

# TPS548x23 SIMPLIS Model Features and Limitations

## Model Usage Notes:

### A. Features Implemented in the Model

1. Programmable output voltages.
2. Parameter-based configuration for overcurrent limit, internal/external feedback selection, switching frequency, and soft-start time.
3. Current sense and positive overcurrent protection.
4. Low-side FET negative current limit.
5. Low-side FET zero-crossing.
6. Power Good (PG) signal functionality.
7. Output voltage discharge behavior.
8. EN/VIN UVLO protection.
9. BOOT pin functionality.
10. TPS548A23 and TPS548B23 are supported.

### B. Features Not Implemented in the Model

1. Configuration via CFG1 - CFG5 pin selection.
2. Hiccup or latch-off fault protection response.
3. Operating current, shutdown current, and temperature-dependent behavior.
4. Ground pins are internally connected to 0V. As a result, the model does not support inverting topologies.

### C. Application Notes

1. Use the F11 window to access and modify model parameters and configurations.
2. The parameter HAS\_POP\_ANALYSIS is used to accelerate steady-state convergence in POP analysis. This feature performs reliably in FCCM mode. For PFM mode, a startup simulation is recommended instead.