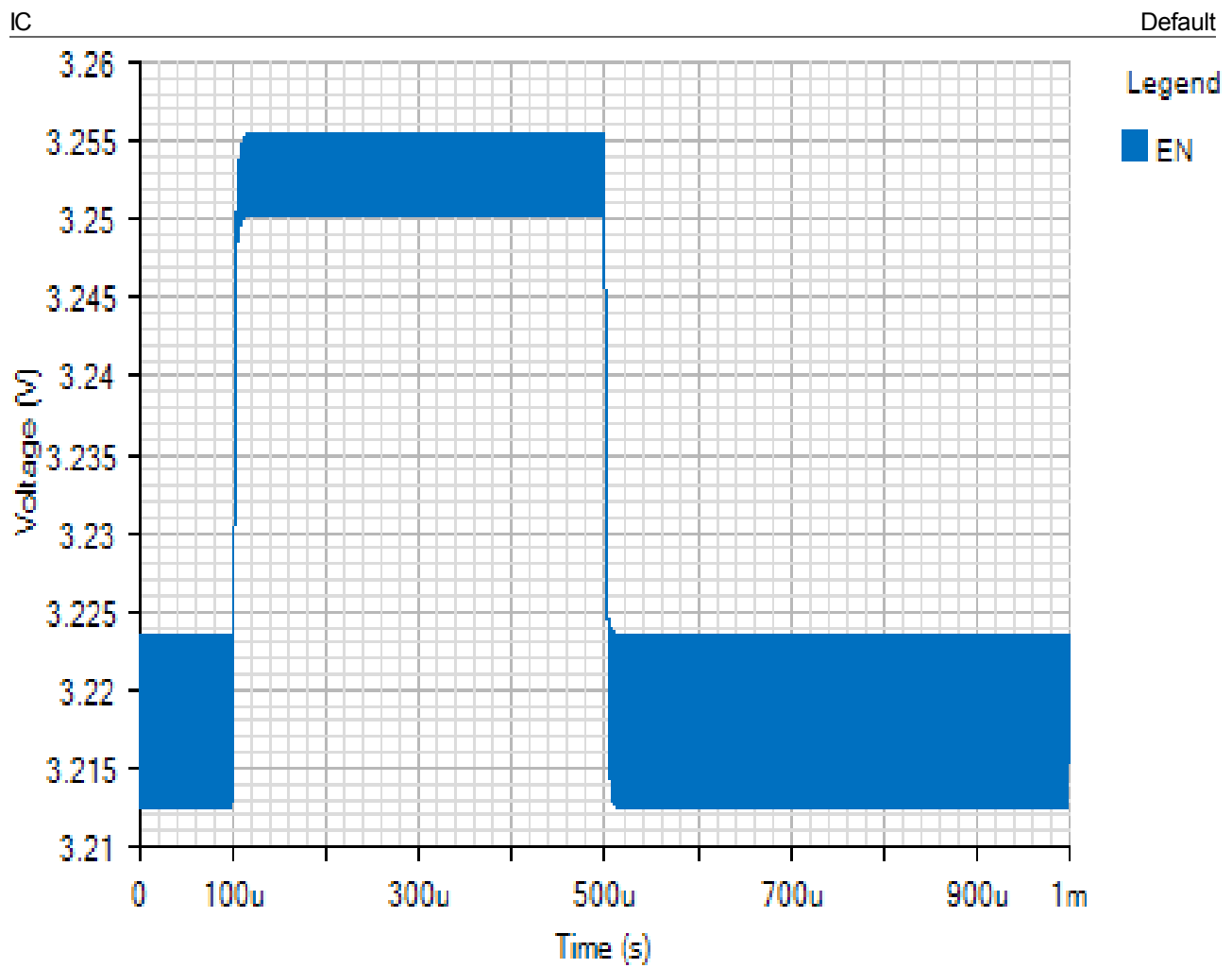




INPUT

Default

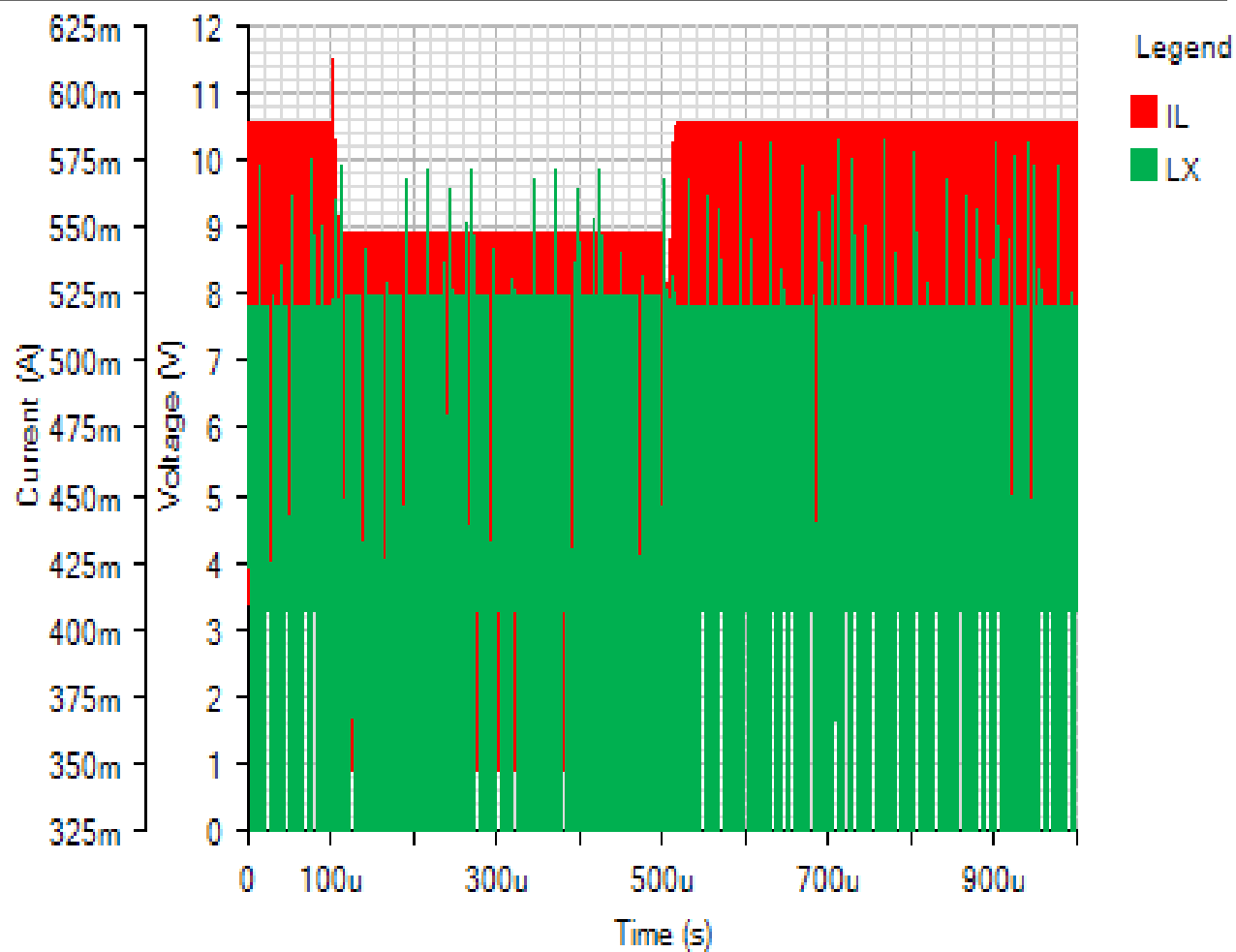




Line Transient - Sun Nov 18 2018 19:11:57

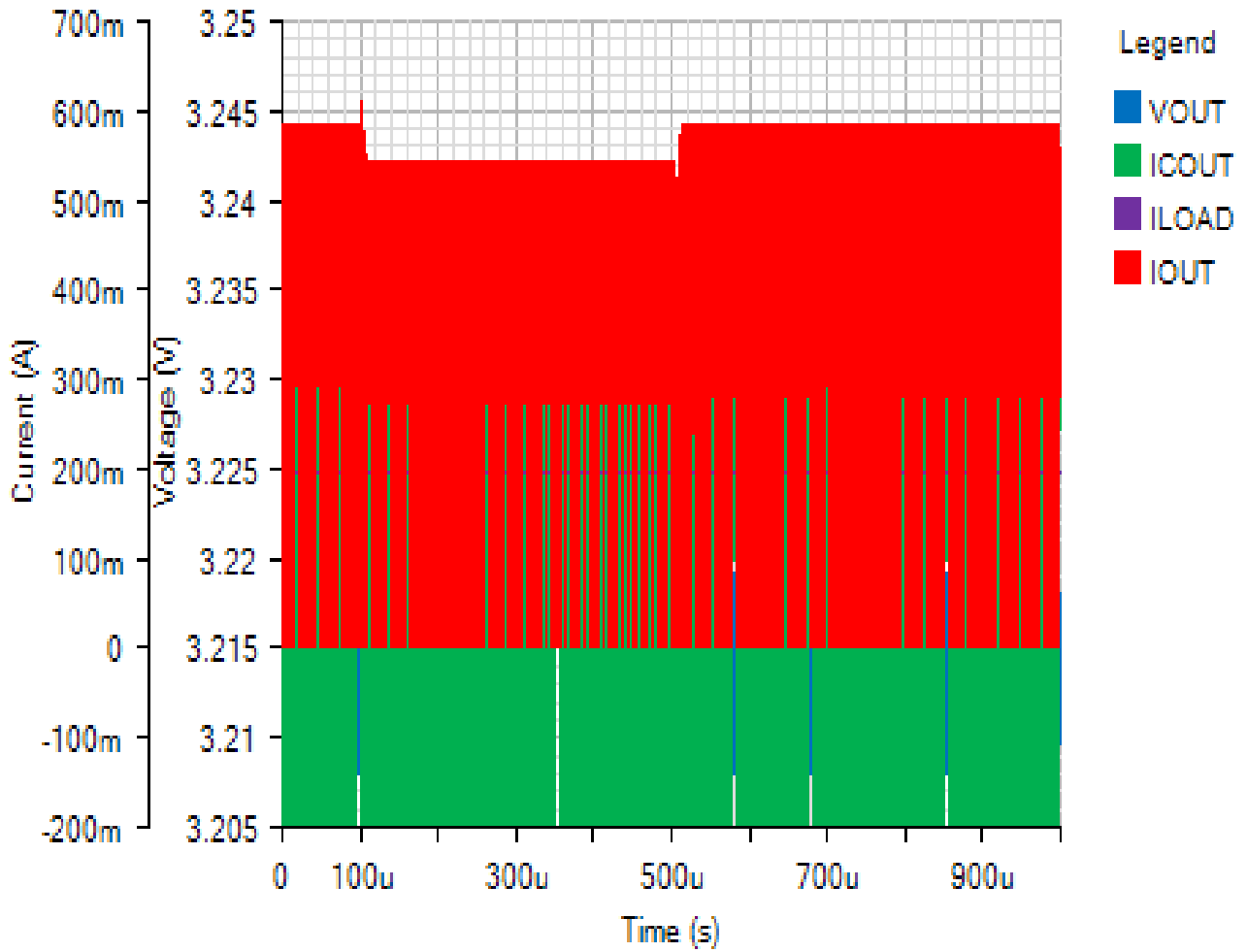
SWITCHING

Default



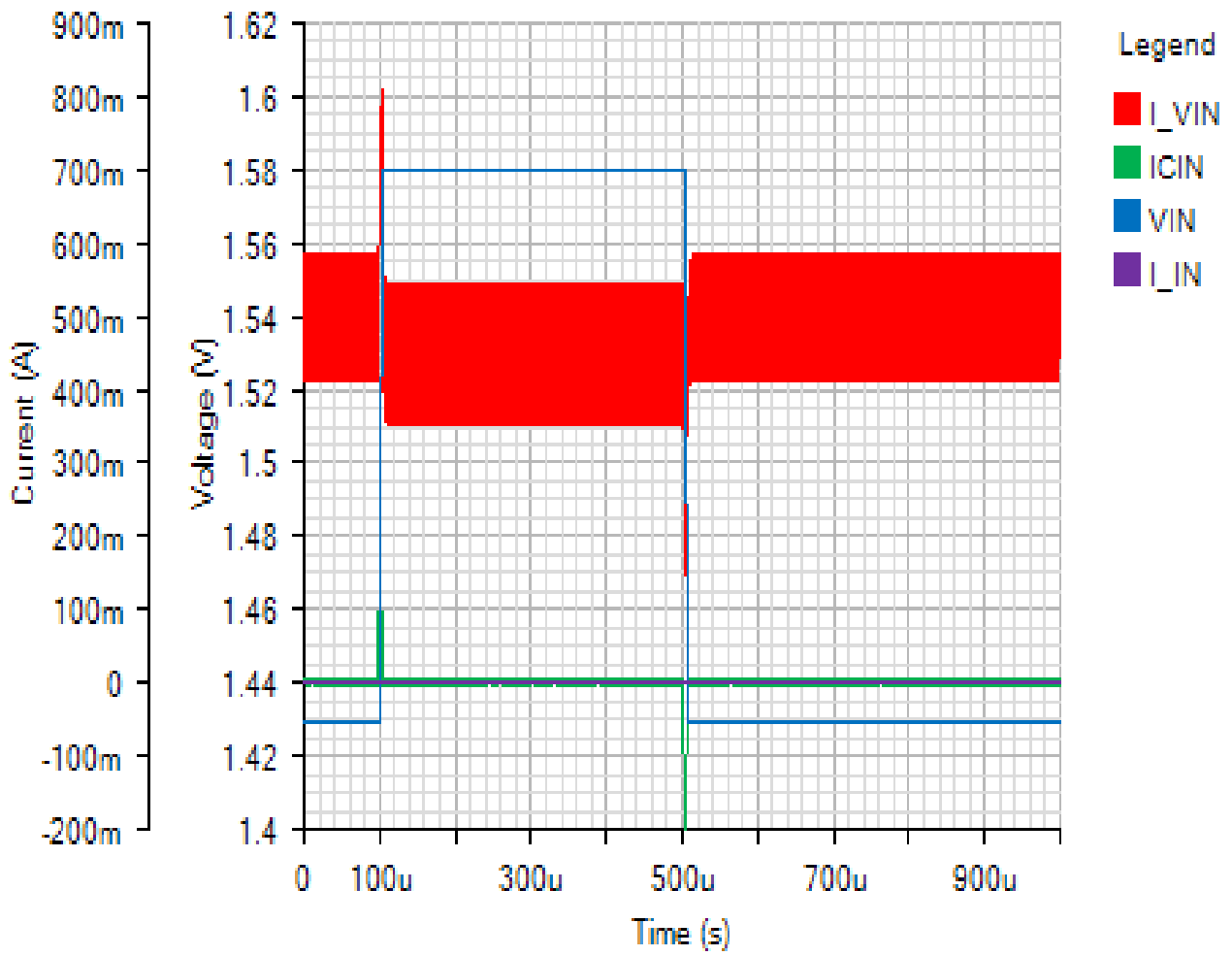
OUTPUT

Default



INPUT

Default



IC

Default

