

# OpenCPI

## TMP100 Component Data Sheet

OpenCPI Release: v2.3.4

## Summary - TMP100

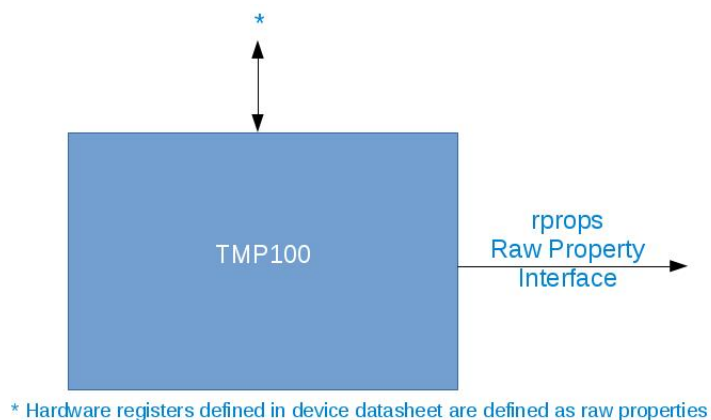
|                   |                     |
|-------------------|---------------------|
| Name              | tmp100              |
| Worker Type       | Device              |
| OpenCPI Release   | v2.3.4              |
| Last Update       | 4/2019              |
| Component Library | ocpi.assets.devices |
| Workers           | tmp100.hdl          |
| Tested Platforms  | Matchstiq-Z1(PL)    |

## Worker Implementation Details

The TMP100 device worker uses the raw property interface to expose the features and hardware registers of the TMP100 IC to the OpenCPI framework.

## Block Diagrams

### Top level



\* Hardware registers defined in device datasheet are defined as raw properties

## Source Dependencies

### tmp100.hdl

- assets/hdl/devices/tmp100.hdl/tmp100.vhd

## Component Spec Properties

All properties in the Component Spec are Raw Properties and were derived from the device datasheet[1]. The Raw Properties are intended to match the ICs hardware registers exactly.

## Worker Interfaces

### tmp100.hdl

| Type             | Name   | DataWidth | Advanced       | Usage                                                                                                                                              |
|------------------|--------|-----------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| RawProp          | rprops | -         | Master=true    | Raw properties connection for slave I2C device worker                                                                                              |
| ControlInterface | -      | -         | Timeout=131072 | Control clock cycles required to complete property read/write. I2C transactions require additional clock cycles to complete than the default of 16 |

## Control Timing and Signals

The TMP100 HDL device worker uses the clock from the Control Plane and standard Control Plane signals.

## Worker Configuration Parameters

tmp100.hdl

## Performance and Resource Utilization

tmp100.hdl

## Test and Verification

There is no unit test for this device worker. The test and verification of this worker is covered in the Matchstiq I2C device worker. See the component datasheet of this worker for more details.

## References

- [1] TMP100 Product Data Sheet  
<http://www.ti.com/lit/ds/symlink/tmp101.pdf>