

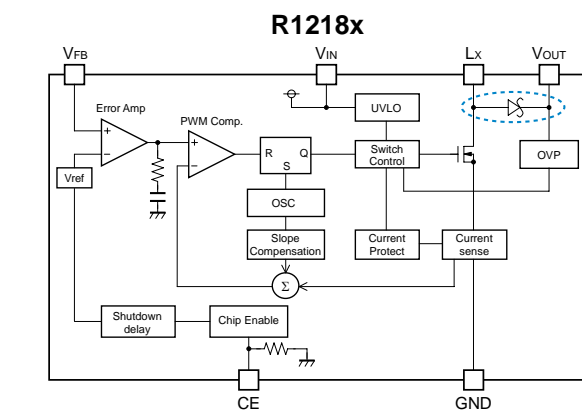
PWM Step-up DC/DC Converter for White LED

The R1218x Series are CMOS-based PWM step-up DC/DC converters, which are optimized to drive white LEDs with constant current. R1218x includes an under-voltage lockout circuit (UVLO), over-voltage protection circuit (OVP). By simply using an inductor, (a diode), a resistor, and a capacitor as external components, white LEDs can be driven with constant current efficiently. R1218xxx1A for 2 to 4 lights contains an internal diode while R1218xxx2A for 5 to 7 lights requires an external diode. The LED current can be determined by the value of current setting resistor. The brightness of the LEDs can be adjusted by applying a PWM signal to the CE or V_{FB} pin.

FEATURES

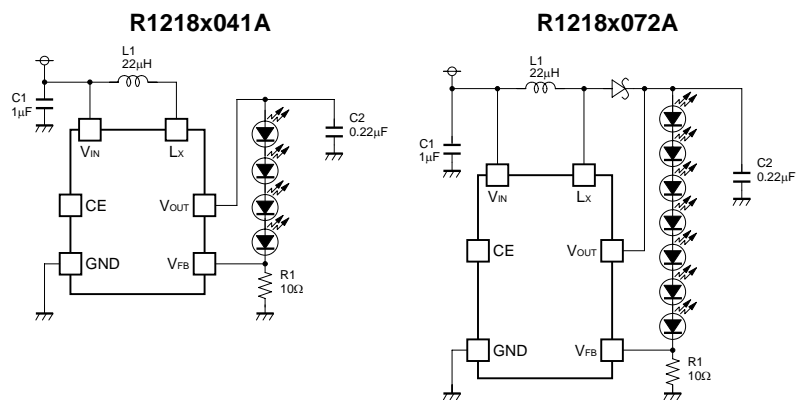
- Supply Current (I_{DD}) Typ. 500μA (V_{IN}=5.5V, V_{FB}=0V, L_x at no load)
- Standby Current (I_{standby}) Max. 3μA (V_{IN}=5.5V, CE="L")
- Input Voltage Range (V_{IN}) 1.8V to 5.5V (Absolute maximum rating : 6.5V)
- Feedback Voltage (V_{FB}) 0.2V
- Feedback Voltage Accuracy ± 10mV
- Temp. coeff. of Feedback Voltage ± 150ppm/°C
- Oscillator Frequency (f_{osc}) 1.2MHz
- Oscillator Maximum Duty Cycle (Maxduty) ... Typ. 91% to 92%
- UVLO Detect Voltage (V_{UVLO}) Typ. 1.6V
- Coil-current Limit Circuit Current limit Typ. 700mA
- Over Voltage Protection Circuit (OVP)
- Packages DFN(PLP)1820-6, SOT-23-6

BLOCK DIAGRAM



For , only R1218xxx1A.

TYPICAL APPLICATIONS

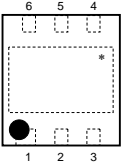
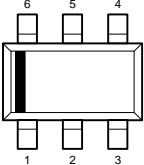


SELECTION GUIDES

Halogen Free	Package	Q'ty per Reel	Part No.
H/F	DFN(PLP)1820-6	5,000 pcs	R1218Kxx\$\$-TR
H/F	SOT-23-6	3,000 pcs	R1218Nxx\$\$-TR-FE

xx : Specify the OVP Voltage.
 (02) OVP : 9.5V, (03) OVP : 14.0V, (04) OVP : 18.5V,
 (05) OVP : 23.0V, (06) OVP : 27.5V, (07) OVP : 31.5V
 \$\$: Specifies built-in diode.
 (1A) With diode, (2A) Without diode,
 xx\$\$ Combination : 021A, 031A, 041A, 052A, 062A, 072A
 (Other combinations are not available.)

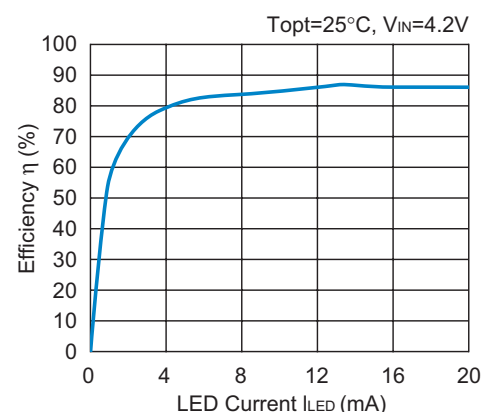
PACKAGES (Top View)

DFN(PLP)1820-6	SOT-23-6																								
																									
<table border="1"> <tr><td>1</td><td>CE</td></tr> <tr><td>2</td><td>V_{FB}</td></tr> <tr><td>3</td><td>L_x</td></tr> <tr><td>4</td><td>GND</td></tr> <tr><td>5</td><td>V_{IN}</td></tr> <tr><td>6</td><td>V_{OUT}</td></tr> </table>	1	CE	2	V _{FB}	3	L _x	4	GND	5	V _{IN}	6	V _{OUT}	<table border="1"> <tr><td>1</td><td>CE</td></tr> <tr><td>2</td><td>V_{OUT}</td></tr> <tr><td>3</td><td>V_{IN}</td></tr> <tr><td>4</td><td>L_x</td></tr> <tr><td>5</td><td>GND</td></tr> <tr><td>6</td><td>V_{FB}</td></tr> </table>	1	CE	2	V _{OUT}	3	V _{IN}	4	L _x	5	GND	6	V _{FB}
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*) The tab is substrate level (GND).

TYPICAL CHARACTERISTIC

R1218x041A Efficiency vs. LED Current



APPLICATIONS

- White LED driver for hand-held equipment



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■ Ricoh awarded ISO 14001 certification.

The Ricoh Group was awarded ISO 14001 certification, which is an international standard for environmental management systems, at both its domestic and overseas production facilities. Our current aim is to obtain ISO 14001 certification for all of our business offices.

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Ricoh completed the organization of the Lead-free production for all of our products. After Apr. 1, 2006, we will ship out the lead free products only. Thus, all products that will be shipped from now on comply with RoHS Directive.