

## Product Description

The I483 Component is a customizable 1 or 2 channel PWM generator targeted at DC motor or stepper motor driving.

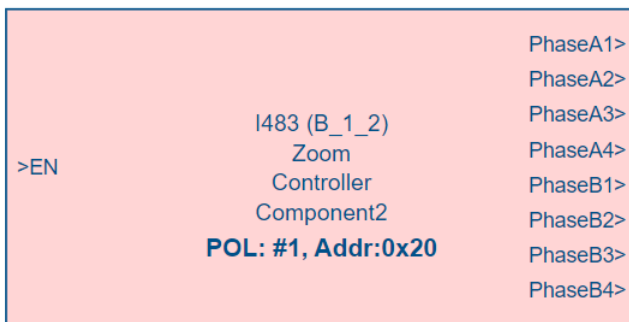
## Features

- Two independent PWM channels
- Selectable pulse rates 100pps to 1000pps
- I2C controlled sequencer 1- 511 pulses
- I2C controlled Low Power mode
- I2C controlled CW / CCW direction
- Autonomous accelerate & decelerate phases

## Applications

- Stepper motor driving

Figure 1: I483 component symbol



## Pin Function and Description Table

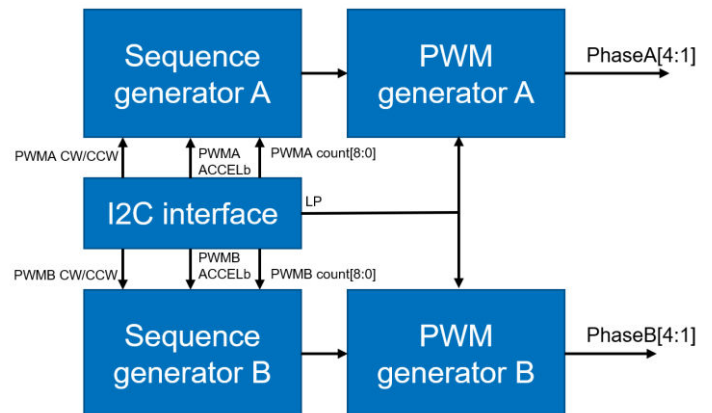
Port Name	I/O	Description
PhaseA[4:1]	O	PWM A output phases
PhaseB[4:1]	O	PWM B output phases
EN	I	Currently no connection, possible future expansion

## Theory of operation

Each of the two independent PWM generators produces quadrature output phases. The min. and max. rate of these phases is parameterized from 100pps to 1000pps. The outputs can be set to a low power state where all phases are logic 0, exiting from low power returns the outputs to the same state as when low power was entered.

An I2C controlled sequencer commands the PWM generators to accelerate from min to max rate, run for up to 2048 cycles at max rate and then decelerate from max to min rate. This sequence is autonomous and begins once the I2C transaction is complete. The accelerate and decelerate sequence can optionally be disabled and the PWM will run at the min rate for the entire sequence. The outputs can follow a P1->P2->P3->P4 or P4->P3->P2->P1 direction also under I2C control. There is an I2C register which can be read to determine if the PWM is running or stopped.

## Block Diagram



## Electrical Characteristics

V<sub>IN</sub>=12V, T<sub>A</sub>=25°C unless otherwise specified

Parameter	Condition	Min	Typ	Max	Units
Pulse rate		100		1000	Hz
Pulse rate accuracy	V <sub>in</sub> =12V, T <sub>A</sub> =25°C	-7		+7	%
	-40°C<T <sub>A</sub> <150°C	-9		+9	%

## Recommended Operating Conditions

over operating free-air temperature range

Symbol	Parameter	Min	Typ	Max	Unit
V <sub>IN</sub>	Input Voltage	4.5		14	V
F <sub>out</sub>	Output pulse rate.	100		1000	Hz

## Parameter Settings

### Basic Configuration

Default parameters may be changed per user requirement.

**PWM Chan A**

PWMA Min  Hz

PWMA Max  Hz

**PWM Chan B**

PWMB Min  Hz

PWMB Max  Hz

100  
200  
300  
400  
500  
600  
700  
800  
900  
**1000**

Update
Reset
Done
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