

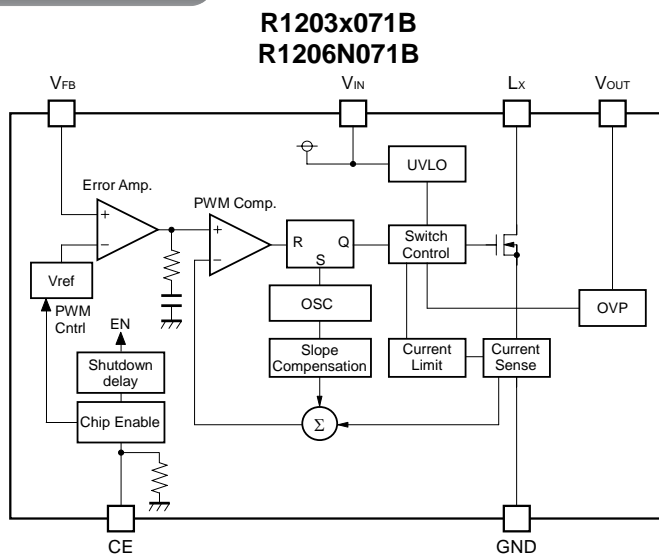
## PWM Step-up DC/DC Converter for White LED

The R1203x/R1206N Series are CMOS-based PWM step-up DC/DC converters, which are optimized to drive white LEDs with constant current. R1203x/R1206N includes an under-voltage lockout circuit (UVLO), and over-voltage protection circuit (OVP). By simply using an inductor, a resistor, capacitors and a diode as external components, white LEDs can be driven with constant current and high efficiency. The LED current can be determined by the value of current setting resistor. The brightness of the LEDs can be adjusted quickly by applying a PWM signal (200Hz to 300kHz) to the CE pin. Two different pin layout of SOT-23-6 package as R1203N and R1206N are available.

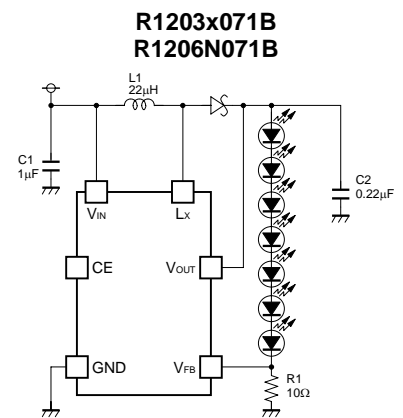
### FEATURES

- Supply Current ( $I_{DD}$ ) ..... Typ. 500 $\mu$ A (No switching)
- Standby Current ( $I_{standby}$ ) ..... Typ. 1 $\mu$ A (CE="L")
- Input Voltage Range ( $V_{IN}$ ) ..... 1.8V to 5.5V  
(Absolute maximum rating: 6.5V)
- Feedback Voltage ( $V_{FB}$ ) ..... 0.2V
- Feedback Voltage Accuracy .....  $\pm 10$ mV
- Oscillator Frequency ( $f_{osc}$ ) ..... 1.2MHz
- Oscillator Maximum Duty Cycle (Maxduty) .. Min. 86%, Typ. 91%
- UVLO Detect Voltage ( $V_{UVLO}$ ) ..... Typ. 1.6V
- Coil-current Limit Circuit ..... Current limit Typ. 700mA
- Over Voltage Protection Circuit (OVP) ... 29.5V
- LED High-speed Dimming Control
- Packages ..... R1203x Series  
DFN1616-6B, SOT-23-6  
R1206N Series  
SOT-23-6

### BLOCK DIAGRAM



### TYPICAL APPLICATION



### SELECTION GUIDES

Halogen Free	Package	Q'ty per Reel	Part No.
H/F	DFN1616-6B	5,000 pcs	R1203L071B -TR
H/F	SOT-23-6	3,000 pcs	R1203N071B -TR-FE
			R1206N071B -TR-FE

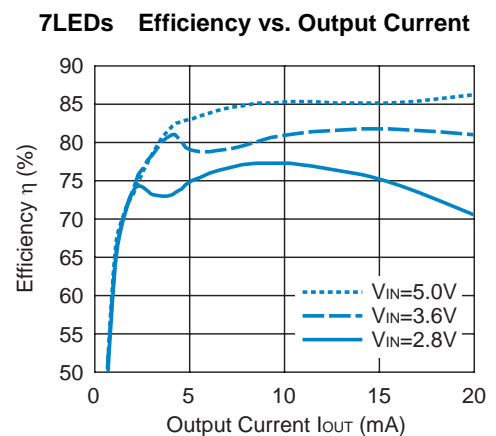
xxx : Specify the OVP Voltage.  
(071) 29.5V

### PACKAGES

DFN1616-6B		SOT-23-6	
		R1203N	R1206N
1	CE	1	CE
2	VFB	2	VOUT
3	Lx	3	VIN
4	GND	4	Lx
5	VIN	5	GND
6	VOUT	6	VFB

\*) The tab is substrate level (GND).

### TYPICAL CHARACTERISTIC



### APPLICATION

- White LED driver for hand-held equipment



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