

The RN5RF Series are CMOS-based LDO regulators with external power transistor. By using an external PNP transistor, a low dropout voltage regulator ranging from several tens of mA to several hundreds mA can be configured. (Use a low saturation type PNP transistor with h_{FE} of approximately 100 to 300.)

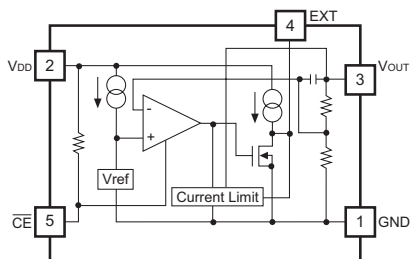
FEATURES

- Supply Current (I_{SS}) Typ. 30 μ A ($V_{IN} = \text{SET } V_{OUT} + 1.0\text{V}$)
- Standby Current ($I_{standby}$) Typ. 0.1 μ A ($V_{IN} = 10.0\text{V}$, In standby)
- Dropout Voltage (V_{DIF}) Typ. 0.1V* ($I_{OUT} = 100\text{mA}$, $V_{OUT} = 2.8\text{V}$)
- Ripple Rejection (RR) Typ. 60dB* ($f = 1\text{kHz}$, $V_{OUT} \geq 1.6\text{V}$)
Typ. 50dB* ($f = 1\text{kHz}$, $V_{OUT} \leq 1.5\text{V}$)
- Input Voltage Range (V_{IN}) 1.8V to 10.0V
- Output Voltage Range (V_{OUT}) 1.2V to 6.0V (internally fixed)
- Output Voltage Accuracy $\pm 2\%$
- Temp. coeff. of Output Voltage Typ. $\pm 100\text{ppm}/^\circ\text{C}$
- Line Regulation Typ. 0.05%/V
- Fold-back Protection Circuit Current limit Typ. 8mA
(Base current limit of PNP Tr.)
- Package SOT-23-5

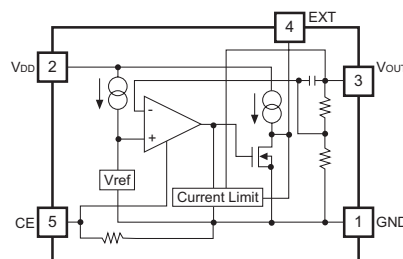
*) The value depends on the capacity of the external PNP transistor.

BLOCK DIAGRAMS

RN5RFxxA
(CE pin "L" active)



RN5RFxxB
(CE pin "H" active)

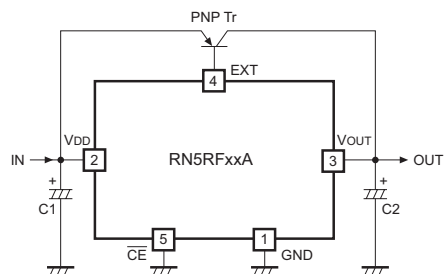


SELECTION GUIDE

Halogen Free	Package	Q'ty per Reel	Part No.
H/F	SOT-23-5	3,000 pcs	RN5RFxx* A-TR-FE

- xx: Specify the output voltage within the range of 1.2V (12) to 6.0V (60) in 0.1V steps.
*: Select the polarity of the CE pin from (A) "L" active or (B) "H" active.

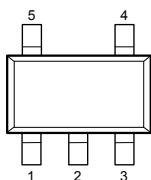
TYPICAL APPLICATION



C1, C2: Tantalum capacitor of 10 μ F
PNP transistor: 2SB766A

PACKAGE (Top View)

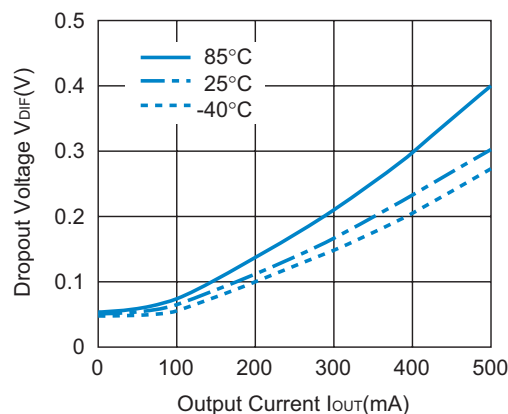
SOT-23-5



1	GND
2	VDD
3	VOUT
4	EXT
5	CE or CE

TYPICAL CHARACTERISTIC

RN5RF30A Dropout Voltage vs. Output Current



APPLICATIONS

- Power source for hand-held communication equipment, cameras, and VCRs
- Power source for battery-powered equipment
- Power source for home appliances



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■ Ricoh awarded ISO 14001 certification.

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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.