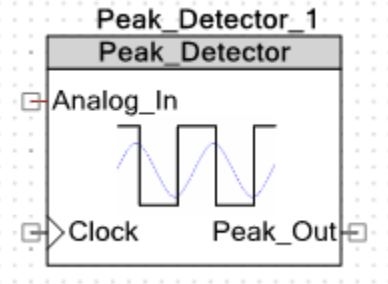
Peak Detector
1.1

General Description

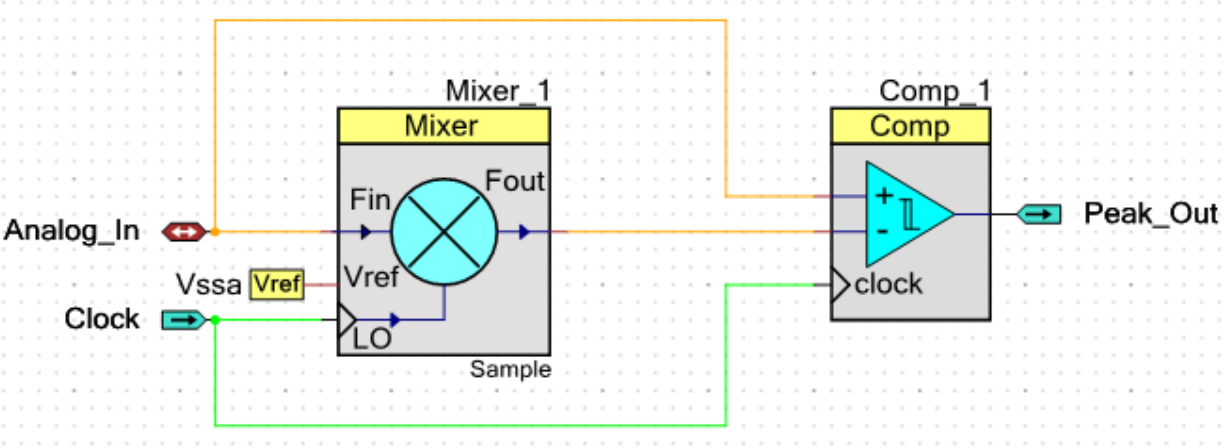
- The peak detector component detects peaks in an input waveform.
- Details on this peak detection method are provided in AN60321.



Quick Start

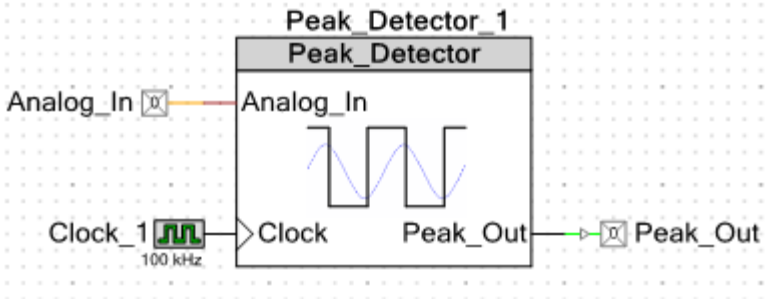
1. To add this component to a project, add a dependency in the project that points to the library project containing the Peak_Detector component. The Peak_Detector component will then be available in the Component Catalog under *Concept -> Peak Detection -> Peak_Detector*.
2. Drag a Peak_Detector component from the Component Catalog onto the design.

Component Schematic



PRELIMINARY

Component Symbol



Input/Output Connections

Analog_In

Analog input signal that will be sampled for peaks.

Clock

Sample clock for the sample and hold component and comparator. The output of the sample and hold is held on the falling edge of the input clock and the comparator will be sampled on the rising edge.

Peak_Out

Digital output signal with the slope and peak information derived from the input waveform. With the Polarity set to ‘Non Inverting’, the output will be high when the input slope is positive and the output will be low when the input slope is negative.

Parameters and Setup

ClockRange

This is the clock range for the input to the sample & hold component. Set to ‘LO Freq less than 100 kHz’ if your Clock input is less than 100 kHz. Set to ‘LO Freq 100 kHz or greater’ if your Clock input is greater than 100 kHz. This parameter is used to determine the appropriate values for the input and feedback resistance of the sample and hold Op-Amp circuit.

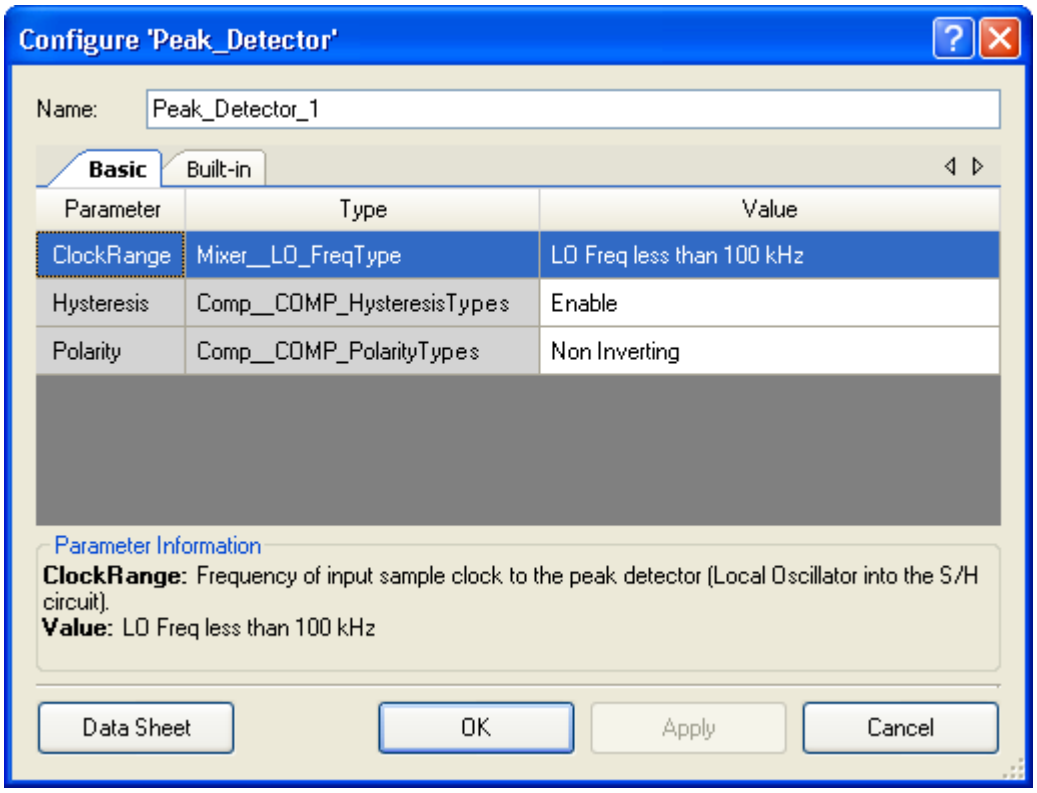
Hysteresis

Enables approximately 10 mV of hysteresis in the comparator. This helps ensure that slowly moving voltages or slightly noisy voltages will not cause the output of the comparator to oscillate when the two inputs are near equal.

Polarity

Sets the polarity of the digital output from the comparator. ‘Non Inverting’ will output a high signal when the input slope is positive and a low signal when the input slope is negative. Positive peaks

are identified as a falling edge and negative peaks are identified as a rising edge. ‘Inverting’ will invert this output signal.



Application Programming Interface

Function	Description
void Peak_Detector_Start(void)	Starts the peak detector component.
void Peak_Detector_Stop(void)	Stops the peak detector component.

Note: *If additional functionality is needed from either the sample & hold component or the comparator, the original API’s for each component are available if they are called directly.*

Sample Code

This example will start the Peak Detector component.

```
void main()
{
    Peak_Detector_1_Start();
}
```

Component Changes

This section lists the major changes in the component from the previous version.

Version	Description of Changes	Reason for Change
1.0	Initial release of component	
1.1	Internal Mixer component updated from v1.7 to v1.8	Updated to be compliant with PSoC Creator 2.0