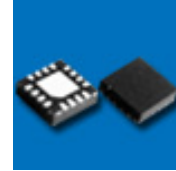


## High Efficiency 1X/1.5X Fractional Charge Pump for White LED

### OVERVIEW

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The CP2163A is optimized for white LED supplies in backlit color display applications. The device provides a constant current, set by an external resistor, for each LED. The supply voltage ranges from 2.7 V to 5.5 V and is ideally suited for all applications powered by a single LI-Ion battery cell or three to four NiCd, NiMH, or Alkaline battery cells. The CP2163A provides up to 30 mA per LED, for a total of 120 mA, for input voltages ranging from 3 V to 5.5 V. High efficiency is achieved by utilizing a 1x/1.5x adaptive fractional conversion technique in combination with very low dropout current sources. Only two external 1 $\mu$ F and two 0.47  $\mu$ F capacitors are required to build a complete small and low cost power supply solution. The CP2163A switches at 1 MHz operating frequency and is available in a small 16-pin QFN package to keep board space to a minimum.

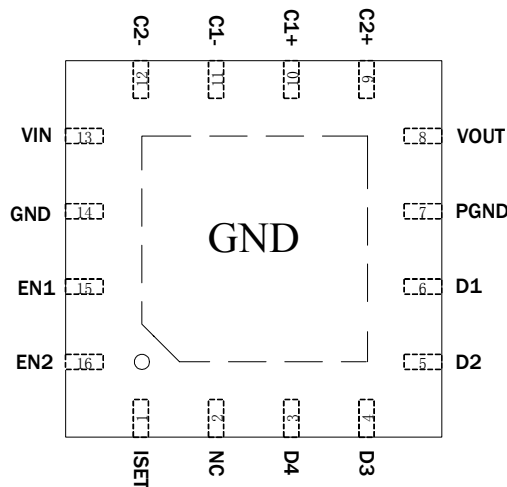


3mm\*3mm QFN 16L  
-40°C ~ 85°C

### FEATURES

- ◆ Drives up to 4 LEDs at 30 mA Each
- ◆ Regulated Output Current With 0.5% Matching Over Temperature
- ◆ LED Brightness Control Through PWM Control Signal (0Hz~50KHz)
- ◆ Low Input Ripple and Low EMI
- ◆ Over-current and Over-temperature Protected
- ◆ Less than 0.1  $\mu$  A Quiescent Current In Shutdown Mode
- ◆ RoHS Compliant and 100% Lead (Pb)-Free

### Pin Diagram (Top View)



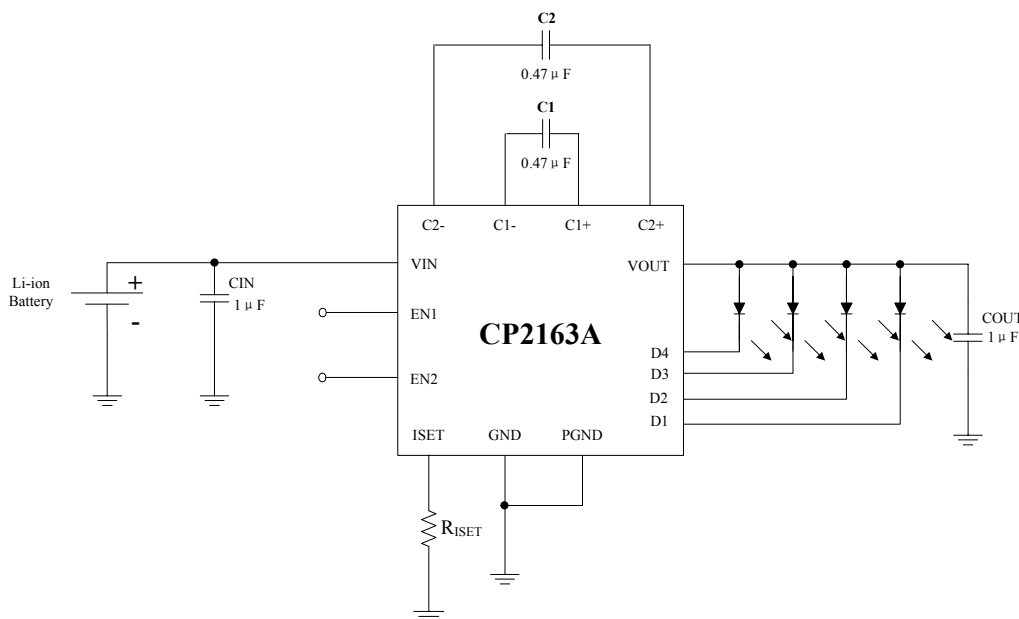
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**APPLICATIONS**

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- ◆ Cell phone
- ◆ Digital Camera
- ◆ MP3,PMP,PDA

**TYPICAL APPLICATION**



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