

## Manual Mode Shift Low Voltage 300mA LDO

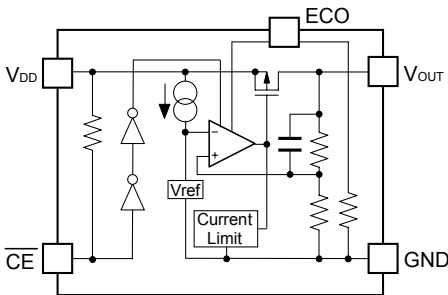
The R1161x Series are CMOS-based manual mode switching LDO regulators with ECO pin featuring 300mA output. By inputting control signals to the ECO pin, the mode of the regulator can be switched to low power mode or fast response mode, thus making both active and sleep modes available for the system. The CE pin can switch the regulator into standby mode.

### FEATURES

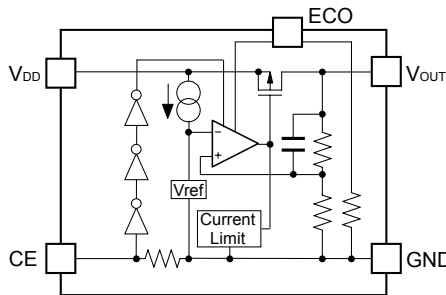
- Supply Current ( $I_{SS1}$ )<sup>\*</sup> .....Typ. 60 $\mu$ A (Fast mode,  $V_{IN}$ =SET  $V_{OUT}$ +1.0V)
- Supply Current ( $I_{SS2}$ )<sup>\*</sup> .....Typ. 4.5 $\mu$ A (Low power mode, same as above)
- Standby Current ( $I_{standby}$ ) .....Typ. 0.1 $\mu$ A (Same as above, in standby)
- Dropout Voltage ( $V_{DIF}$ )<sup>\*</sup> .....Typ. 0.23V (Fast mode,  $I_{OUT}$ =300mA)  
Typ. 0.24V (Low power mode,  $I_{OUT}$ =300mA)
- Ripple Rejection (RR) .....Typ. 65dB (f=1kHz, Fast mode)
- Input Voltage Range ( $V_{IN}$ ) .....1.4V to 6.0V
- Output Voltage Range ( $V_{OUT}$ ) .....0.8V to 3.3V (internally fixed)
- Output Voltage Accuracy ..... $\pm 2\%$  (Fast mode)  
 $\pm 3\%$  (Low power mode)
- Temp. coeff. of Output Voltage .....Typ.  $\pm 100$ ppm/ $^{\circ}$ C
- Line Regulation .....Typ. 0.01%/V (Fast mode)
- Fold-back Protection Circuit .....Current limit Typ. 50mA
- Auto-Discharge function .....D Version
- Packages .....SON-6, SOT-23-5, HSON-6
- Ceramic capacitors can be used. ...1 $\mu$ F or more ( $V_{OUT} \geq 1.0V$ )  
\*) at  $V_{OUT}$ =2.8V

### BLOCK DIAGRAMS

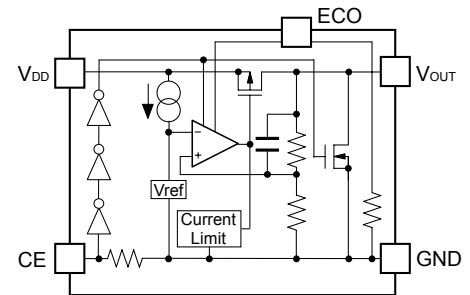
**R1161xxxxA**  
(CE pin "L" active)



**R1161xxxxB**  
(CE pin "H" active)



**R1161xxxxD**  
(With Auto-Discharge function)



### SELECTION GUIDES

Halogen Free	Package	Q'ty per Reel	Part No.
H/F	SON-6	3,000 pcs	R1161Dxx1*-TR-FE
H/F	SOT-23-5	3,000 pcs	R1161Nxx1*-TR-FE
H/F	HSON-6	3,000 pcs	R1161Dxx2*-TR-FE

- xx : Specify the output voltage within the range of 0.8V (08) to 3.3V (33) in 0.1V steps.
- \* : Select the polarity of the CE pin from (A) "L" active, (B) "H" active or (D) "H" active with auto-discharge function.

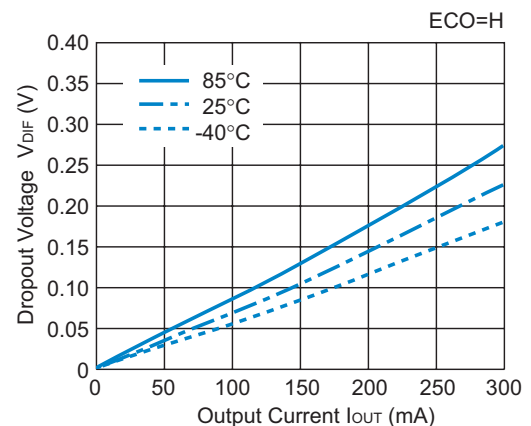
### PACKAGES (Top View)

SON-6		SOT-23-5		HSON-6	
1	$V_{DD}$	1	$V_{DD}$	1	$V_{DD}$
2	NC	2	GND	2	NC
3	$V_{OUT}$	3	CE or CE	3	$V_{OUT}$
4	ECO	4	ECO	4	ECO
5	GND	5	$V_{OUT}$	5	GND
6	CE or CE			6	CE or CE

\*) The tab and tab suspension leads on back side are substrate level (GND).

### TYPICAL CHARACTERISTIC

**R1161x26xx Dropout Voltage vs. Output Current (Fast Response Mode)**



### APPLICATIONS

- Power source for hand-held communication equipment, cameras, and VCRs
- Power source for battery-powered equipment
- Very stable voltage reference



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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.