

Think Silicon

VLSI Design & Consultancy

DATASHEET

**CRC Generator
Version 1.0**

Introduction

The Think-Silicon CRC generator is module that generates CRC circuitry for arbitrary size polynomials and parallel input data sizes.

Parameters

The user can enter the following parameters

| Port | values | Description |
|------------------|---------------|---|
| Polynomial | hex | This is the hex vector of the polynomials without the highest level bit set. Lsb must be zero. |
| Polynomial order | integer | This is the highest level factor for the polynomial. |
| Initial Value | hex | This is the CRC value when reset or initialised. |
| Data_in Width | integer | This is the size of the data input vector. Upto 64bits can be generated online. For higher order bits please email us to generate it offline |
| First serial in | Button | Choose if the first serial in bit is the MSB or LSB of the data in vector |
| Mode | Button | Synchronous or Asynchronous. Asynchronous only generated the evaluation computation function. Synchronous also generated initialization, matching, reset and clocking circuitry |

Asynchronous

In asynchronous mode only the next CRC function is generated, which can be integrated in your circuitry.

| Port | Width | Direction | Description |
|--------|--------------|-----------|---|
| C | As requested | input | This is an input of the current CRC value |
| D | As requested | input | This is an input of the Data in |
| NewCRC | As requested | output | New evaluated CRC |

Synchronous

In Synchronous mode, the module has additional ports for clock, reset, initialisation, valid_datain and and extra output for match when the generated CRC is zero.

| Port | Width | Direction | Description |
|--------|--------------|-----------|-------------------------------|
| clk | 1 | input | Clock input |
| rstn | 1 | input | Active low asynchronous reset |
| enable | 1 | input | Data in Valid, compute CRC |
| Init | 1 | Input | Reset CRC to initial value |
| D | As requested | Input | Data in |
| CRC | As requested | Output | Evaluated CRC |
| Match | 1 | Output | CRC is zero |

Contact:

Think Silicon Ltd
Suite B12
Patras Science Park
Rion Achaïas 26504
Greece

web: <http://www.think-silicon.com>
email: info@think-silicon.com
Tel: +30 2610 911543