

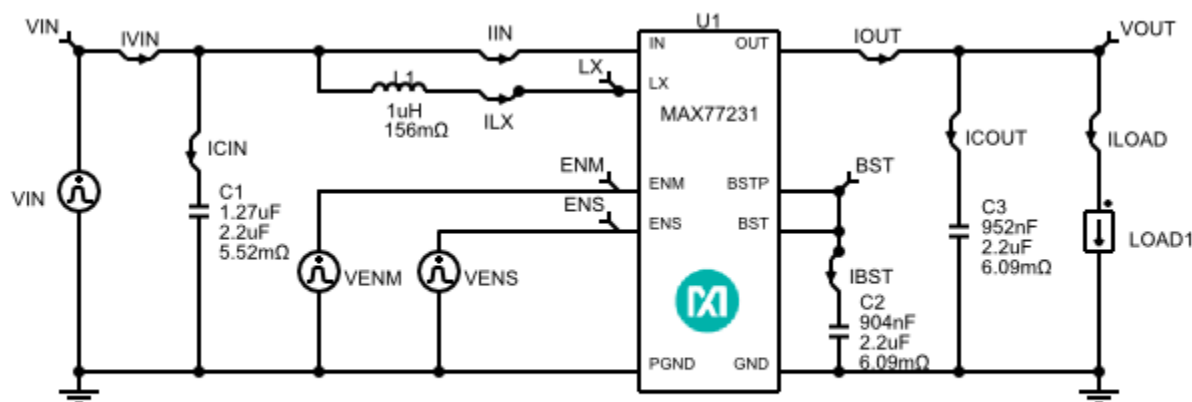
## Initial Design

1.0

### Design Requirements

Parameter	Value
Minimum Input Voltage	2.75V
Maximum Input Voltage	4.8V
Nominal Input Voltage	3.7V
Output Voltage	11.2V
Output Current	5mA
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.

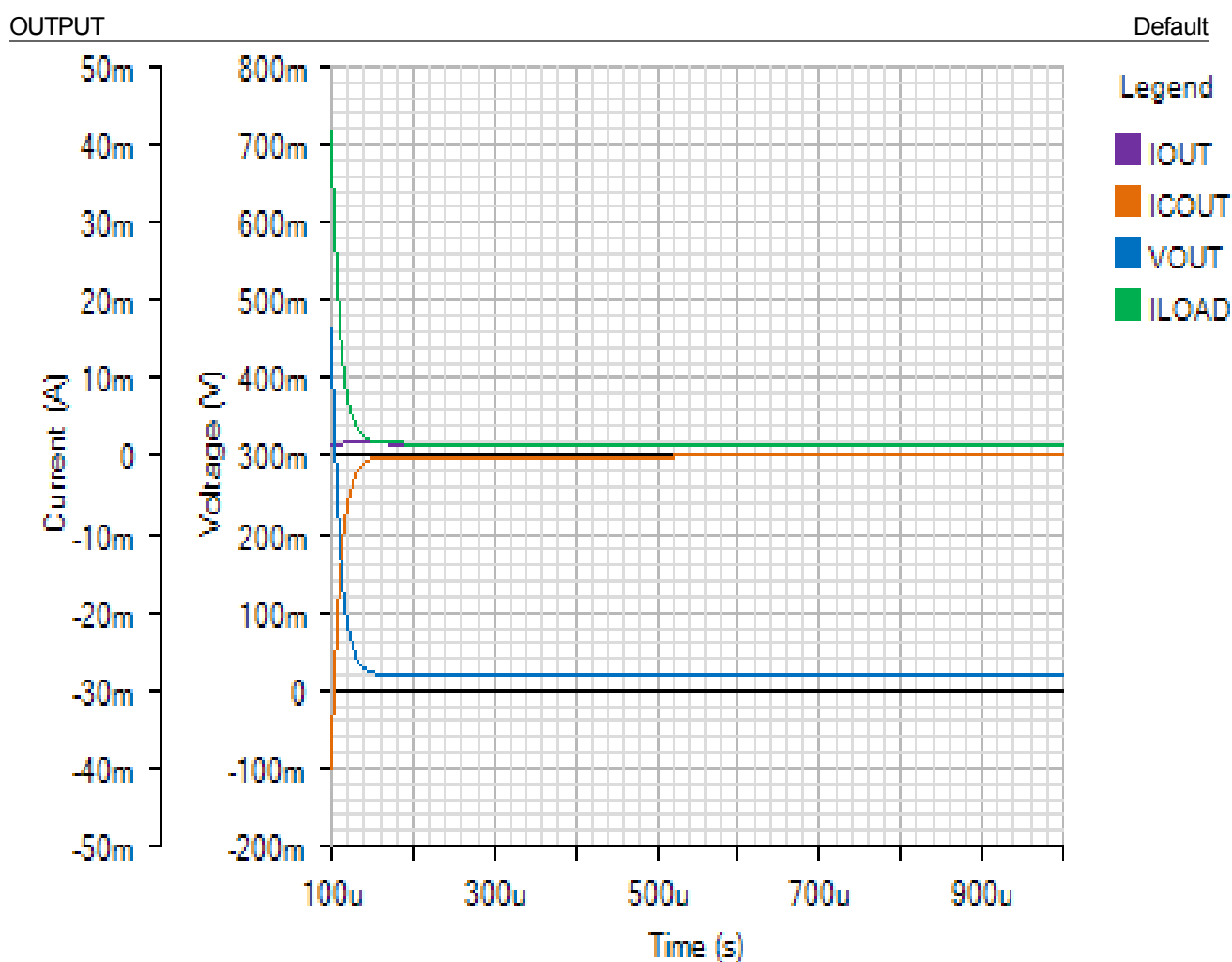
### BOM

Ref	Qty	Part Number	Manufacturer	Description
U1	1	<a href="#">MAX77231</a>	Maxim Integrated	2.75V to 4.8V Input, 10mA Output, 35μVRMS Ultra-Low Noise Boost Regulator

C1	1	GRM155C70J225KE11	Murata	Cap Ceramic 2.2uF 6.3V 0402 125C
C2	1	GRM219R61H225KE15	Murata	Cap Ceramic 2.2uF 50V 0805 85C
C3	1	GRM219R61H225KE15	Murata	Cap Ceramic 2.2uF 50V 0805 85C
L1	1	MLP2012H1R0MT0S1	TDK	Inductor 1uH 20% 120mOhm 0.9445A Isat 1.1A Irms

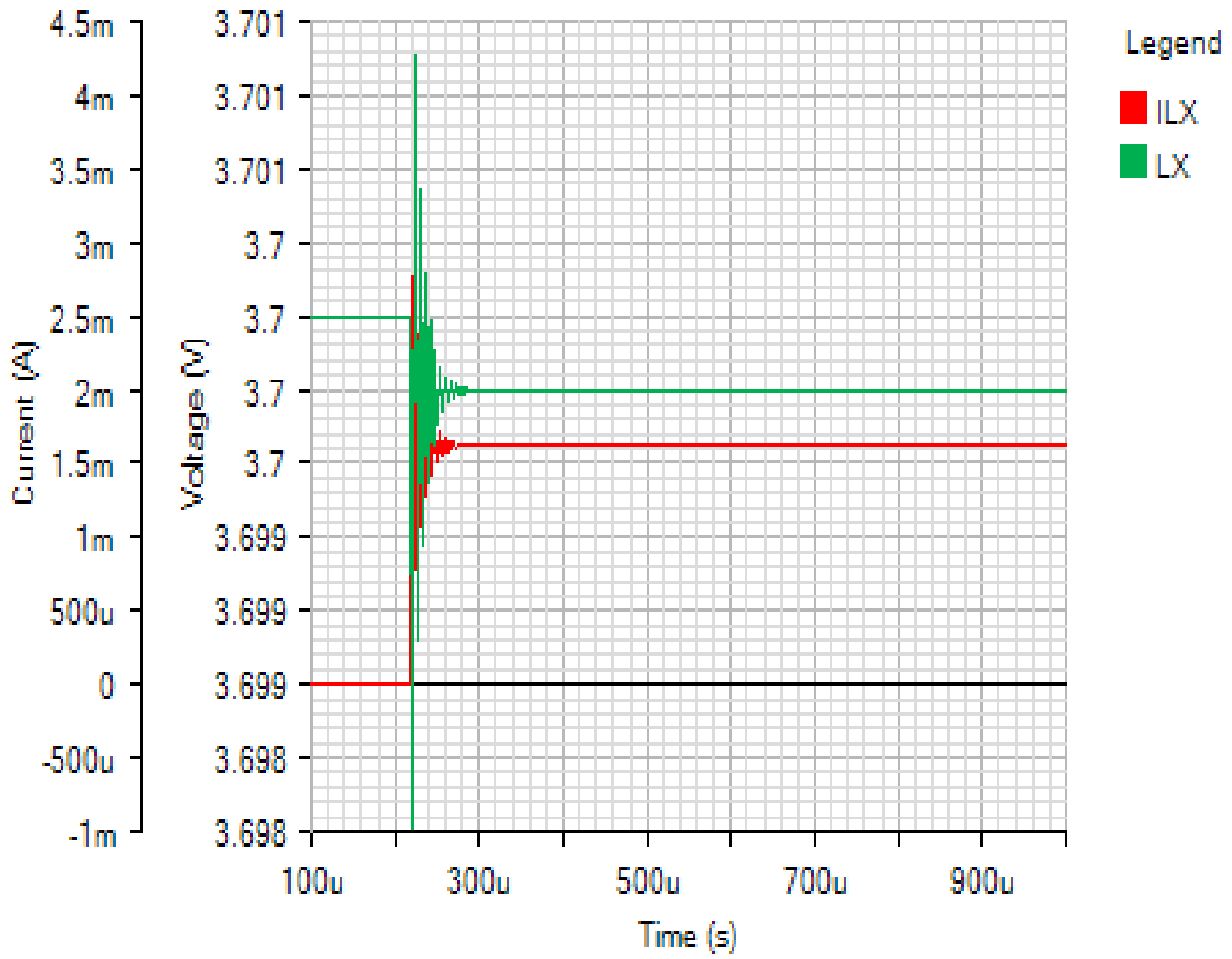
## Simulation Results

Shutdown - Wed Jan 02 2019 16:00:09



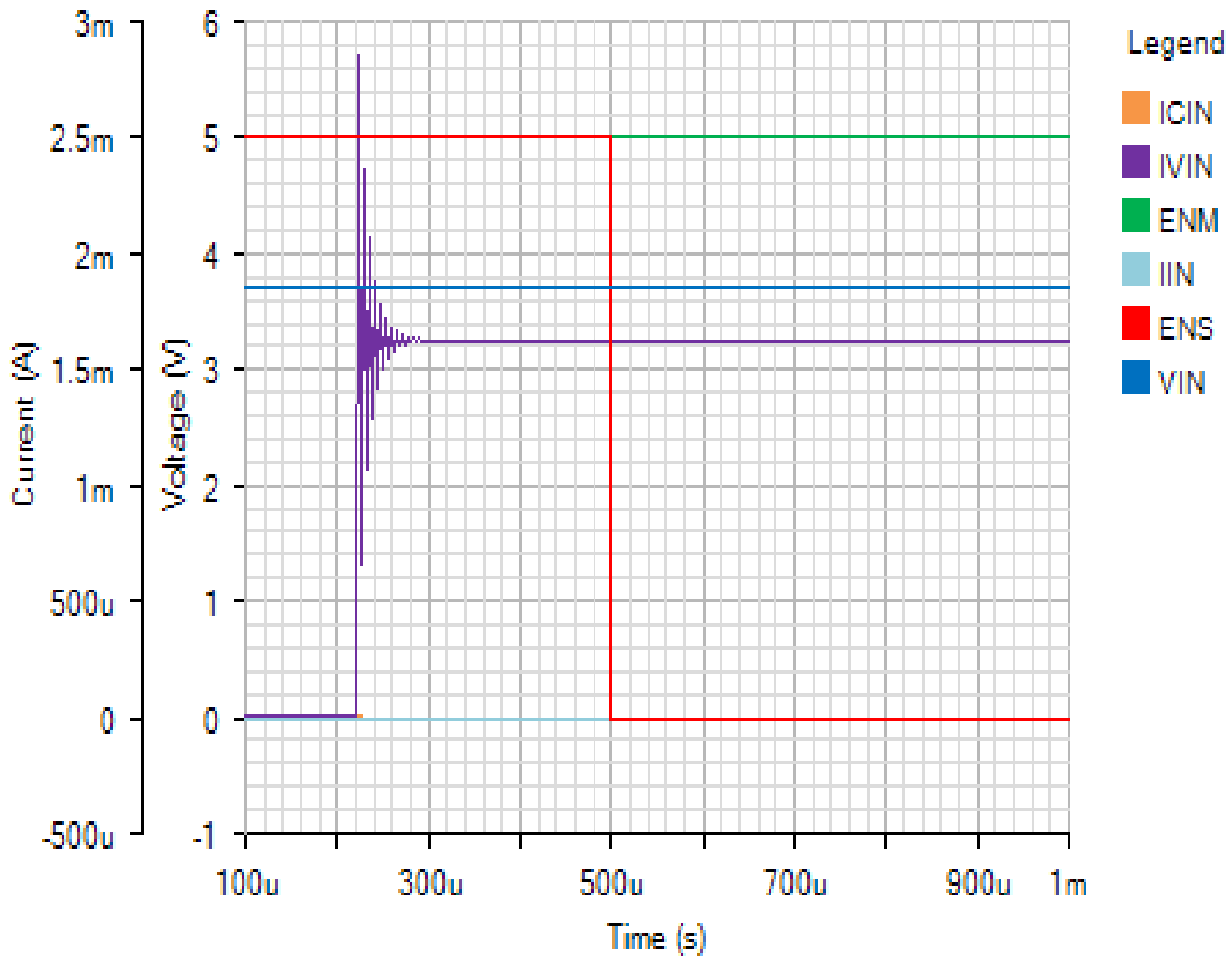
SWITCHING

Default



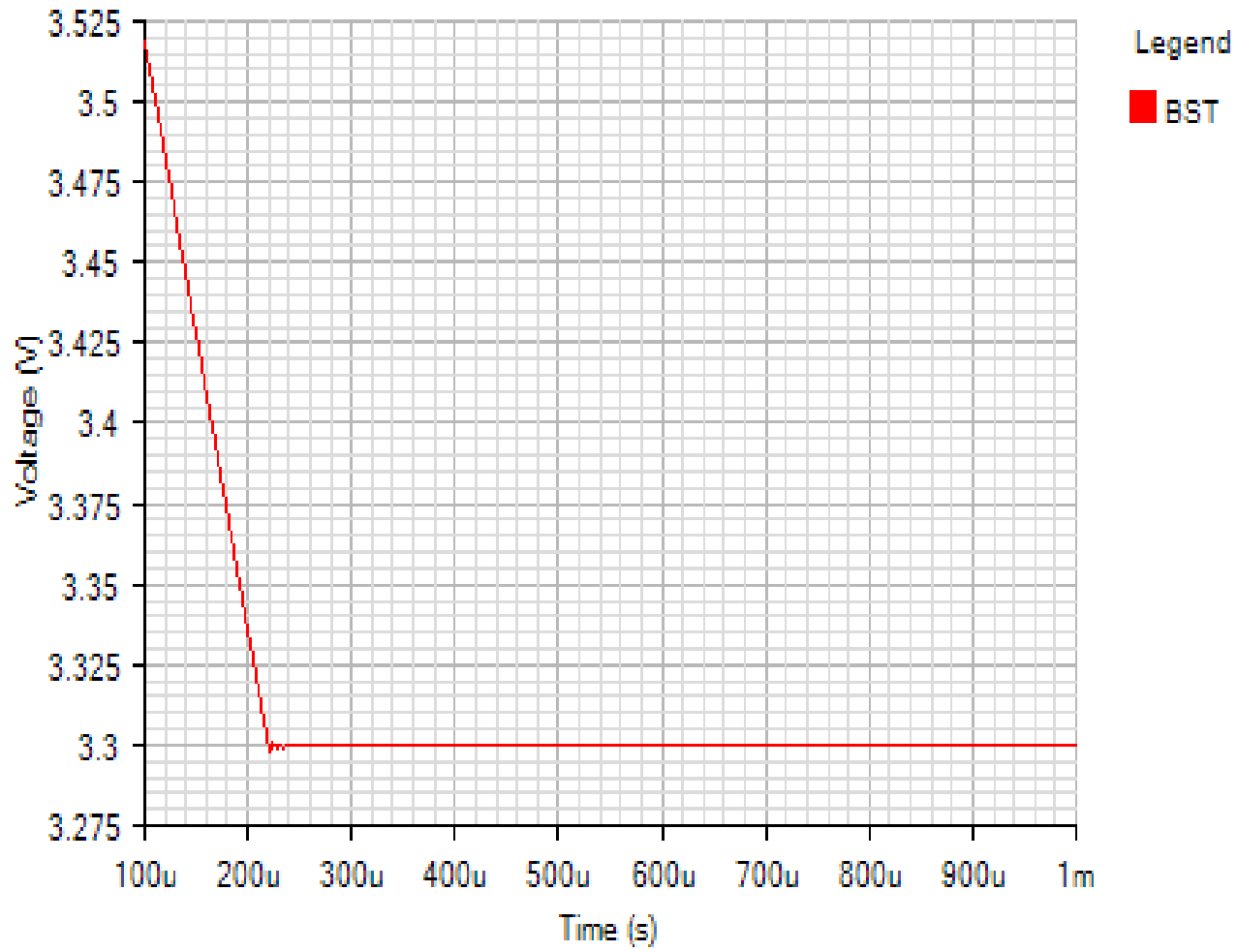
INPUT

Default

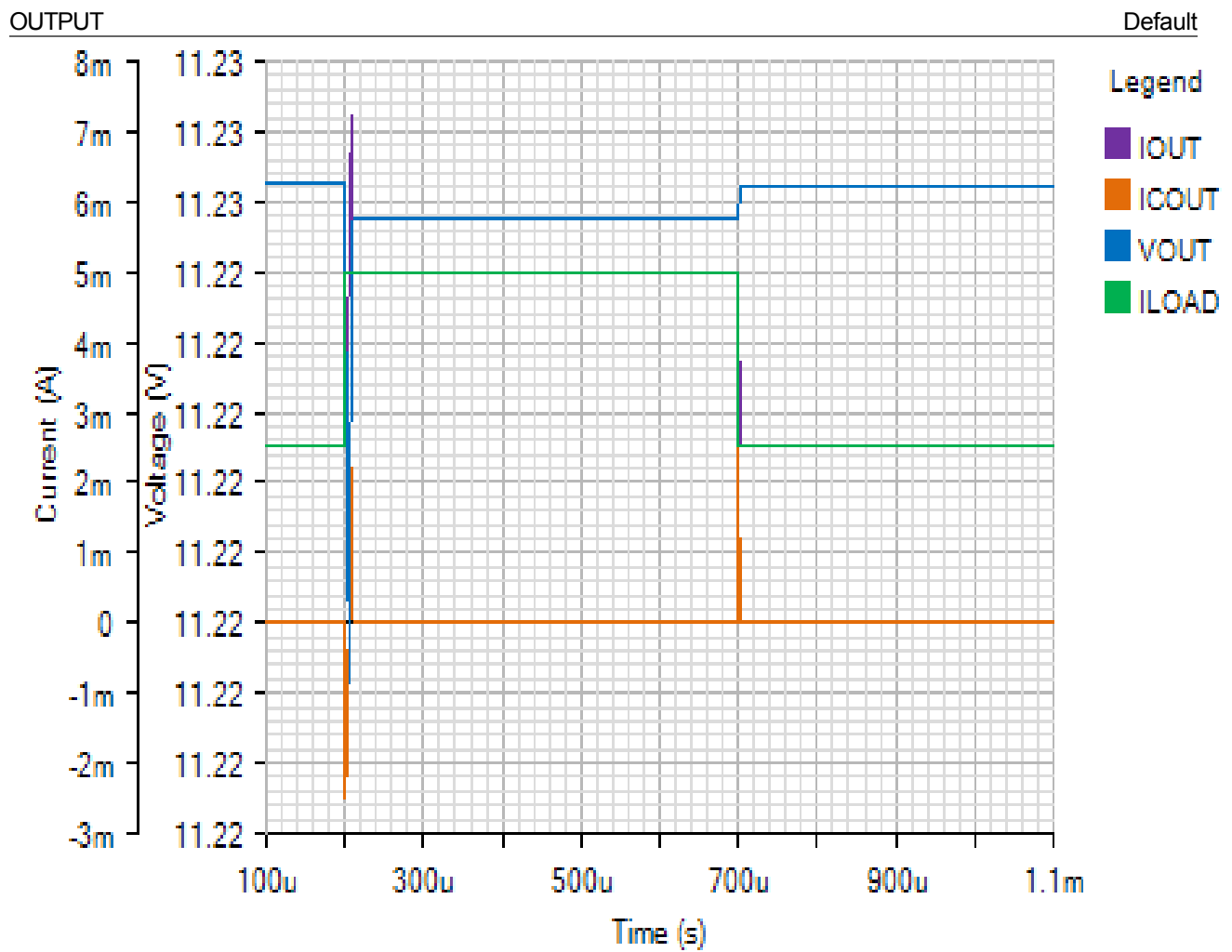


BOOST

Default

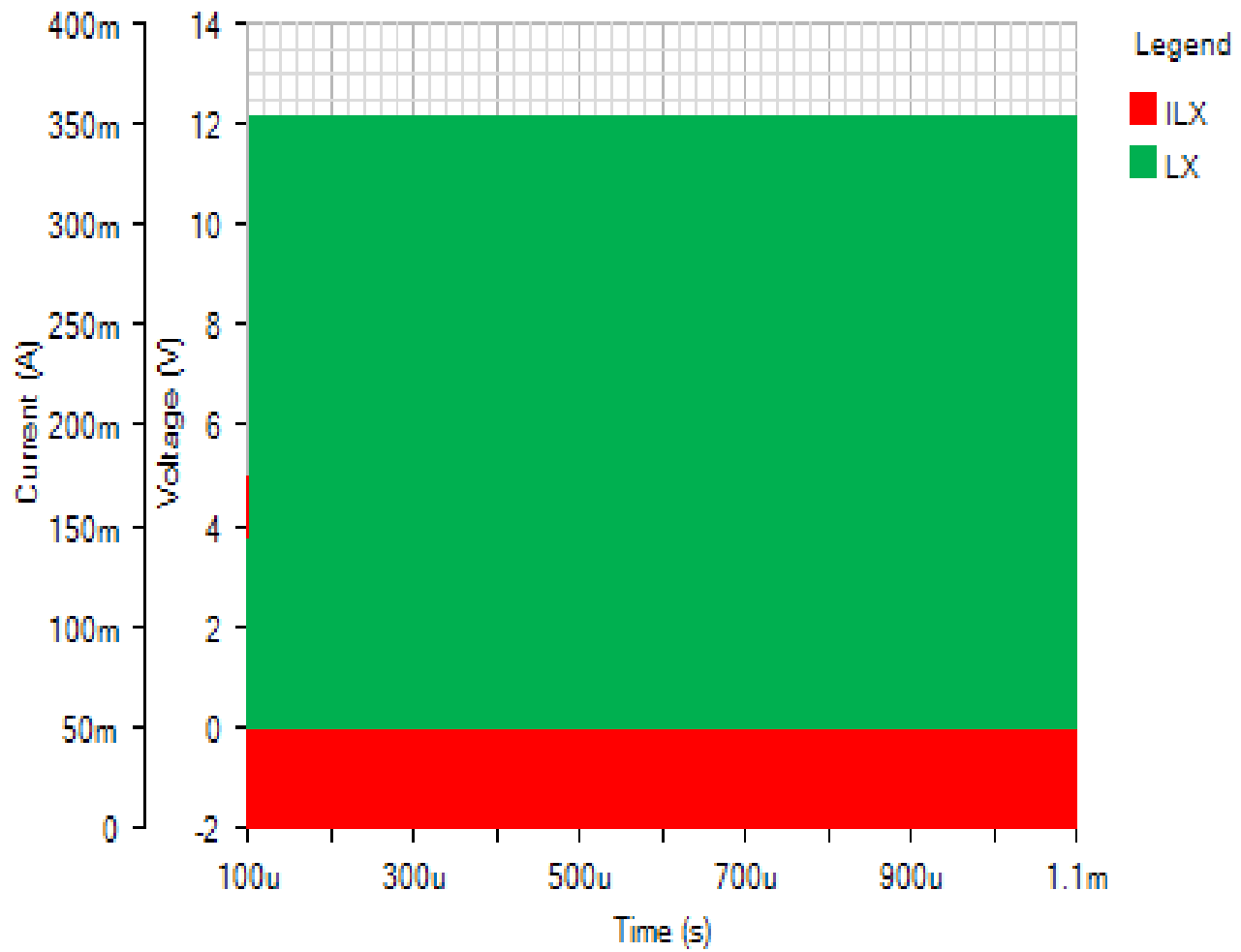


Load Step - Wed Jan 02 2019 16:00:09



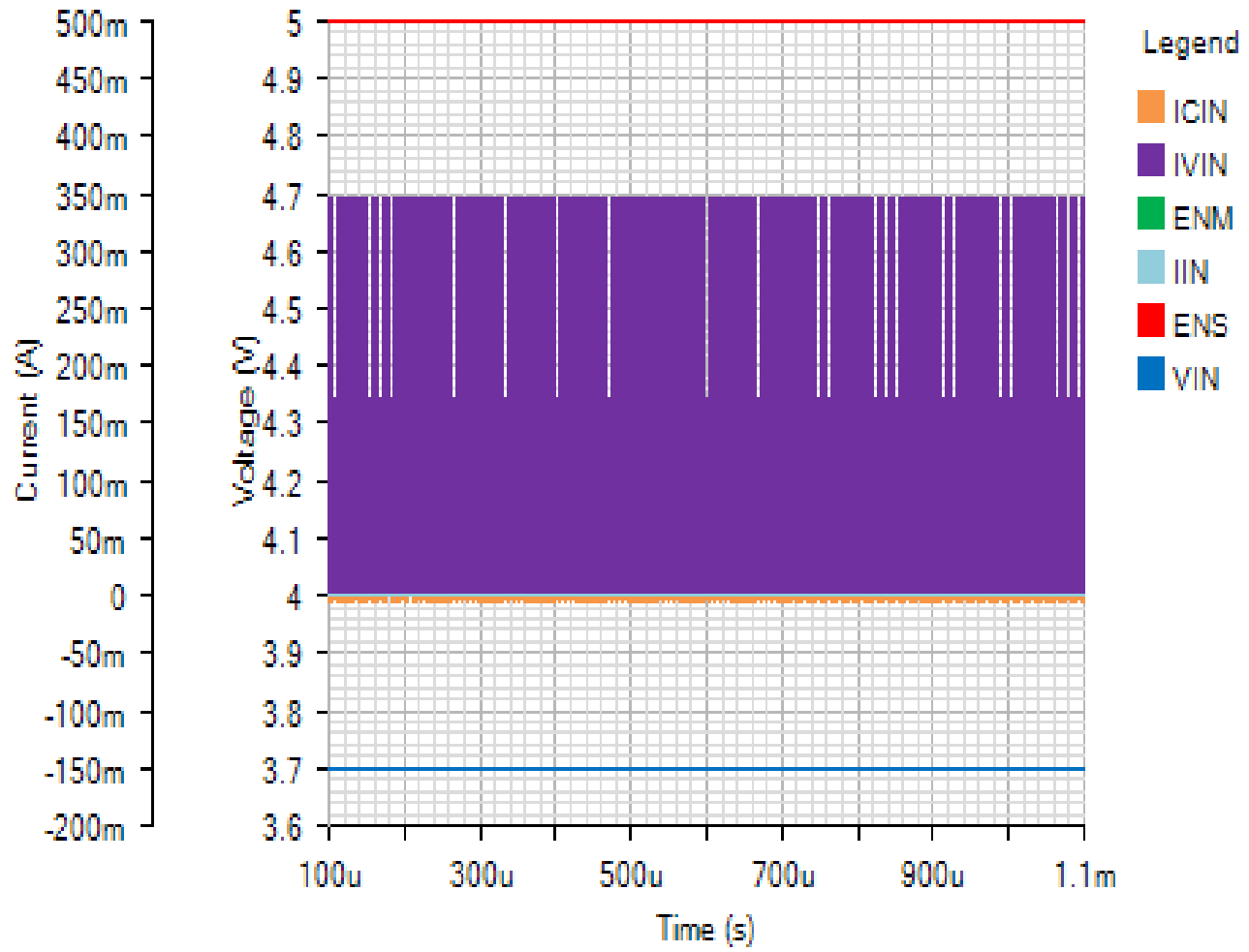
SWITCHING

Default



INPUT

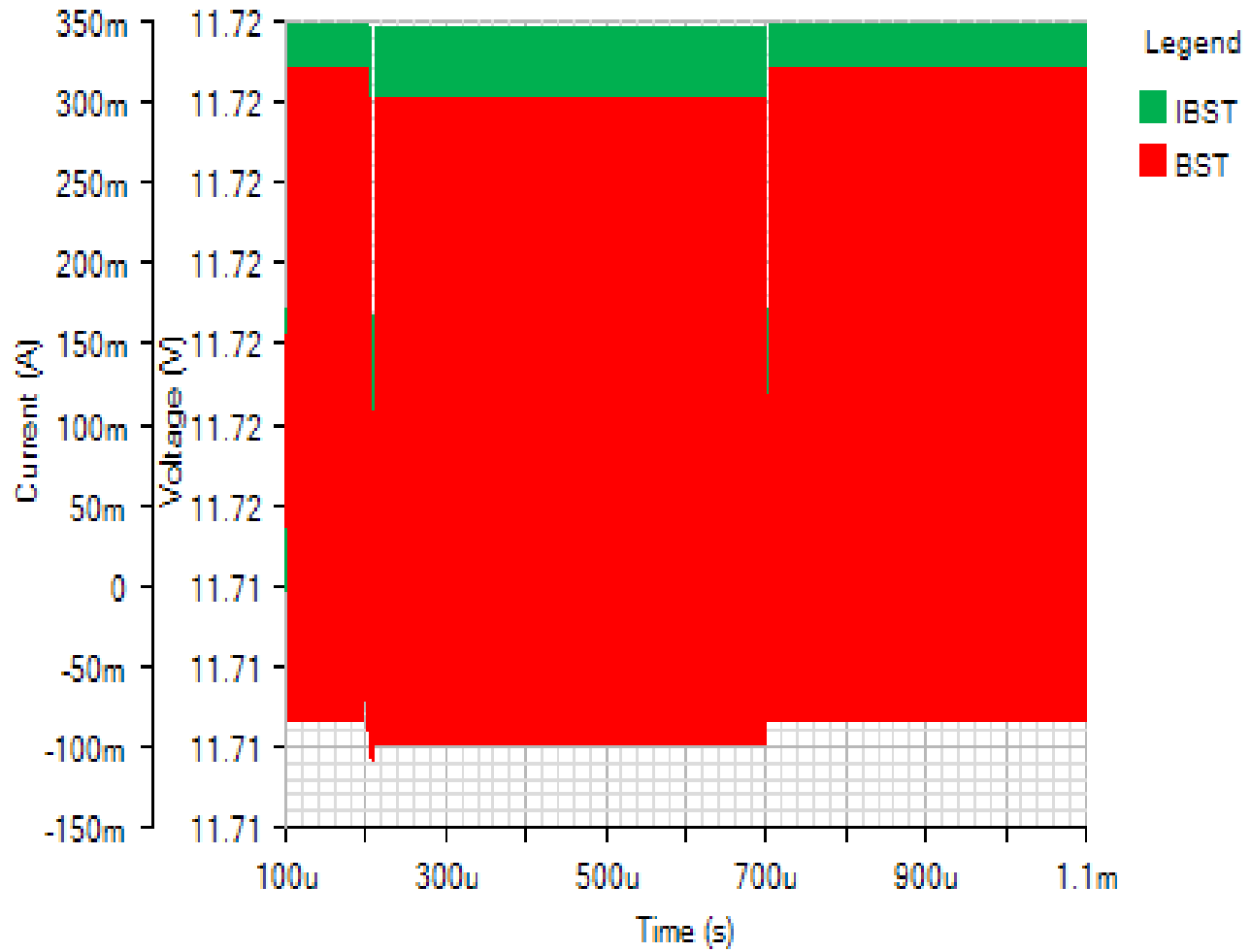
Default





BOOST

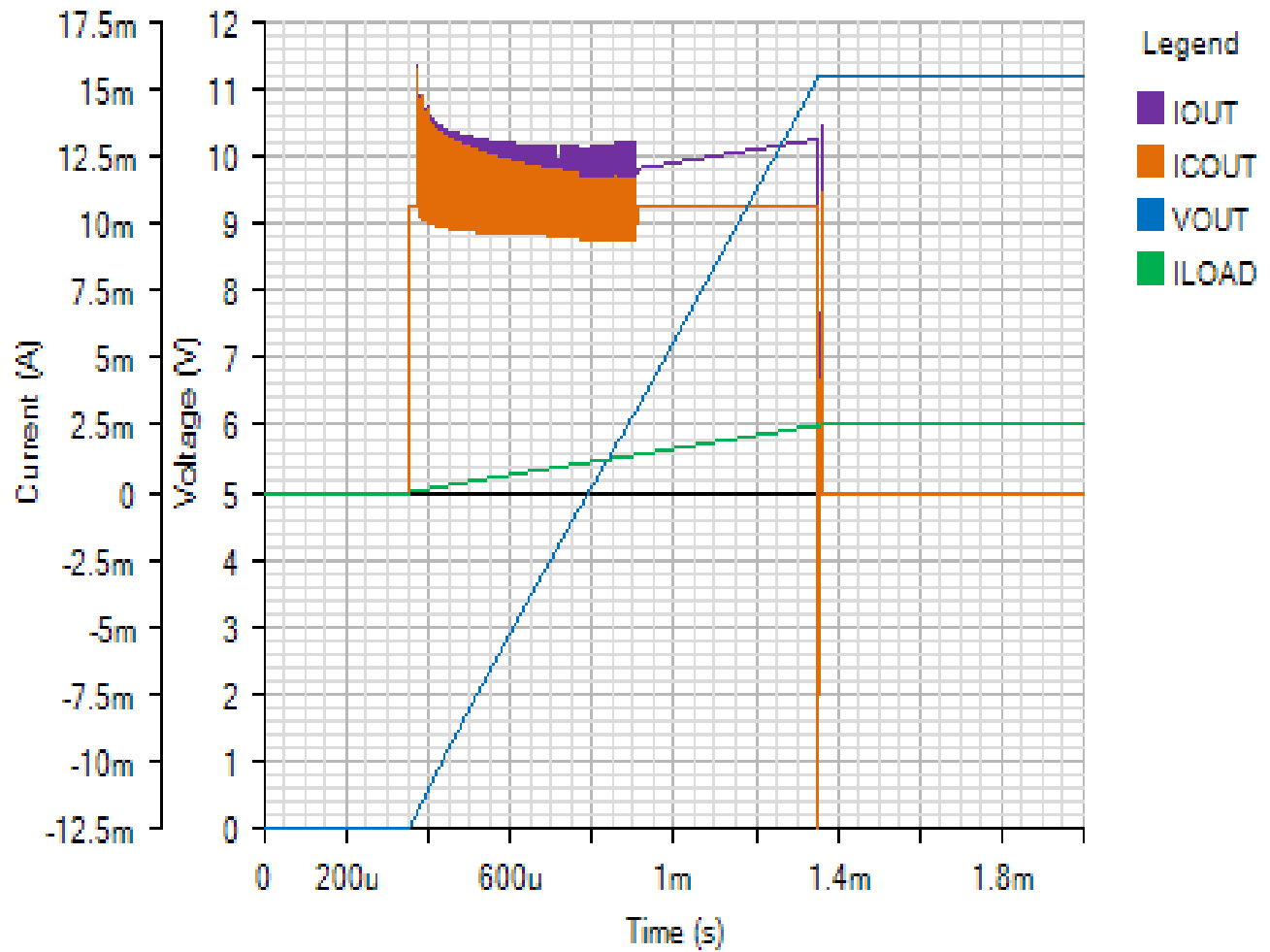
Default



Start Up - Wed Jan 02 2019 16:00:09

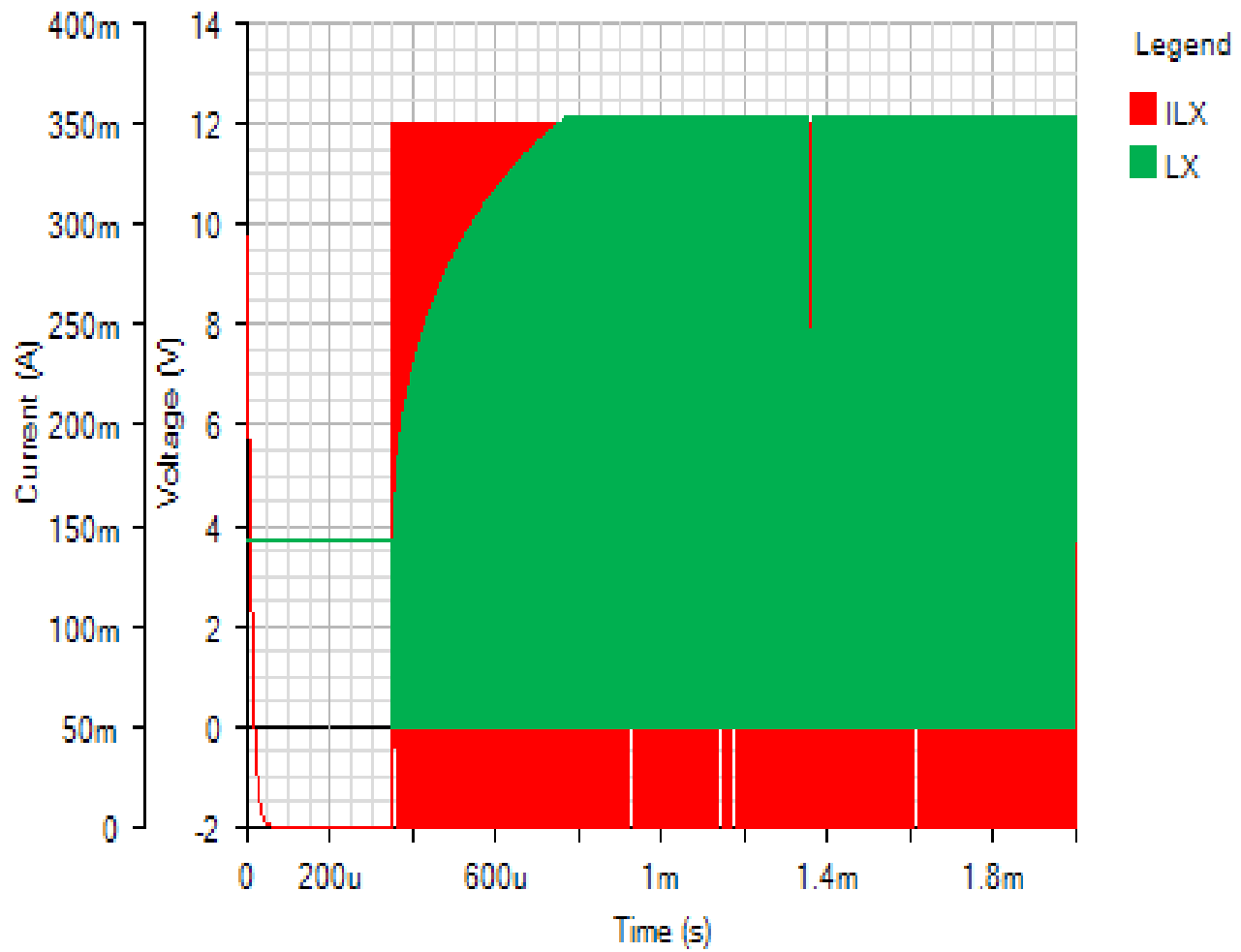
OUTPUT

Default



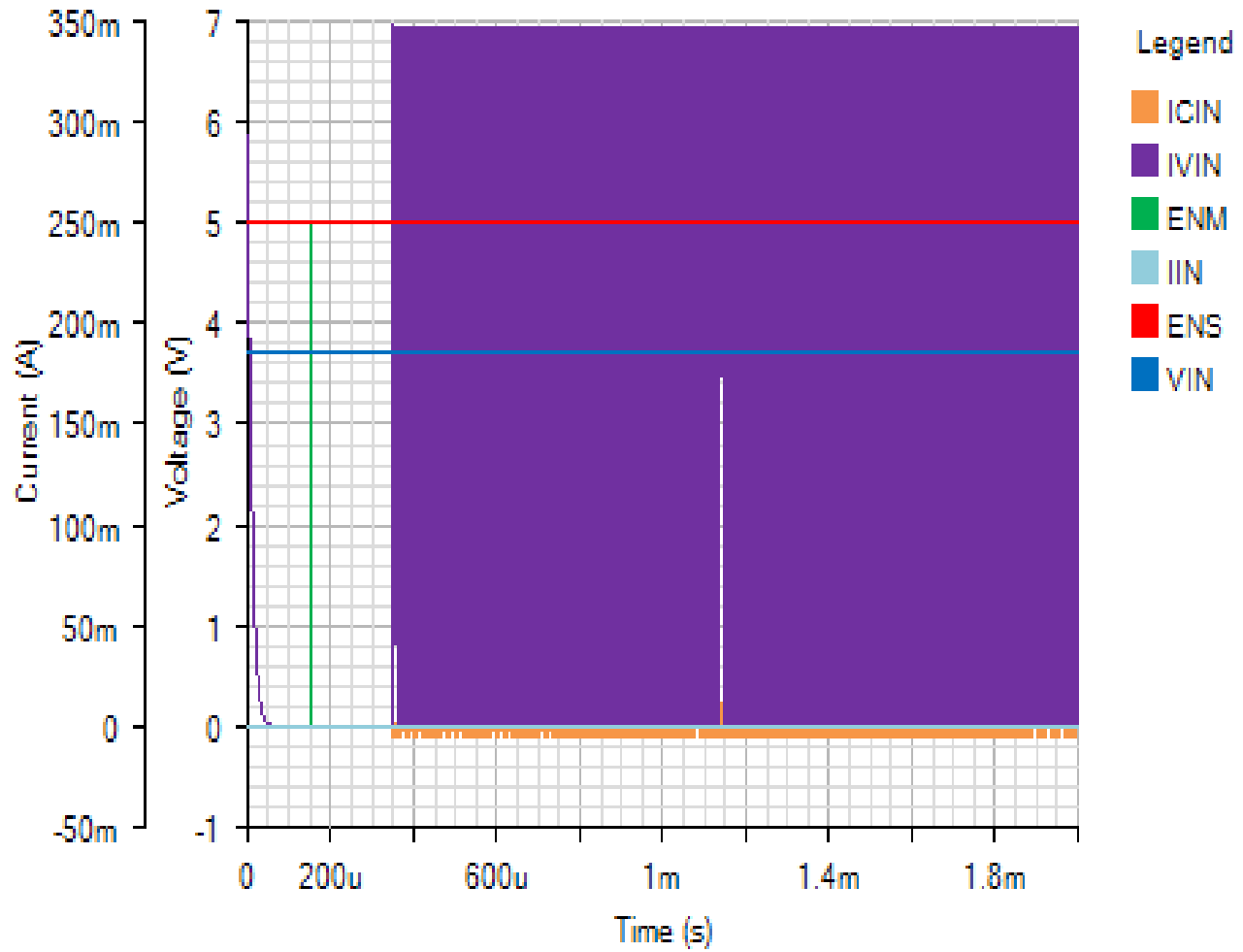
SWITCHING

Default



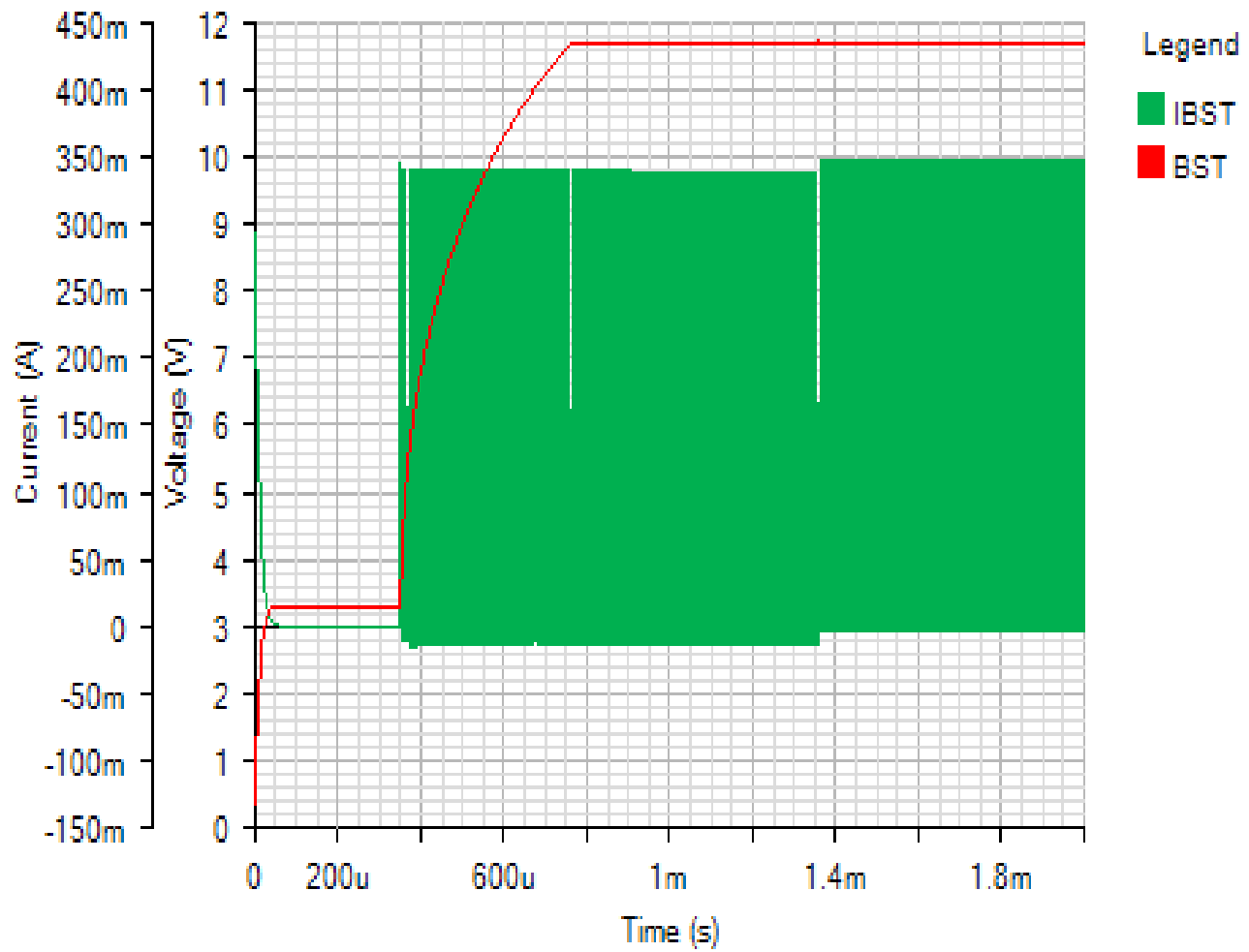
INPUT

Default



BOOST

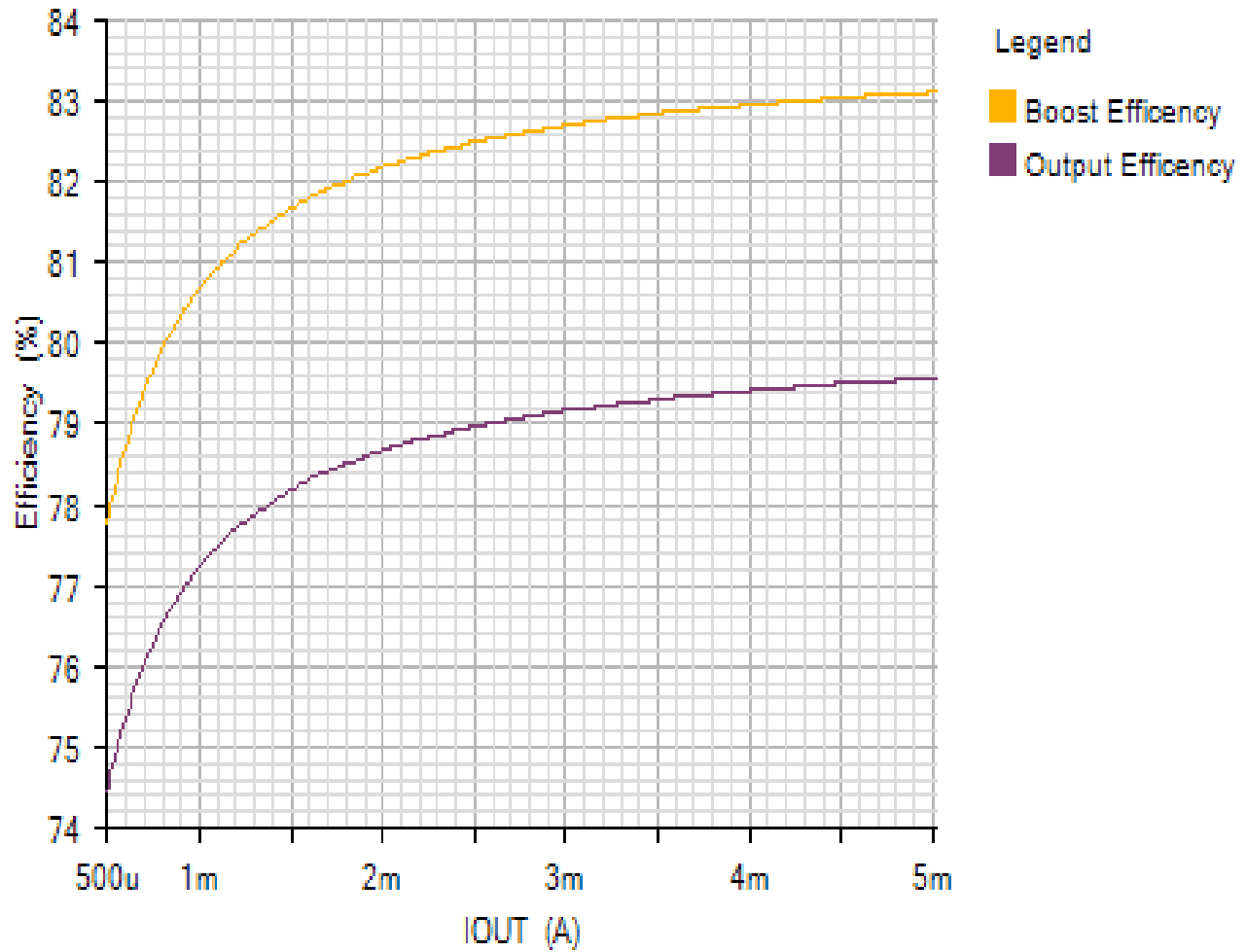
Default



Efficiency - Wed Jan 02 2019 16:00:09

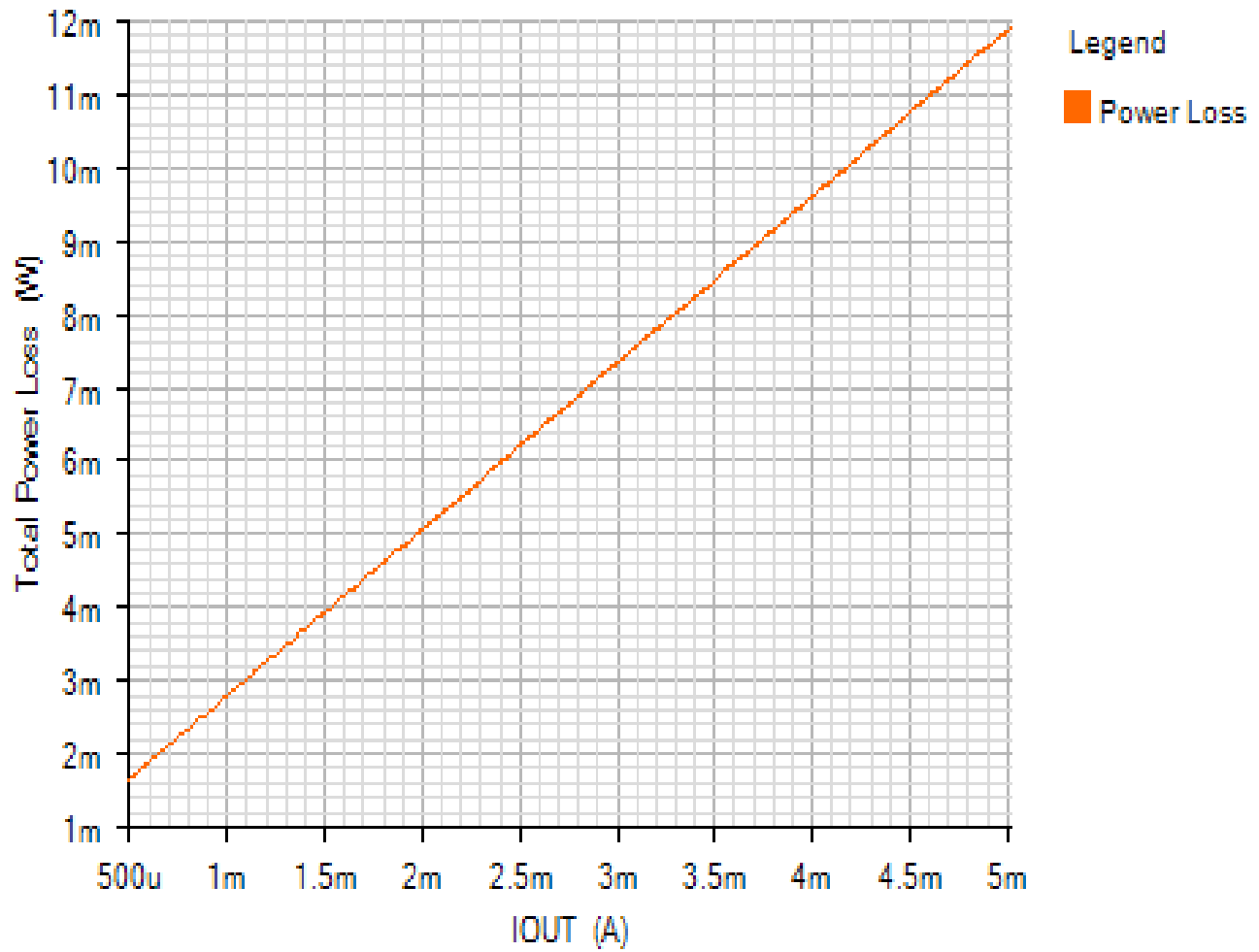
EFFICIENCY

Default



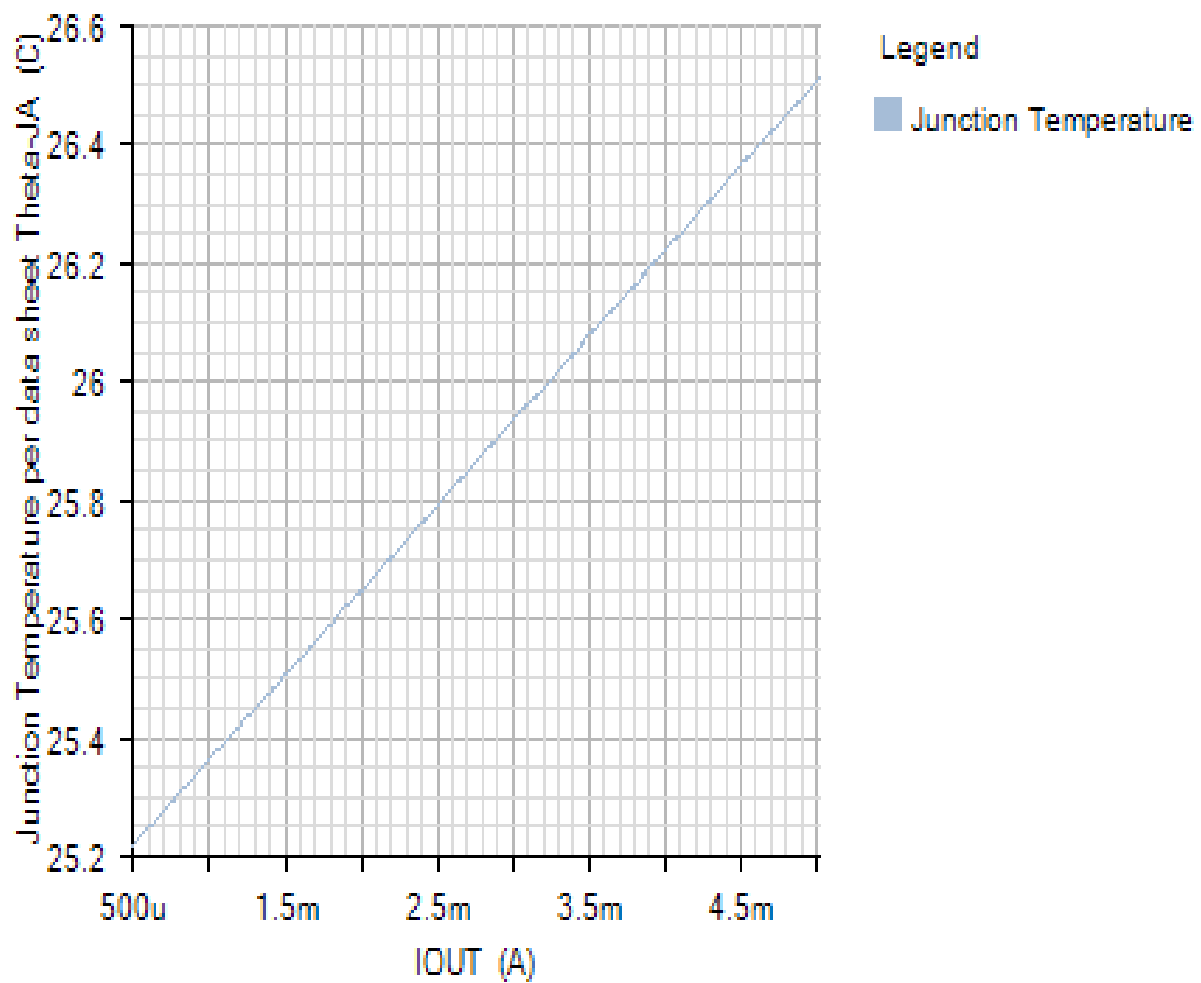
POWER\_LOSS

Default



JUNCTION\_TEMPERATURE

Default



Losses

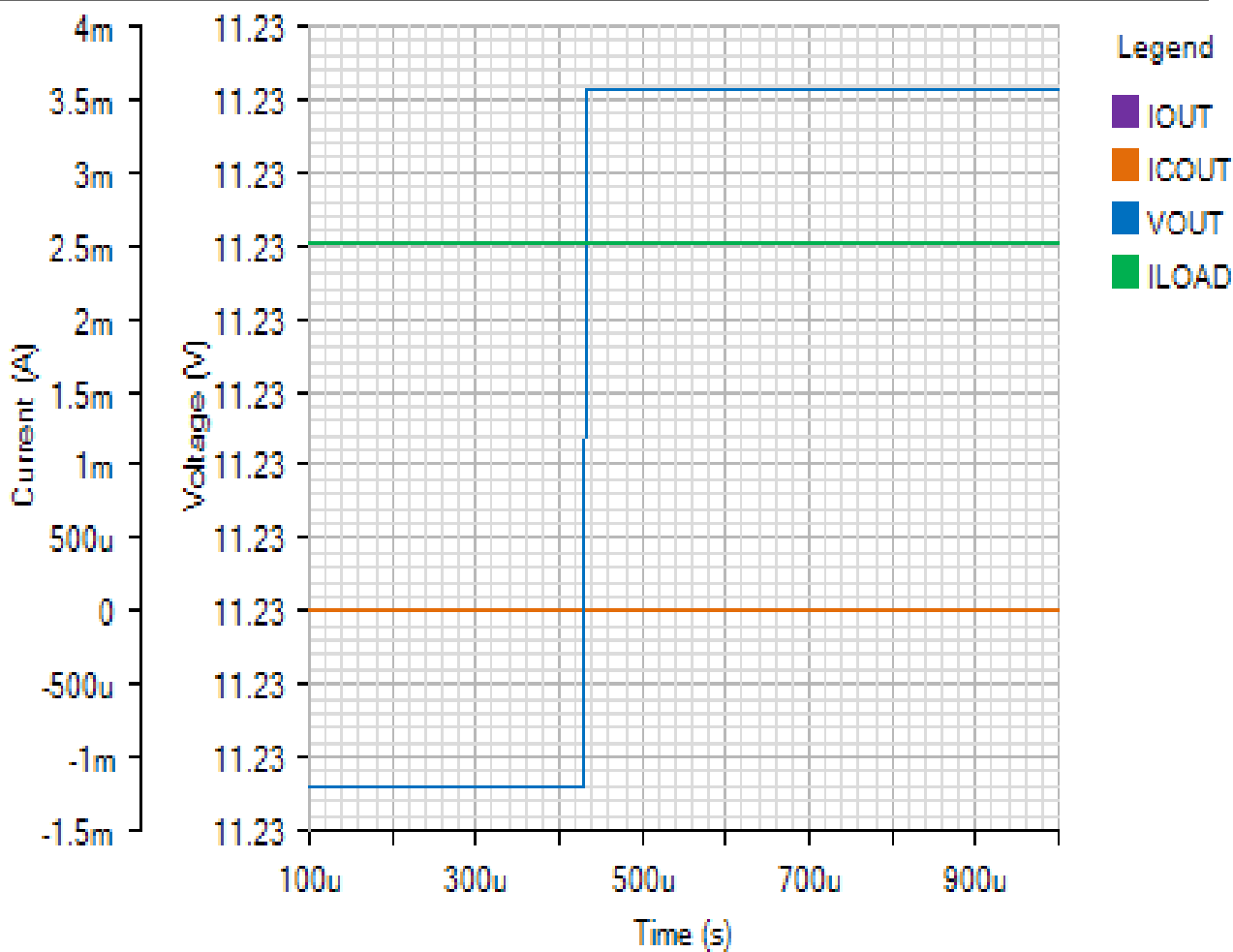


Component	Loss (W)	% of total
Total	0	100

Line Transient - Wed Jan 02 2019 16:00:09

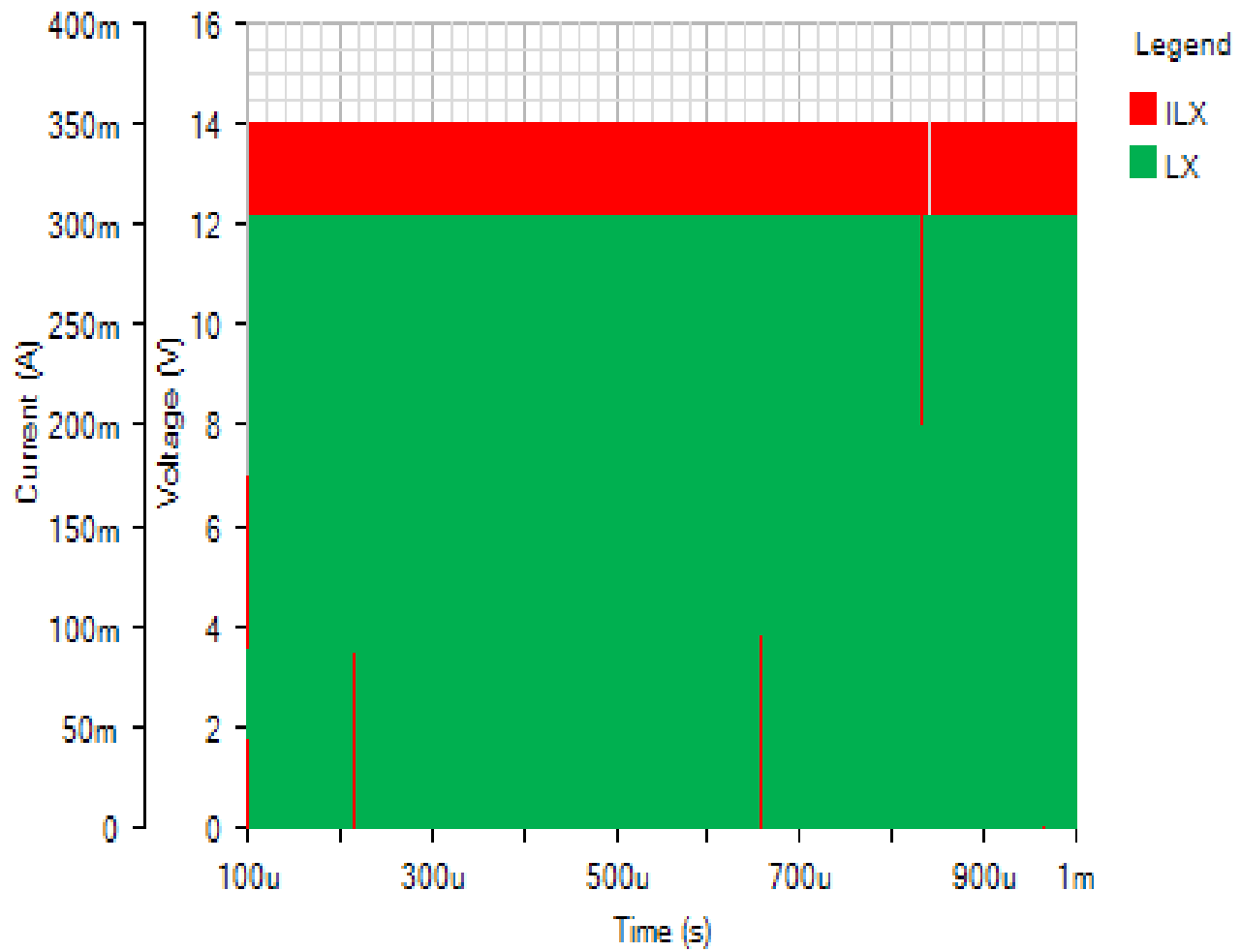
OUTPUT

Default



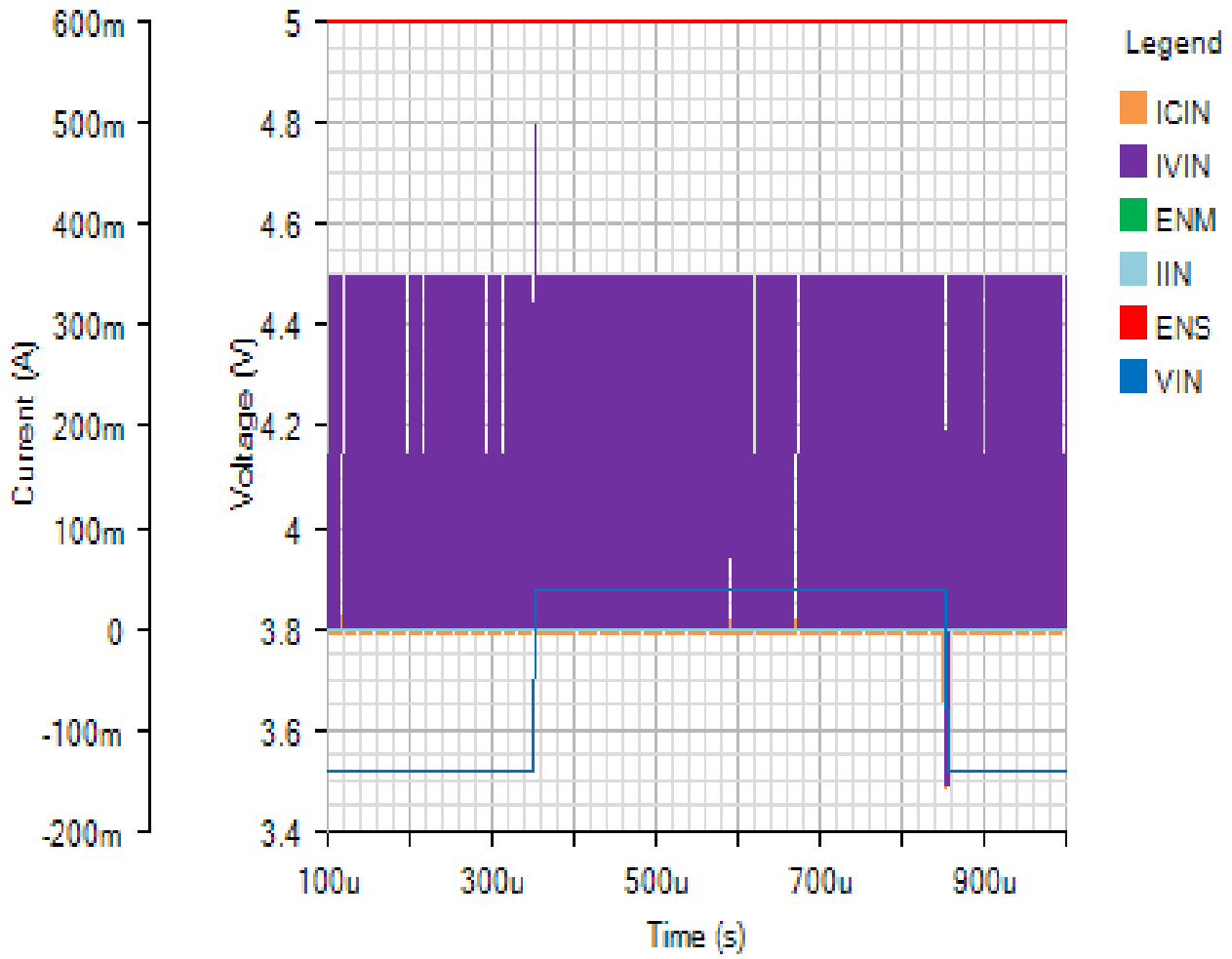
SWITCHING

Default



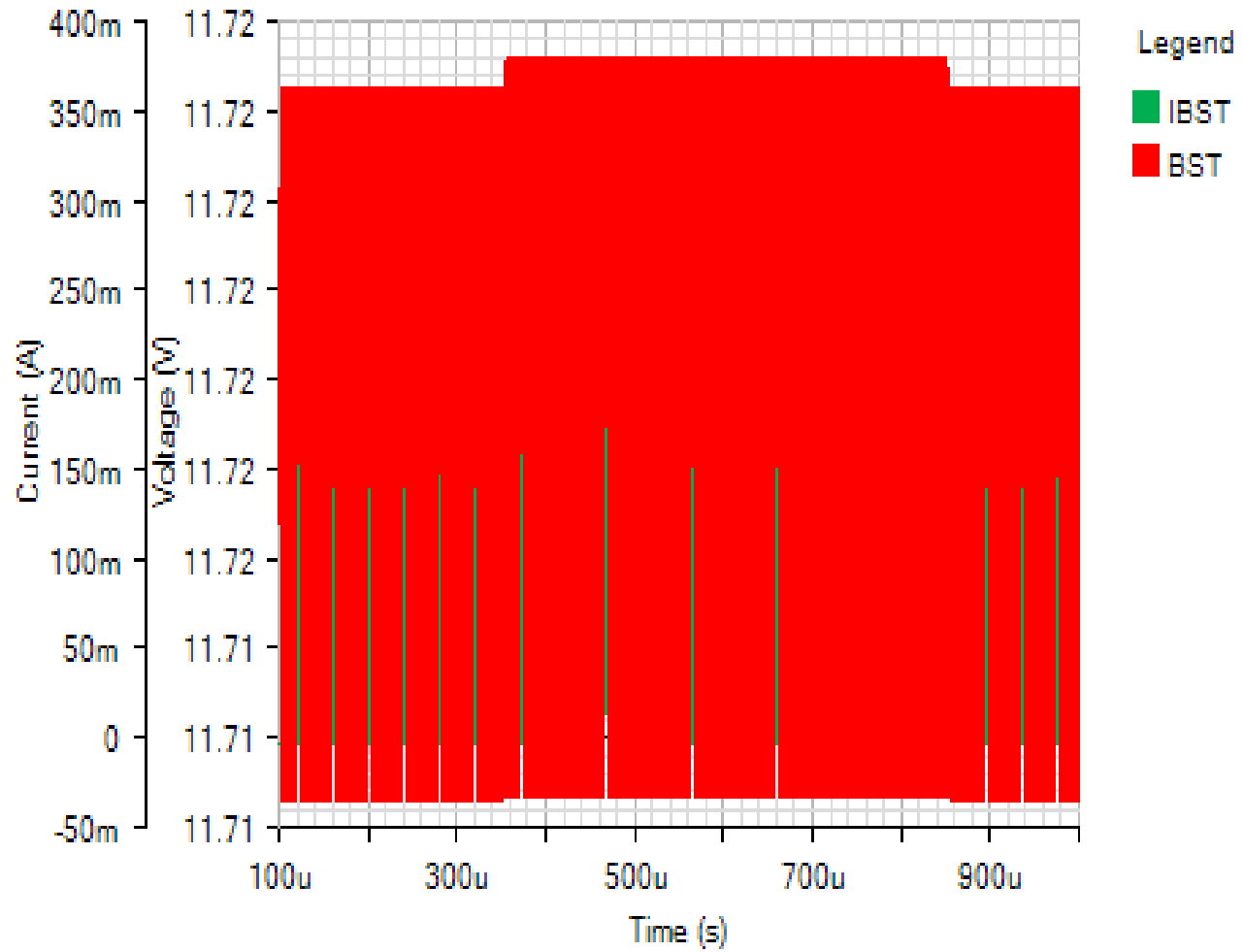
INPUT

Default



BOOST

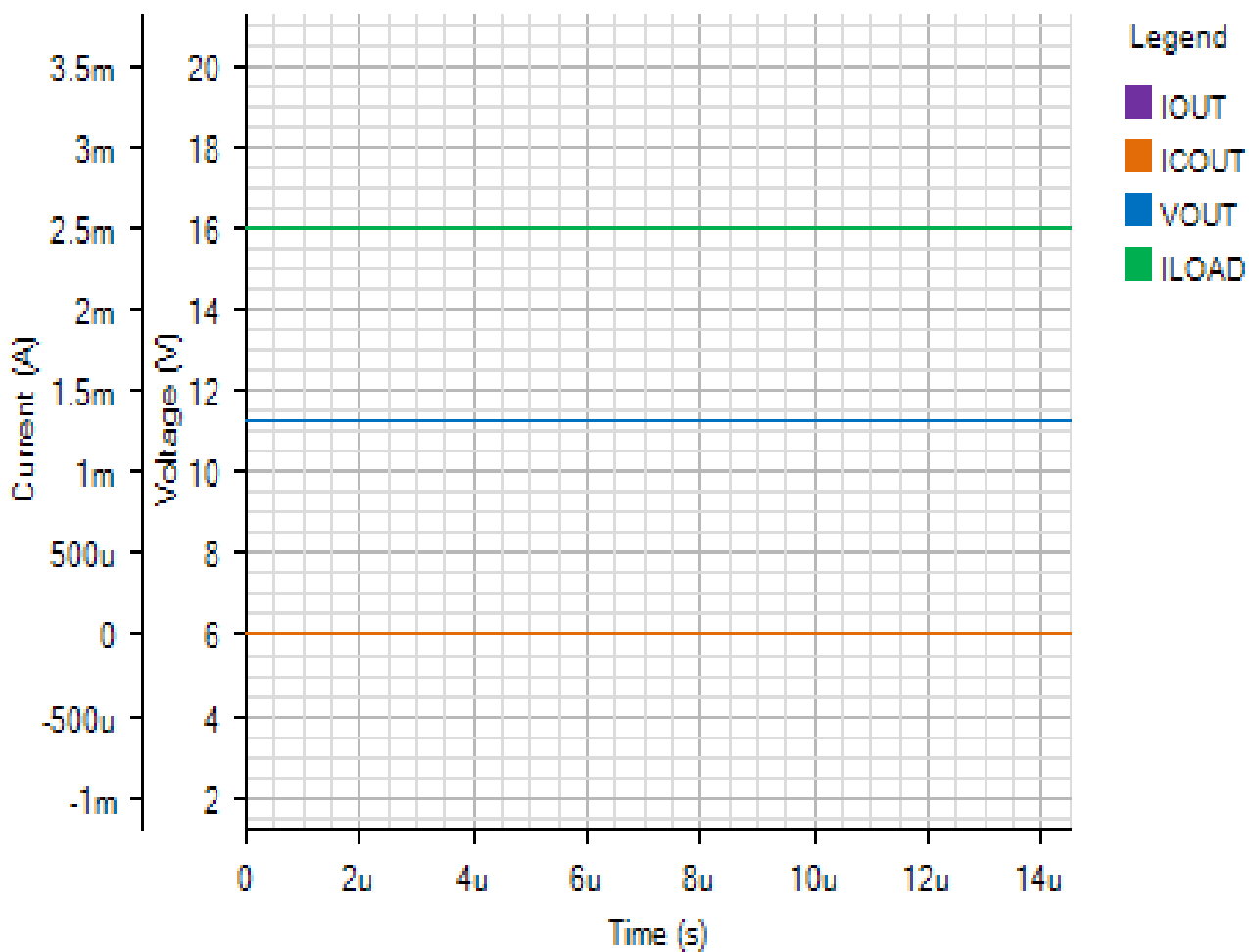
Default



Steady State - Wed Jan 02 2019 16:00:09

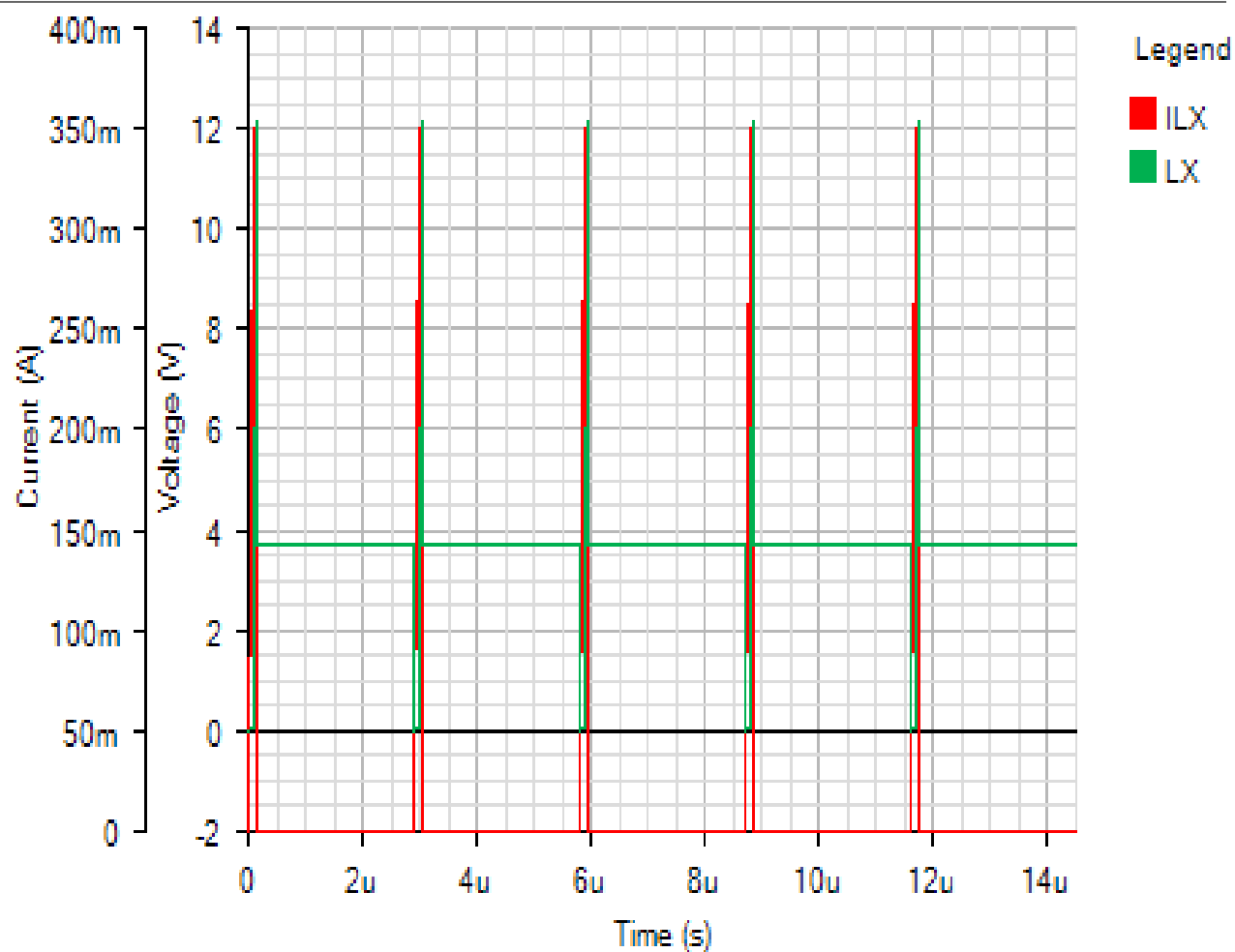
OUTPUT

Default



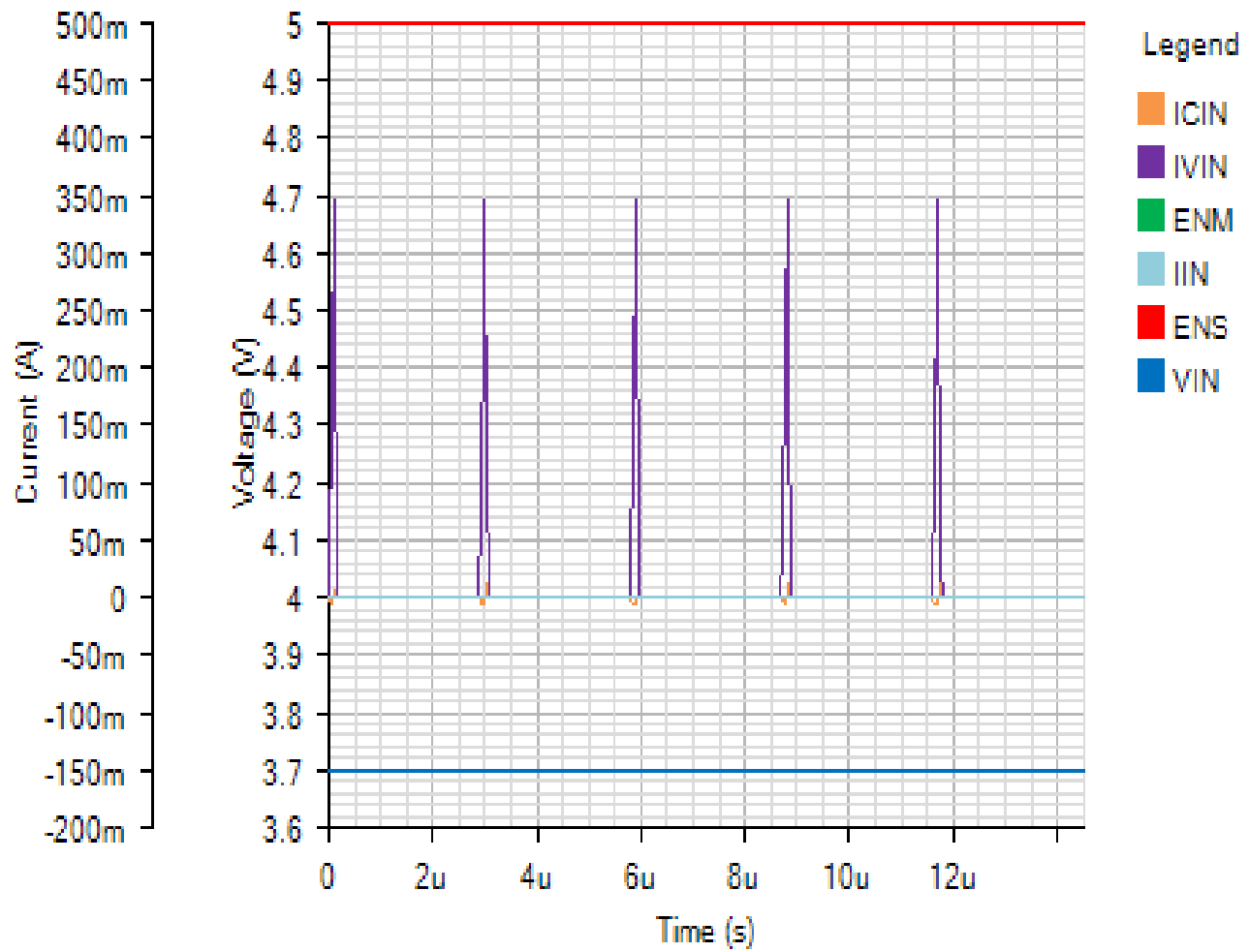
SWITCHING

Default



INPUT

Default





BOOST

Default

