

## 36V Input VD with Delay Function (External Capacitor Type) or SENSE pin

The R3119N Series are CMOS-based 36V input voltage detector ICs. Since the maximum input voltage of R3119N is 36V (absolute maximum rating: 50V) and R3119N can detect up to 12V without divider resistor, it is suitable for digital home appliances. There are two versions: A version has the  $C_D$  pin for setting the output delay time. E version has the SENSE pin. The output delay time accuracy of R3119NxxxA is -50% to +80%. The reset signal of R3119NxxxE does not become unstable under the condition that the power supply is sufficient to operate the IC, and the "L" can be maintained. SOT-23-5 package is available.

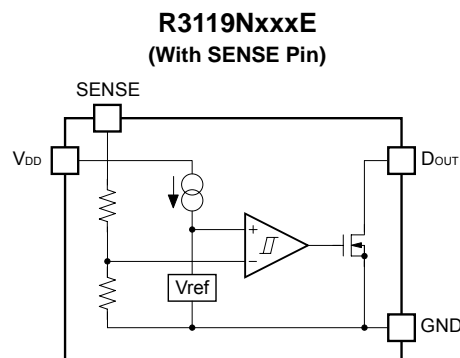
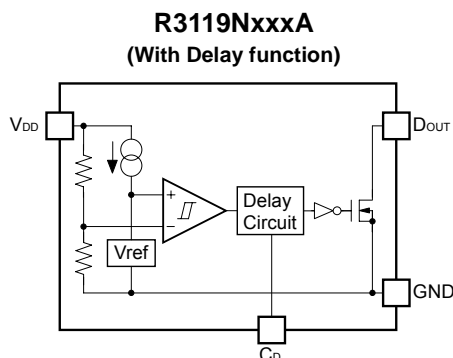
\*) These products are suitable for automotive applications too. Please refer to our "Car Electronics Products Catalog" or contact us.

### FEATURES

- Supply Current ( $I_{SS}$ ) ..... Typ. 3.3 $\mu$ A (at release / at detect)
- Operating Voltage Range ( $V_{DD}$ ) ..... 1.2V to 36.0V (A Version)  
2.1V to 6.0V (E Version)
- SENSE Pin Input Voltage Range ( $V_{SENSE}$ ) ..... 0V to 36.0V (E Version)
- Detector Threshold Range ( $-V_{DET}$ ) ..... 2.3V to 12.0V (Internally fixed)
- Output Delay ..... Typ. 85ms delay set with a 0.01 $\mu$ F external capacitor (A Version)
- Reset Signal ..... "L"
- Detector Threshold Accuracy .....  $\pm 1.5\%$
- Temp. coeff. of Detector Threshold ..... Typ.  $\pm 100$ ppm/ $^{\circ}$ C
- Output Type ..... Nch. Open Drain
- Package ..... SOT-23-5

(The above shows specification at  $T_{opt}=25^{\circ}$ C. Design assurance value at  $-40^{\circ}$ C  $\leq T_{opt} \leq 105^{\circ}$ C is also available. For details, please refer to the datasheet.)

### BLOCK DIAGRAMS



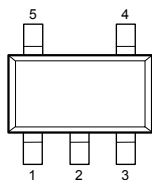
### SELECTION GUIDE

Halogen Free	Package	Q'ty per Reel	Part No.
H/F	SOT-23-5	3,000 pcs	R3119Nxxx* -TR-FE

xxx : Specify the detector threshold within the range of 2.3V (023) to 12.0V (120) in 0.1V steps.  
\* : Select from (A) with delay function or (E) with SENSE Pin.

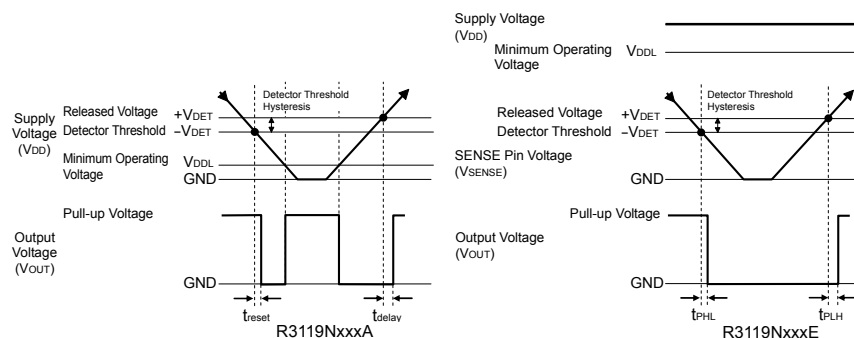
### PACKAGE (Top View)

#### SOT-23-5



1	$V_{DD}$
2	GND*
3	GND*
4	DOUT
5	$C_D$ or SENSE

### TIMING CHART



\*) No.2 and No.3 pin must be wired to the GND plane when it is mounted on board.

### APPLICATIONS

- Microcontroller and logic circuit reset
- Battery checker
- Battery back-up circuit
- Power failure detector for digital home appliances



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**For the conservation of the global environment, Ricoh is advancing the decrease of the negative environmental impact material.**  
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.  
Basically after Apr. 1, 2012, we will ship out the Power Management ICs of the Halogen Free products only. (RicoH Halogen Free products are also Antimony Free.)

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