

TPS54JA20 PSpice Model Features and Limitations

Model Usage Notes:

A. Features have been modelled

1. Output Voltage Setting
2. Internal Fixed Soft-Start and External Adjustable Soft-start
3. External REFIN for Output Voltage Tracking
4. Frequency and Operation Mode Selection
5. Low-side FET Zero-Crossing
6. Current Sense and Positive Overcurrent Protection (OCP)
7. Low-side FET Negative Current Limit
8. Power Good
9. Over Voltage Protection (OVP)
10. Under Voltage Protection (UVP)
11. Out-Of-Bounds (OOB) Operation
12. Output Voltage Discharge
13. UVLO Protection
14. BOOT functionality
15. Remote Sense

B. Features have not been modelled

1. Operating Current, Shutdown Current and Temperature dependent characteristics are not modelled.

C. Application Notes

1. Parameter STEADY_STATE is used for simulating the model either in Start-up (STEADY_STATE=0) or in Steady State (STEADY_STATE=1).
2. Please don't provide external reference signal at SS/REFIN when using parameter STEADY_STATE=1. This may lead to false SS/REFIN detection.
3. Ground Pins have been tied to 0V internally and hence model does not support Inverting topologies.