

WDT Datasheet

Watchdog timer

Overview

- The watchdog timer (WDT) is a 14-bit down-counter. It can be used to reset the system when the counter underflows because its value cannot be refreshed due to the system being out of control. In addition, a non-maskable interrupt can be generated by an underflow. The refresh-permitted period can be set to refresh the counter and used as the condition to detect when the system runs out of control.

Key Features

- Clock division ratio : Divide by 4, 64, 128, 512, 2048, or 8192
- Counter operation : Counting down using a 14-bit down-counter
- Conditions for starting the counter
 - Auto-start mode: Counting automatically starts after a reset or after an underflow or refresh error occurs
 - Register start mode: Counting is started by refresh operation (writing to the WDTRR register)
- Conditions for stopping the counter
 - Reset (the down-counter and other registers return to their initial values)
 - A counter underflows or a refresh error is generated
- Window function : Window start and end positions can be specified (refresh-permitted and refresh-prohibited periods)

Block diagram

