

Model Features and Limitations

A. Features that have been modelled

1. Control Modes (PH/EN, PWM, Independent Half-Bridge)
2. Configurable Slew Rate
3. Integrated Current Sense
4. Configurable Current Regulation
5. Proportional Load Current Output on IPROPI pin
6. UVLO, Logic Level, Tri-level logic
7. Protection and diagnostic features with configurable fault reaction (latched or retry)
 - a. Load diagnostics in the Off-state and On-state
 - b. Voltage monitoring on supply VM
 - c. Over current protection
 - d. Over temperature protection
 - e. Fault indication on nFAULT pin
8. Current IVMQ and IVMS in Sleep and Standby state
9. Temperature dependency on RDSON of integrated Power FETs
10. Cycle skipping in ENPH/PWM mode
11. SPI interface Register Bits functionality
12. VDD pin current in Active State

B. Model Limitations and Features that haven't been modelled

1. Spread Spectrum clocking for low EMI
2. EC parameters from Table 7.5.8 [AI_ERR, AI_ERR_M, OffsetIPROPI, BWIPROPI]
3. SPI interface PINs (nSCS,SDI,SCLK,SDO) functionality

C. Model Parameter(s)

1. Temp_Amb: Sets the ambient temperature from -40C to 125C
2. EN_OLA: Sets the device OLA Enable/Disable option
3. OCP_RETRY: Sets the device Retry/Latch-Off on detection of OCP event
4. OCP_SEL: Selects the current limit options
5. OLA_RETRY: Sets the device Retry/Latch-Off on detection of OLA event
6. S_DIAG: Selects the DIAG 4 level options
7. S_ITRIP: Selects the VITRIP 8 level options
8. S_MODE: Selects the device Bridge control modes
9. S_SR: Selects the SR 8 level options
10. TOCP_SEL: Selects the deglitch time for OCP 4 level options
11. TOFF: Selects the Fixed-TOFF for current regulation with 4 level options
12. VMOV_SEL: Selects the VMOV thresholds with 4 level options
13. VMOV_RETRY: Sets the device Retry/Latch-Off on detection of VMOV event
14. TSD_RETRY: Sets the device Retry/Latch-Off on detection of TSD event