# TPS628601 PSPICE Transient Model Features and Limitations

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* Model Usage Notes:
* A. Features have been modelled
*   1. Switching Characteristics and variation with VIN
*   2. RON and variation with VIN
*   3. Peak, Valley current limit
*   5. 100% duty cycle operation
*   6. Output discharge functionality
*   7. Output voltage selection with VSEL-X pins.
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* B. Features have not been modelled
*   1. Operating Quiescent Current
*   2. Shutdown Current
*   3. Temperature dependent characteristics
*   4. SDA and SCL pins are not modelled.
*   5. Ground Pins have been tied to 0V internally and hence model does not support Inverting
*      topologies.
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* 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 and appropriate IC on Inductor and capacitor to observe for faster Steady state.
*   2. After enabling the device (EN>1V), there is an enable delay (tDelay)= 500us before the device starts switching.
*      After tDelay output voltage ramps up the value set by VSEL-1 and VSEL-2 pins depending on low and high value in 125us.
*      VSEL-2=0 VSEL-1=0 , VOUT=0.6
*      VSEL-2=0 VSEL-1=1 , VOUT=0.7
*      VSEL-2=1 VSEL-1=0 , VOUT=0.8
*      VSEL-2=1 VSEL-1=1 , VOUT=1.0
*   3. Vout parameter is passed to set desired output voltage in steady state simulation.
*   4. When ENABLE_OUTPUT_DISCHARGE=1, VOUT discharges through Discharge Resistor. Else discharge is only through load
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