

## 0.8% Accuracy, Voltage Detector with Delay Function (Internal Counter Type)

The RP300x Series are CMOS-based voltage detector ICs with the built-in output delay circuit. There is no hysteresis between the detector threshold and the released output. By inputting "L" signal to MR pin, the manual reset signal is outputted. A delay capacitor is not needed, because the output delay time of 50ms or 200ms is generated with the counter in the IC. Additionally, the high accuracy output delay time at  $\pm 5\%$  allows easy control of the start-up sequence. In addition to SOT-23-5 packages, a 1mm square DFN(PLP)1010-4B package is also available.

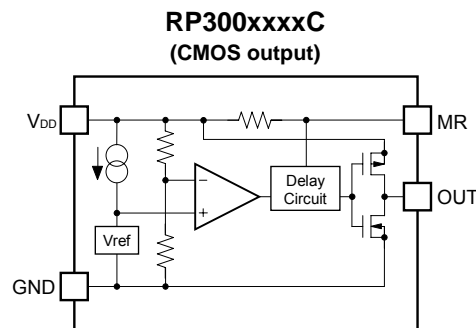
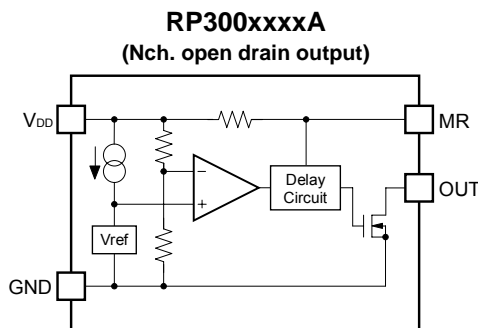
### FEATURES

- Supply Current ( $I_{SS}$ ) ..... Typ. 0.75 $\mu$ A ( $V_{SET}=1.1V$ ,  $V_{DD}=1.2V$ )
- Operating Voltage Range ( $V_{DD}$ ) ..... 0.72V to 5.50V (Absolute maximum rating : 6.0V)
- Detector Threshold Range ( $V_{SET}$ ) .. 1.1V, 2.32V, 2.63V, 2.7V, 2.8V, 2.93V, 3.08V, 3.4V, 4.38V, 4.6V
- Output Delay\* ..... Typ. 50ms, 200ms (Accuracy  $\pm 5\%$ )
- Reset Signal\* ..... "L"
- Detector Threshold Accuracy .....  $\pm 0.8\%$  ( $V_{SET} \geq 1.7V$ )
- Temp. coeff. of Detector Threshold ..... Typ.  $\pm 50$ ppm/ $^{\circ}C$
- Two Output Types ..... Nch. Open Drain Output and CMOS
- Package ..... DFN(PLP)1010-4B, SOT-23-5

(The above shows specification at  $T_a=25^{\circ}C$ . Design assurance value at  $-40^{\circ}C \leq T_a \leq 85^{\circ}C$  is also available. For details, please refer to the datasheet.)

\*) For more information about a customizing (Output Delay : 100ms / Reset Signal : "H"), Please refer to the datasheet and contact to our sales.

### BLOCK DIAGRAMS

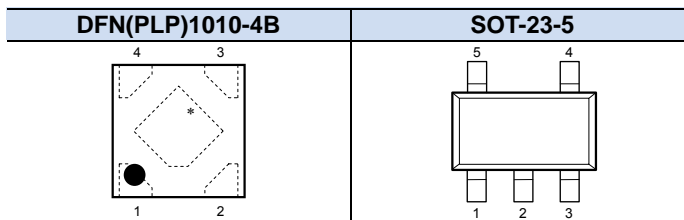


### SELECTION GUIDES

Halogen Free	Package	Q'ty per Reel	Part No.
H/F	DFN(PLP)1010-4B	10,000 pcs	RP300Kxx\$(y)-TR
H/F	SOT-23-5	3,000 pcs	RP300Nxx\$(y)-TR-FE

- xx : Specify the detector threshold within the range of 1.1V(11) to 4.6V(46) in 0.1V steps shown above voltage.
- y : If the detector threshold includes the 3rd digit, indicate the digit of 0.01V.  
Ex. If the detector threshold is 2.63V, RP300K26\$\*3-TR.
- \$ : Specify the released output delay time.  
(A) 50ms or (D) 200ms
- \* : Select the output type from (A) Nch. open drain or (C) CMOS.

### PACKAGES (Top View)

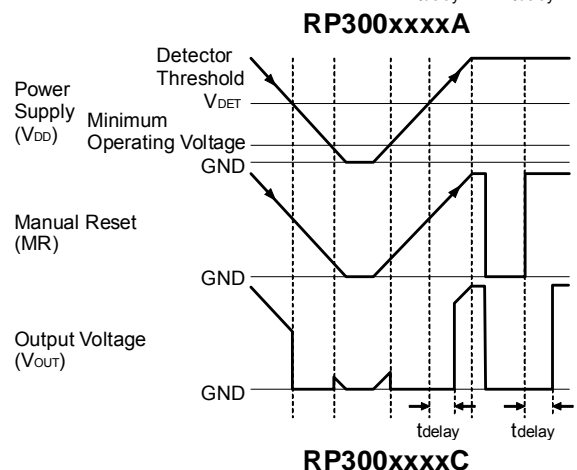
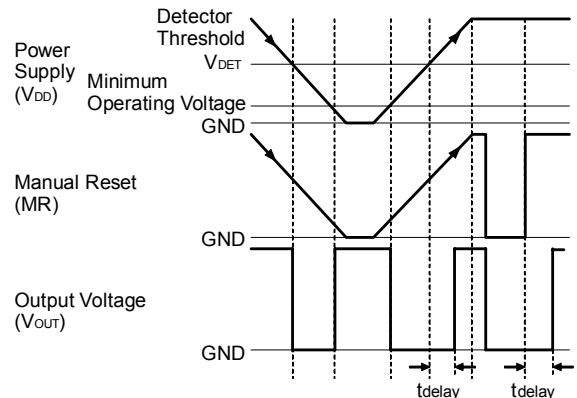


1	OUT
2	MR
3	GND
4	V <sub>DD</sub>

1	MR
2	GND
3	NC
4	OUT
5	V <sub>DD</sub>

\*) The tab is substrate level (GND).

### TIMING CHARTS



### APPLICATIONS

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



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