

General Description

The ET9378 is a low noise, constant frequency 1x/1.33x charge pump DC/DC converter for white LED applications. The ET9378 is capable of driving up to eight channels of LEDs at preset 19mA per channel from a 3.3V to 5.5V input. Under the same conditions, when the charge pump is opened, its efficiency is 10% higher than the conventional 1.5X charge pump. The current sinks may be operated individually parallel for driving higher current LEDs. Only two 1 μ F flying capacitors and two small 1 μ F capacitors (at Vcc and Vout) make this part ideally suited for small, battery-powered applications.

The serial digital input is used to enable, disable, and set current for each LED with 16 settings down to 1.2mA. Each output of the ET9378 is equipped with built-in soft-start circuitry prevents excessive inrush current during start-up. A low-current shutdown feature disconnects the load from the input and reduces quiescent current to less than 1 μ A.

The ET9378 is available in a Pb-free, space-saving 3.0 \times 3.0mm 20-pin QFN20 package.

Features

- VIN Range: 2.5V to 5.5V
- Fully Programmable Current with Single Wire——16 Current Levels
- Drives up to Eight Channels of LEDs
- Overcurrent and Overtemperature Protected
- No Inductors, Low Noise Operation
- Small Application Circuit
- Automatic Soft Start
- I_Q <1 μ A in Shutdown
- Undervoltage Lockout with Hysteresis
- Package : 3.0 \times 3.0mm QFN20(ET9378Y)

Applications

- Cell Phone/Smart Phone/PDA
- Mp3/Mp4/PMP
- White LED Backlighting

Pin Configuration

