

\* Model Usage Notes:

\* A. Features have been modelled

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- \* 1. Output voltage setting
- \* 2. EN on/off
- \* 3. Negative over current threshold
- \* 4. Overcurrent protection(OCP)
- \* 5. Undervoltage protection (UVP)
- \* 6. Overvoltage protection (OVP)
- \* 7. Vin UVLO protection
- \* 8. Large Duty Cycle Operation

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\* B. Features have not been modelled

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- \* 1. Operating Quiescent Current
- \* 2. Shutdown Current
- \* 3. Temperature dependent characteristics

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\* C. Application Notes

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- \* 1. The TPS56C231 Transient model is encrypted and will only run in PSPICE Versions 17.4 and above.
- \* 2. The testbench has been configured for VIN = 12V, VOUT = 1.2V IOU = 12A .
- \* 3. Model is configured to run at 800kHz.
- \* 4. Soft-Start capacitor(C7) is reduced from 47nF to 10nF to reduce simulation time.
- \* 5. The operating quiescent current and shutdown current have not been modeled.
- \* 6. Thermal shutdown characteristics of the part have not been modeled.
- \* 7. Ground Pins have been tied to 0V internally and hence model does not support Inverting topologies.
- \* 8. The simulation runs for 2.8ms and takes approximately 15 minutes to run on a 4 core 2.8GHz machine.

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