

Modeling of the Energy Storage Device: LTC3588

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Abstract : This research aims to the characterisation of LTC3588 as a low-power energy storage model. A simple architecture of its internal circuit was presented. The effect of the storage capacitor (C_{in}) and output capacitor (C_{out}) on the output voltage (V_{out}) when the vibration frequency was fixed at 3.2 Hz was investigated. The dependency of the rise time of the output voltage on the LTC3588's input and output capacitors was highlighted. It was found that by increasing the input capacitance from $1\mu F$ to $220\mu F$, lower oscillation in the output voltage combined with a lower rate in the input voltage can be detected. Additionally, the smaller C_{out} causes fewer jumps to meet the final output value (i.e., 3.2 V).

Keywords : LTC3588, modeling, zener diode, LED

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