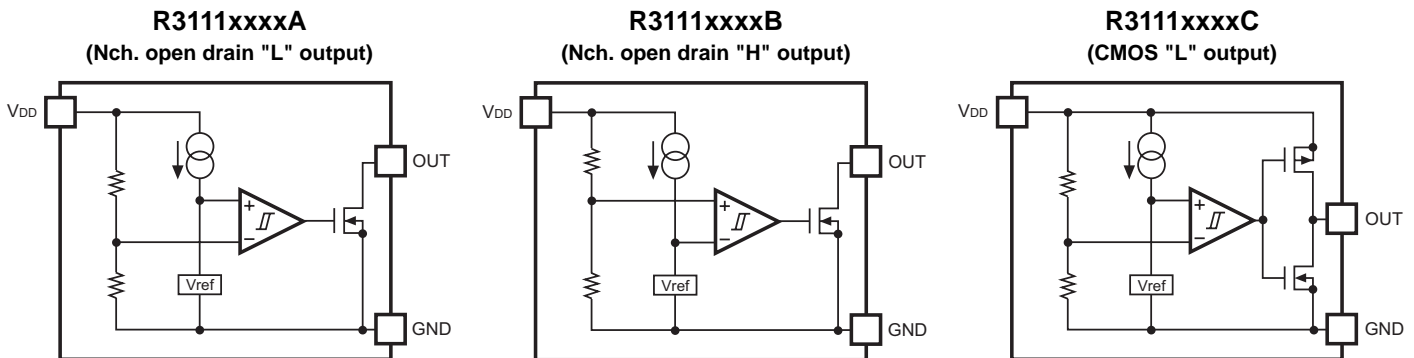


The R3111x Series are CMOS-based voltage detector ICs that can operate at low voltage. R3111x is a simple voltage detector without an internal delay circuit.

### FEATURES

- Supply Current ( $I_{SS1}$ ) ..... Typ. 1  $\mu$ A ( $V_{DD} = -V_{DET} + 2V$ , R3111x15x)
- Operating Voltage Range ( $V_{DD}$ ) ..... 0.7V to 10.0V ( $T_{opt} = 25^\circ C$ )
- Detector Threshold Range ( $-V_{DET}$ ) ..... 0.9V to 6.0V (internally fixed)
- Reset Signal ..... "L" (A and C Versions)  
"H" (B Version)
- Detector Threshold Accuracy .....  $\pm 2\%$
- Temp. coeff. of Detector Threshold... Typ.  $\pm 100$ ppm/ $^\circ C$
- Two Output Types ..... Nch. Open Drain and CMOS
- Packages ..... SON1612-6, SC-82AB, SC-88A,  
SOT-23-3, SOT-23-5, SOT-89, TO-92

### BLOCK DIAGRAMS

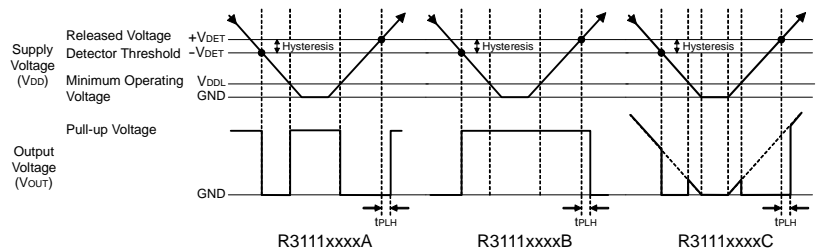


### SELECTION GUIDES

Package	Quantity per Reel	Part No.
SON1612-6	4,000 pcs	R3111Dxx1* -TR-F
SC-82AB	3,000 pcs	R3111Qxx1* -TR-F
SC-88A	3,000 pcs	R3111Qxx2* -TR-F
SOT-23-3	3,000 pcs	R3111Nxx2* -TR-F
SOT-23-5	3,000 pcs	R3111Nxx1* -TR-F
SOT-89	1,000 pcs	R3111Hxx1* -T1-F
TO-92	2,500 pcs	R3111Exx1* -TZ-F

- xx : Specify the detector threshold within the range 0.9V (09) to 6.0V (60) in 0.1V steps.  
\* : Select the output type from (A) Nch. open drain "L" output, (B) Nch. open drain "H" output or (C) CMOS "L" output.

### TIMING CHART



### PACKAGES (Top View)

SON1612-6		SC-82AB		SC-88A		SOT-23-3		SOT-23-5		SOT-89		TO-92	
1	OUT	1	OUT	1	OUT	1	OUT	1	OUT	1	OUT	1	V <sub>DD</sub>
2	V <sub>DD</sub>	2	V <sub>DD</sub>	2	NC	2	GND	2	V <sub>DD</sub>	2	V <sub>DD</sub>	2	GND
3	GND	3	NC	3	V <sub>DD</sub>	3	V <sub>DD</sub>	3	GND	3	GND	3	OUT
4	NC	4	GND	4	NC			4	NC				
5	V <sub>DD</sub>			5	GND			5	NC				
6	NC												

### APPLICATIONS

- Microcontroller and logic circuit reset
- Battery checker
- Window comparator
- Wave shaping circuit
- Battery back-up circuit
- Power failure detector



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Ricoh continually strives to promote customer satisfaction, and shares the achievements of its management quality improvement program with people and society.



■ Ricoh awarded ISO 14001 certification.  
The Ricoh Group was awarded ISO 14001 certification, which is an international standard for environmental management systems, at both its domestic and overseas production facilities. Our current aim is to obtain ISO 14001 certification for all of our business offices.

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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.