# TPS51397A Pspice Transient Model Features and Limitations

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* Model Usage Notes:
* A. The following features have been modeled
*      a. Adjustable softstart
*      b. PGOOD indicator
*      c. ECO mode and OOA mode
*      d. UVLO
*      e. Valley-current limit
*      f. Latched Over-current protection and under-voltage protection
*      g. Latched Over Voltage protection
*      h. large-duty cycle operation
*      i. Frequency selectivity option (500KHz and 800KHz)
* B. Features have not been modeled
*      1. Temperature dependent characteristics
*      2. Thermal Shutdown characteristics
*      3. Operating quiescent current
*      4. Ground pins have been tied to 0V internally. Therefore, this model cannot be used for inverting topologies.
* C. Application Notes
*      1. The parameter STEADY_STATE has been used to reach the steady state faster.
*         Keep STEADY_STATE = 0 to observe startup behaviour
*         Keep STEADY_STATE = 1 for faster Steady state.
*      2. SS pin can be used to adjust softstart time by changing the value of Css.
*         Default softstart time=1.2ms has been set internally.
*      3. Once VFB is between 90% and 110% of the target output voltage, the PGOOD is de-asserted and floats
*         after a 1-ms de-glitch time.
*      4. Mode pin can be used to select between ECO or OOA mode with frequency of 500KHz or 800KHz.
*         Mode pin is controlled by R9 and R13 resistors value.
*         Voltage on Mode pin decides device operating mode and frequency
*         If voltage on Mode pin=
*         (0~10%)*VCC  then operating mode=ECO and FSW=500KHz
*         (10%~20%)*VCC then operating mode=OOA and FSW=500KHz
*         (20%~30%)*VCC then operating mode=ECO and FSW=800KHz
*         (30%~50%)*VCC then operating mode=OOA and FSW=800KHz.
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