



## DESCRIPTION

The RS6501 is Monolithic IC that design for a step-down DC/DC Converter, and own the ability of driving a 2A load without additional transistor component. The output version included 3.3V, 5V, 12V and an adjustable type. It operates at a switching frequency of 150KHz thus allowing smaller sized filter components than what would be needed with lower frequency switching regulators. Other features include a guaranteed  $\pm 4\%$  tolerance on output voltage under specified input voltage and output load conditions, and  $\pm 15\%$  on the oscillator frequency. Regarding protected function, thermal shutdown is to prevent over temperature operating from damage, and current limit is against over current operating of the output switch.

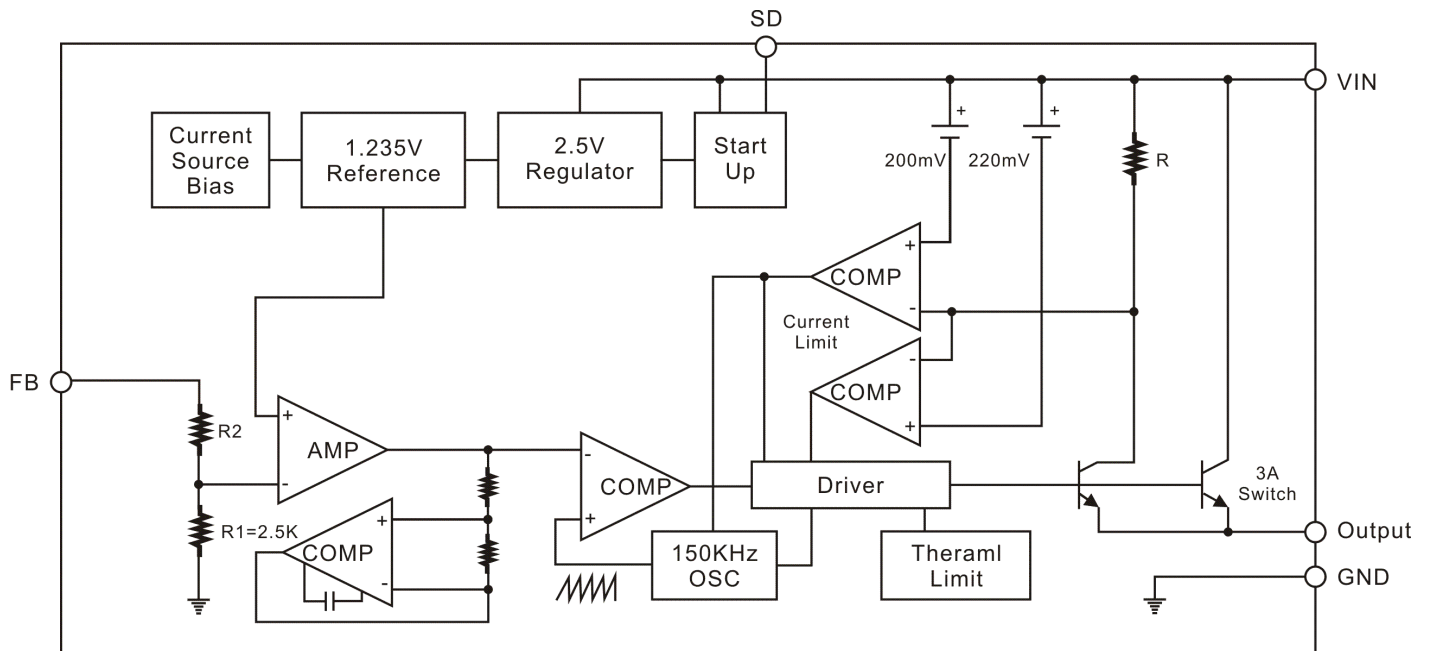
## FEATURES

- 3.3V, 5V, 12V and adjustable
- Adjustable version output voltage range: 1.23 -37V
- $\pm 4\%$  max over line and load conditions
- 150KHz  $\pm 15\%$  fixed switching frequency
- TTL shutdown capability
- Operating voltage can be up to 40V
- Output load current: 2A
- SOP -8 package
- Low power standby mode
- Thermal -shunt down and current limit protection
- Built-in switching a transistor on chip, requires only 4 external components

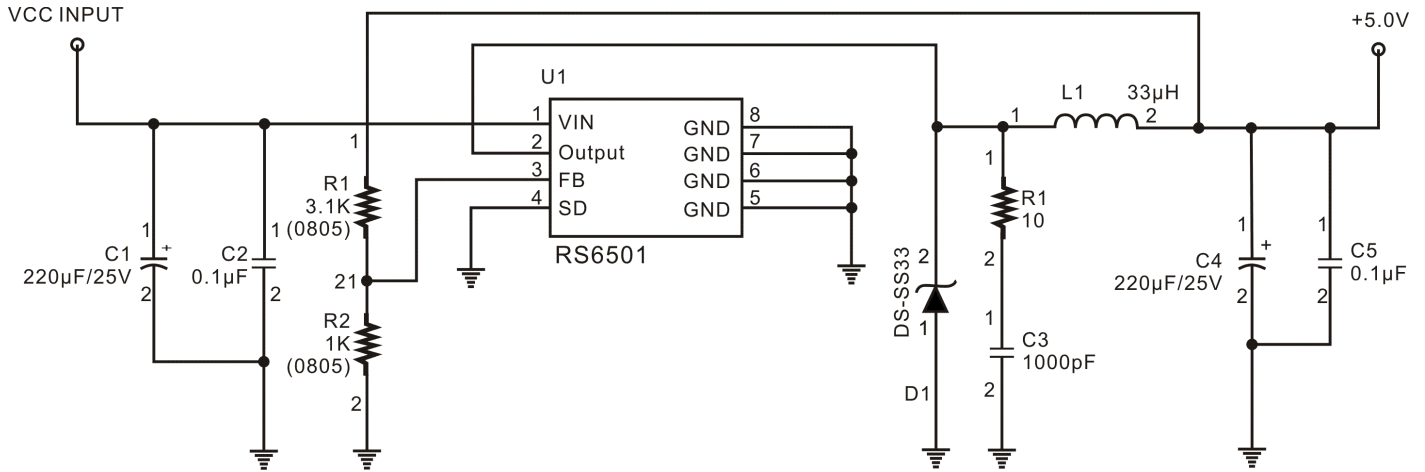
## APPLICATIONS

- Simple High -efficiency step -down regulator
- Positive to negative converter
- On -card switching regulators

## BLOCK DIAGRAM



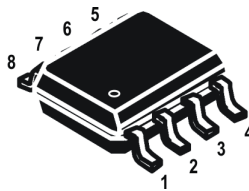
## APPLICATION CIRCUIT



## ORDER INFORMATION

Device	Device Code
RS6501-XX YY Z	<p>XX is nominal output voltage (for example, AD=ADJ, 33 = 3.3V, 50 = 5.0V, 12 = 12V).            Y is package designator :            S : SOP-8            Z is Lead Free designator :            P: Commercial Standard, Lead (Pb) Free and Phosphorous (P) Free Package            G: Green (Halogen Free with Commercial Standard)</p>

## PIN CONFIGURATION



## PIN DESCRIPTION

Symbol	Description	Pin
VIN	Regulator Input Pin	1
VOU	Regulator Output Pin	2
FB	Output Voltage Feed Back Control Pin	3
SD	ON/OFF Shutdown Pin	4
GND	Ground Pin	5, 6, 7, 8

## IMPORTANT NOTICE

Princeton Technology Corporation (PTC) reserves the right to make corrections, modifications, enhancements, improvements, and other changes to its products and to discontinue any product without notice at any time.

PTC cannot assume responsibility for use of any circuitry other than circuitry entirely embodied in a PTC product. No circuit patent licenses are implied.

Princeton Technology Corp.  
2F, 233-1, Baociao Road,  
Sindian Dist., New Taipei City 23145, Taiwan  
Tel: 886-2-66296288  
Fax: 886-2-29174598  
<http://www.princeton.com.tw>