

## 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 RDS(on) of integrated Power FETs
10. Cycle skipping in ENPH/PWM mode
11. SPI interface Register Bits functionality

### 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