

The R5105N Series are CMOS-based system power ICs with a voltage detector (VD) and watchdog timer (WDT) integrated in a single chip. R5105N monitors the power system of devices equipped with microprocessors and prevents system runaway with a reset signal when a malfunction occurs. The output delay time of the VD and watchdog timeout period/reset time can be adjusted high accuracy by an external capacitor.

FEATURES

- Supply Current (I_{SS}) Typ. 11 μ A ($V_{DD} = -V_{DET} + 0.5V$, Clock pulse input)
- Operating Voltage Range (V_{DD}) 0.9V to 6.0V
- (VD Section)**
- Detector Threshold Range ($-V_{DET}$) 1.5V to 5.5V (internally fixed)
- Detector Threshold Accuracy $\pm 1\%$
- Temp. coeff. of Detector Threshold Typ. $\pm 100\text{ppm}/^\circ\text{C}$

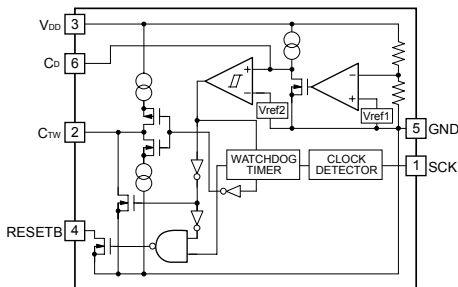
(The above shows specification at $T_{opt} = 25^\circ\text{C}$. Design assurance value at $-40^\circ\text{C} \leq T_{opt} \leq 105^\circ\text{C}$ is also available. For details, please refer to the datasheet.)

- Output Delay Time (t_{PLH}) Typ. 370ms ($C_D = 0.1\mu\text{F}$)
- Output Delay Time Accuracy $\pm 16\%$ ($-40^\circ\text{C} \leq T_{opt} \leq 105^\circ\text{C}$)
- (WDT Section)**
- Watchdog Timeout Period (t_{WD}) Typ. 310ms ($C_{TW} = 0.1\mu\text{F}$)
- Reset Hold Time of WDT (t_{WR}) Typ. 34ms ($C_{TW} = 0.1\mu\text{F}$)
- Watchdog Timeout Period Accuracy $\pm 33\%$ ($-40^\circ\text{C} \leq T_{opt} \leq 105^\circ\text{C}$)
- Package SOT-23-6

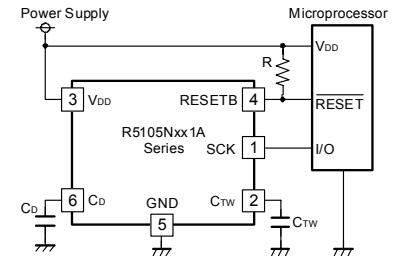
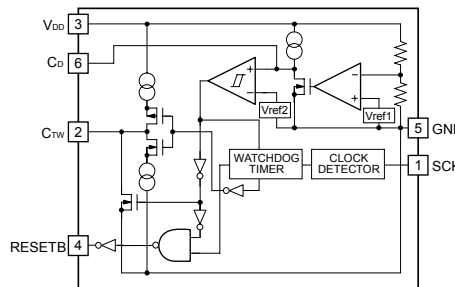
BLOCK DIAGRAMS

TYPICAL APPLICATION

R5105Nxx1A
(Nch. open drain output)



R5105Nxx1C
(CMOS output)



SELECTION GUIDE

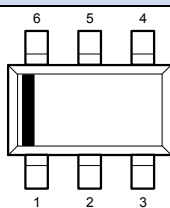
Halogen Free	Package	Q'ty per Reel	Part No.
H/F	SOT-23-6	3,000 pcs	R5105Nxx1*TR-FE

xx : Specify the detector threshold within the range of 1.5V (15) to 5.5V (55) in 0.1V steps.

* : Select the output type from (A) Nch. open drain or (C) CMOS.

PACKAGE (Top View)

SOT-23-6

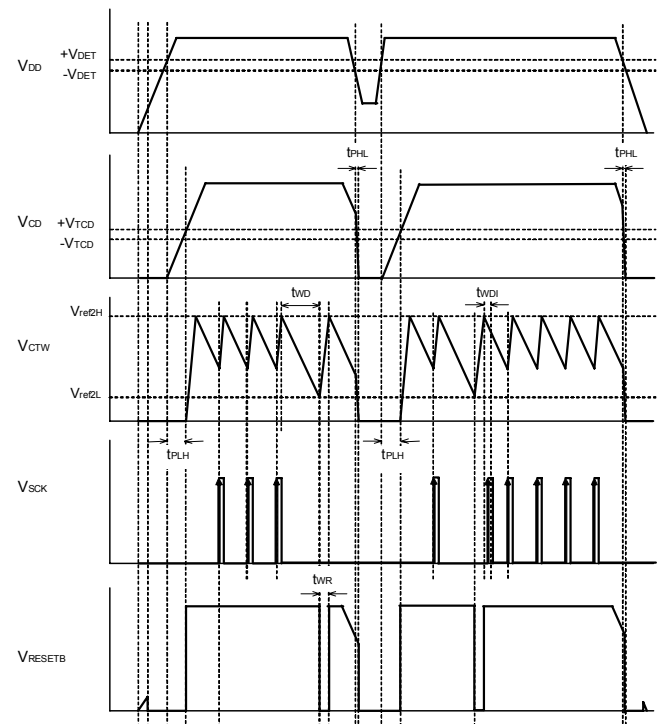


1	SCK	Watchdog timer clock input pin
2	C _{TW}	Ext. Cap. pin for setting reset and watchdog timeout period of WDT
3	V _{DD}	Power supply pin
4	RESETB	Output pin for Reset "L" signal
5	GND	Ground pin
6	C _D	Ext. Cap. pin for setting output delay time of VD

APPLICATION

- Monitoring of the power system of devices equipped with microprocessors

TIMING CHART



* V_{TCD} : Threshold voltage of C_D pin when a power-on reset pulse inverting.

* V_{ref2H} : C_{TW} pin voltage at the end of WDT timeout period.

* V_{ref2L} : C_{TW} pin voltage at the begin of WDT timeout period.

* t_{PHL} : Output delay time

* t_{WDI} : $t_{WD}/10$ (SCK pulses input during this period are ignored.)



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■ 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.