

300mA 36V Input VR with Ext. V_{OUT} Adjustable

The R1511x Series are CMOS-based voltage regulators featuring 300mA output current and 36V input voltage. In addition to B version with the internally fixed output voltage, C version with adjustable output voltage with an external resistor is also available. In addition to a fold-back protection circuit built into conventional regulators, R1511x contains a thermal shutdown circuit. Besides the operating temperature is -40°C to 105°C and the maximum input voltage is 36V, the R1511x series are very suitable for use in digital home appliances and automotive applications*. There are the R1510S series with VD in the same 300mA output, 36V input voltage product.

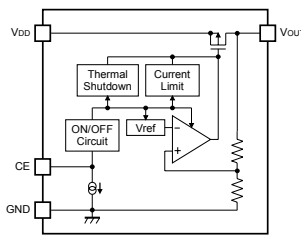
*) R1511x Series are suitable for automotive applications and Y class applications. For details, please refer to our product catalog and datasheet. Or, please contact us.

FEATURES

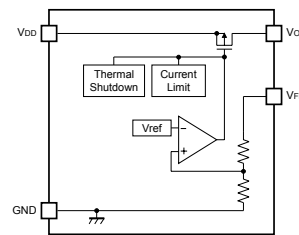
- Supply Current (I_{SS}) Typ. 100μA (V_{IN}=V_{SET}+1.0V)
- Standby Current (I_{standby}) Typ. 0.1μA (V_{IN}=36V, CE="L", B Version)
- Dropout Voltage (V_{DIF}) Typ. 0.64V (B Version, I_{OUT}=300mA, V_{SET}=5.0V)
- Ripple Rejection (RR) Typ. 65dB (f=1kHz)
- Input Voltage Range (V_{IN}) 3.5V to 36.0V (Absolute maximum rating: 50.0V)
- Output Voltage Range (V_{OUT}) 3.0V to 9.0V (Internally fixed, B Version)
3.0V to 12.0V with external resistors (Feedback voltage 3.0V, C Version)
- Output Voltage Accuracy ± 1% (± 30mV: C Version)
(The above shows specification at Ta=25°C. Design assurance value at -40°C ≤ Ta ≤ 105°C is also available. For details, please refer to the datasheet.)
- Products for high temperature environment ... -40°C to 105°C (Operating Temperature Range)
- Temp. coeff. of Output Voltage Typ. ± 60ppm/°C
- Line Regulation Typ. 0.01%/V
- Fold-back Protection Circuit Current limit Typ. 50mA
Peak Current limit Typ. 450mA
- Thermal Shutdown Circuit Stops at 160°C
- Packages HSOP-6J, TO-252-5-P2
- Ceramic Capacitors can be used. 6.8μF or more

BLOCK DIAGRAMS

R1511xxxxB
(Internally fixed output voltage type)



R1511xxxxC
(Externally adjustable output voltage type)



SELECTION GUIDES

Halogen Free	Package	Q'ty per Reel	Part No.
H/F	HSOP-6J	1,000 pcs	R1511Sxxx*-E2-FE
H/F	TO-252-5-P2	3,000 pcs	R1511Jxxx*-T1-FE

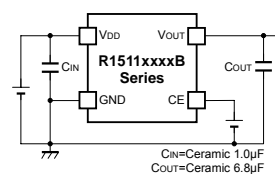
xxx : Specify the output voltage within the range of 3.0V (030) to 9.0V (090) in 0.1V steps.
For C Version, fixed at (001).

* : Select from (B) internally fixed output voltage type or (C) externally adjustable output voltage type.

TYPICAL APPLICATIONS

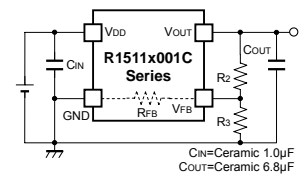
R1511xxxxB

Internally fixed output voltage type



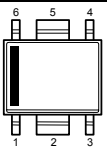
R1511x001C

Externally adjustable output voltage type

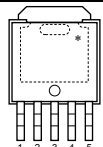


PACKAGES (Top View)

HSOP-6J



TO-252-5-P2



1	V _{DD}
2	GND**
3	GND**
4	CE (xxxB), V _{FB} (001C)
5	GND**
6	V _{OUT}

1	V _{DD}
2	GND**
3	GND**
4	CE (xxxB), V _{FB} (001C)
5	V _{OUT}

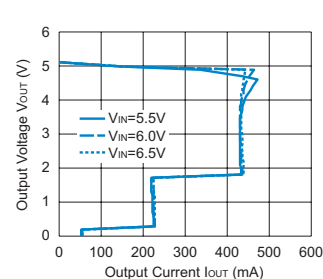
*) The tab is substrate level (GND).

**) The GND pin must be wired together when it is mounted on board.

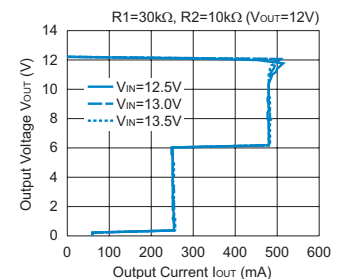
TYPICAL CHARACTERISTICS

Dropout Voltage vs. Output Current

R1511x050B



R1511x001C



APPLICATIONS

- Power source for home appliances (refrigerators, rice cookers, electric water warmers, etc.)
- Power source for laptop personal computers, digital TVs, cordless phones, and private LAN systems for home
- Power source for copiers, printers, facsimiles, scanners



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Ricoh has been providing RoHS compliant products since April 1, 2006 and Halogen-free products since April 1, 2012.

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