

The R5524N Series are CMOS-based USB high side switch IC. R5524N is a protection IC used in power line of USB with built-in current limit circuit, thermal shutdown circuit, and under-voltage lockout circuit (UVLO).

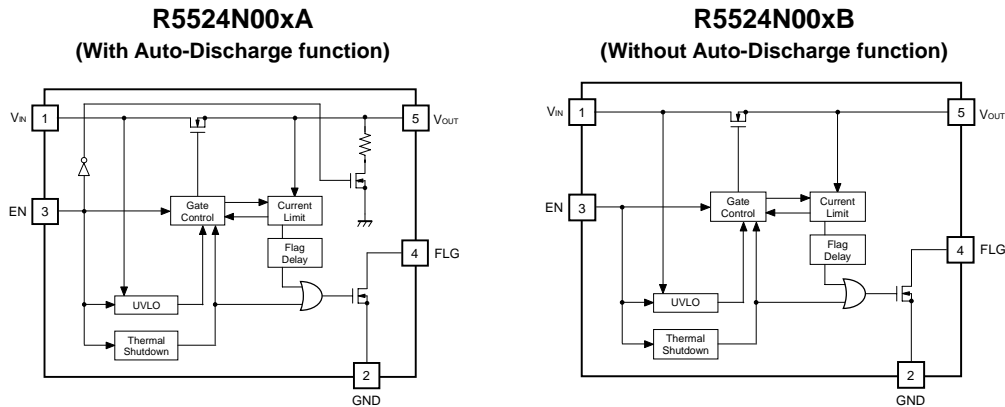
R5524N001 has the built-in latch-off type over-current limit circuit. When the over-current is detected, the protection circuit becomes active and the switch-transistor is turned OFF.

R5524N002 has the built-in over current protection circuit as the constant current type. It detects as the over-current condition, if the current flows as the I_{TH} defined. Then operating the switch transistor to limit the output current to be the constant current defined by the I_{LIM} . SOT-23-5 package is available, which is smaller than SOT-89-5 (R5520H)

FEATURES

- Supply Current (I_{DD1})..... Typ. 110 μ A (Enabled)
- Supply Current (I_{DD2})..... Typ. 0.1 μ A (Disabled)
- Input Voltage Range (V_{IN})..... 2.7V to 5.5V
- Switch ON Resistance (R_{ON}) Typ. 100m Ω ($V_{IN}=5V$, $I_{OUT}=500mA$)
- UVLO Detect Voltage (V_{UVLO}) Typ. 2.4V
- Current Limit Threshold Typ. 800mA (Max. 980mA)
- Short Current Limit Typ. 650mA
- Over Current Flag Delay..... Typ. 20ms ($V_{IN}=5V$)
- Soft Start Function
- Thermal Shutdown Circuit Stops at 135 $^{\circ}$ C
- Reverse current protection circuit
- Auto-Discharge function A Version
- Package..... SOT-23-5

BLOCK DIAGRAM

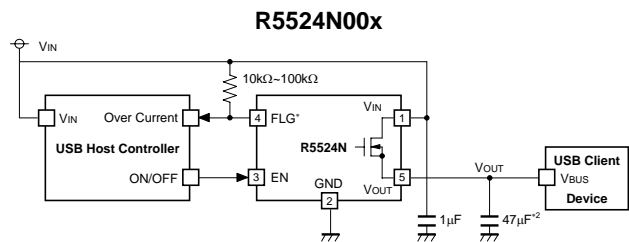


SELECTION GUIDE

Halogen Free	Package	Q'ty per Reel	Part No.
H/F	SOT-23-5	3,000 pcs	R5524N00x*-TR-FE

- x : Specify a combination of the over current limit protection type and current limit threshold.
 - (1) latch-off type, Min. 650mA,
 - (2) constant current type, Min. 650mA and
 - (4) constant current type, Min. 1.25A
- * : Select from (A) with auto-discharge function or (B) without auto-discharge function. (R5524N004B-TR-FE does not exist.)

TYPICAL APPLICATION

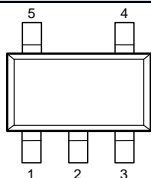


*) FLG pin is Nch. open drain output.

*2) For the USB standard, the capacitor value of 120 μ F or more must be connected with the output pin.

PACKAGE (Top View)

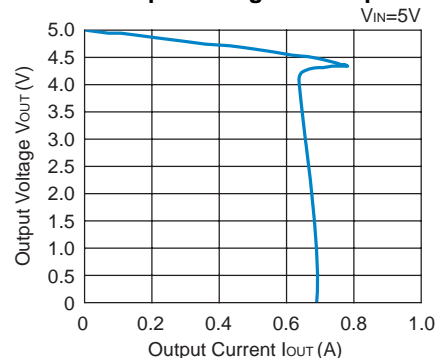
SOT-23-5



1	V_{IN}
2	GND
3	EN
4	FLG
5	V_{OUT}

TYPICAL CHARACTERISTIC

R5524N00x Output Voltage vs. Output Current



APPLICATIONS

- PCs and PC peripherals
- Printers
- Digital Televisions (DTV)
- PDAs
- Set Top Boxes (STB)
- Game Consoles



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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.