

# Phase & Frequency

## Loop Mode

- maximum number of phases supported
- depending on which part number, there will be more or less combinations to select from

## Operation Mode

- type of application
- POL/telecom is intended for ASIC and FPGA loads that does not follow Intel standards

## Maximum (Nph)

- number of phases populated for the respective loop
- value mostly depends on the full load current rating of the application and current capability per phase
- the controller uses the Nph value to set the internal phase timing relationship for the loop
- for normal applications, **Maximum = PS0 State**

## Fsw

- switching frequency
- depending on NPH in a loop, available frequencies may differ slightly due to internal division ratios

## Use Doubler Driver

- enable to use 2 power stages per phase in doubler configuration. Causes the PWM frequency at the PWM pin to double as the driver will divide the PWM again.

## Enable Auto Phase Detect

- automatic detection of number of mounted phases on a board
- recommended to always have box marked

## Pinout Diagram

- displays pinout diagram of the device

## PSx State

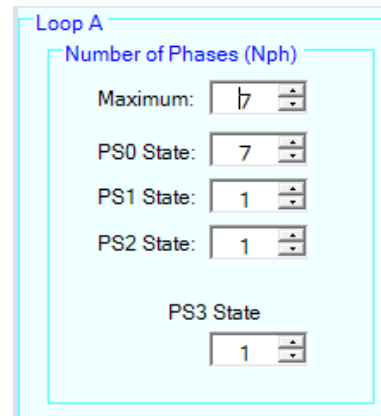
- number of phases enabled during specific power states
- Should be set based on load current requirement for the system and current capability per phase. This is usually limited by the power device used.
- Maximum >= PS0 >= PS1 >= PS2 >= PS3**
- For normal applications, **PS0 State = Maximum**
- if not used, set all **PSx State = Maximum** phases
- typically used for Intel applications
- for AMD, see note on next page

## Max Duty Cycle

- Maximum duty cycle allowed for PWM signal
- calculate for minimum Vin and Max Vout operation
- May need to be higher (50% or more often used) to allow for transient condition during steps in load

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- › For AMD, the power states translate to
  - PS0 State=normal operation
  - PS1 State=PSI0\_L
  - PS2 State=PSI1\_L
  - PS3 State= Not Used (set to same as PS2)



Loop A

Number of Phases (Nph)

Maximum: 7

PS0 State: 7

PS1 State: 1

PS2 State: 1

PS3 State

1

Note: GUI does not change the text for different modes like AMD. It always uses the Intel names.