

AMBA 3 APB PROTOCOL

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Outline

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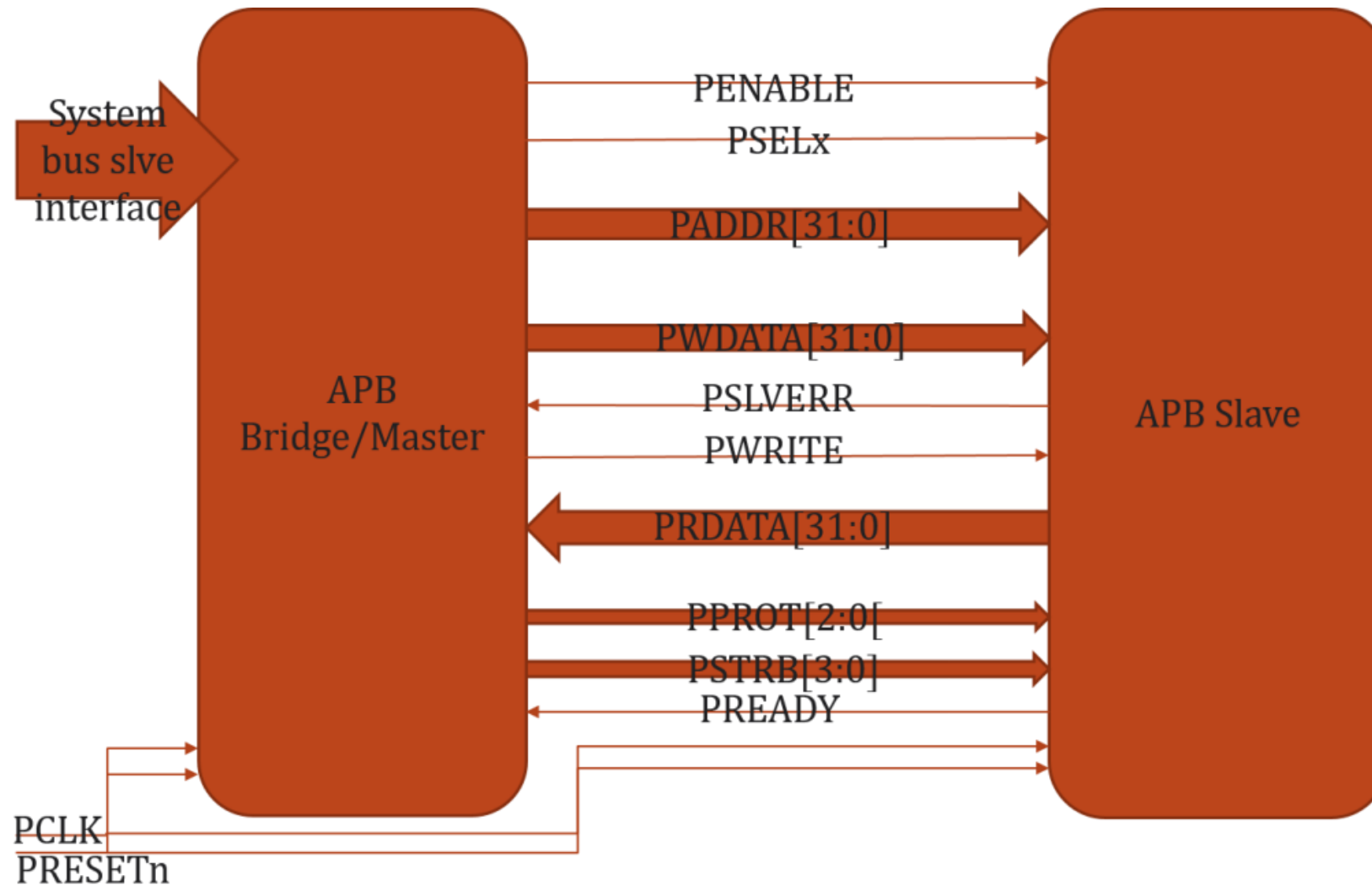
Introduction

- APB – part of AMBA 3 protocol family.
- provides a low-cost interface that is optimized for minimal power consumption.
- Unpipelined protocol
- All signal transitions are only related to the rising edge of the clock.
- Every transfer takes at least two cycles.
- APB can interface with AMBA AHB and AMBA AXI
- Can be used to provide access to programmable control registers of peripheral devices

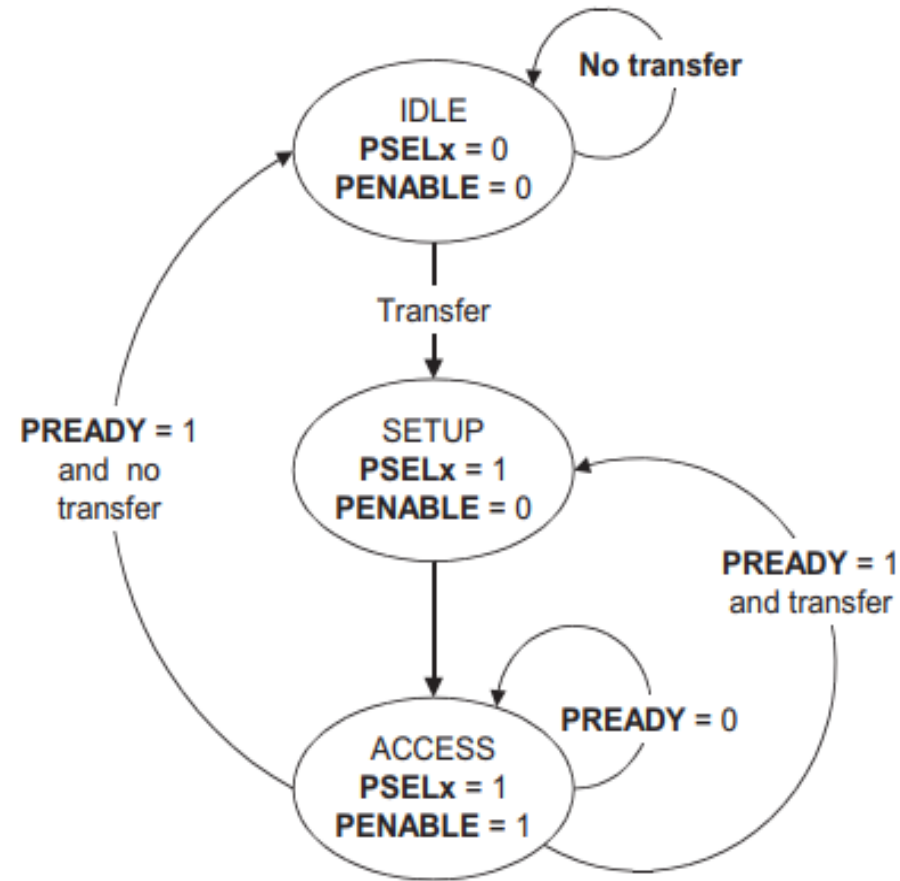
Signals

Signal	Source	Width
PCLK	Clock source	1
PRESETn	System bus reset	1
PADDR	Requester	ADDR_WIDTH
PSELx	Requester	1
PENABLE	Requester	1
PWRITE	Requester	1
PWDATA	Requester	DATA_WIDTH
PREADY	Completer	1
PRDATA	Completer	DATA_WIDTH
PSLVERR	Completer	1

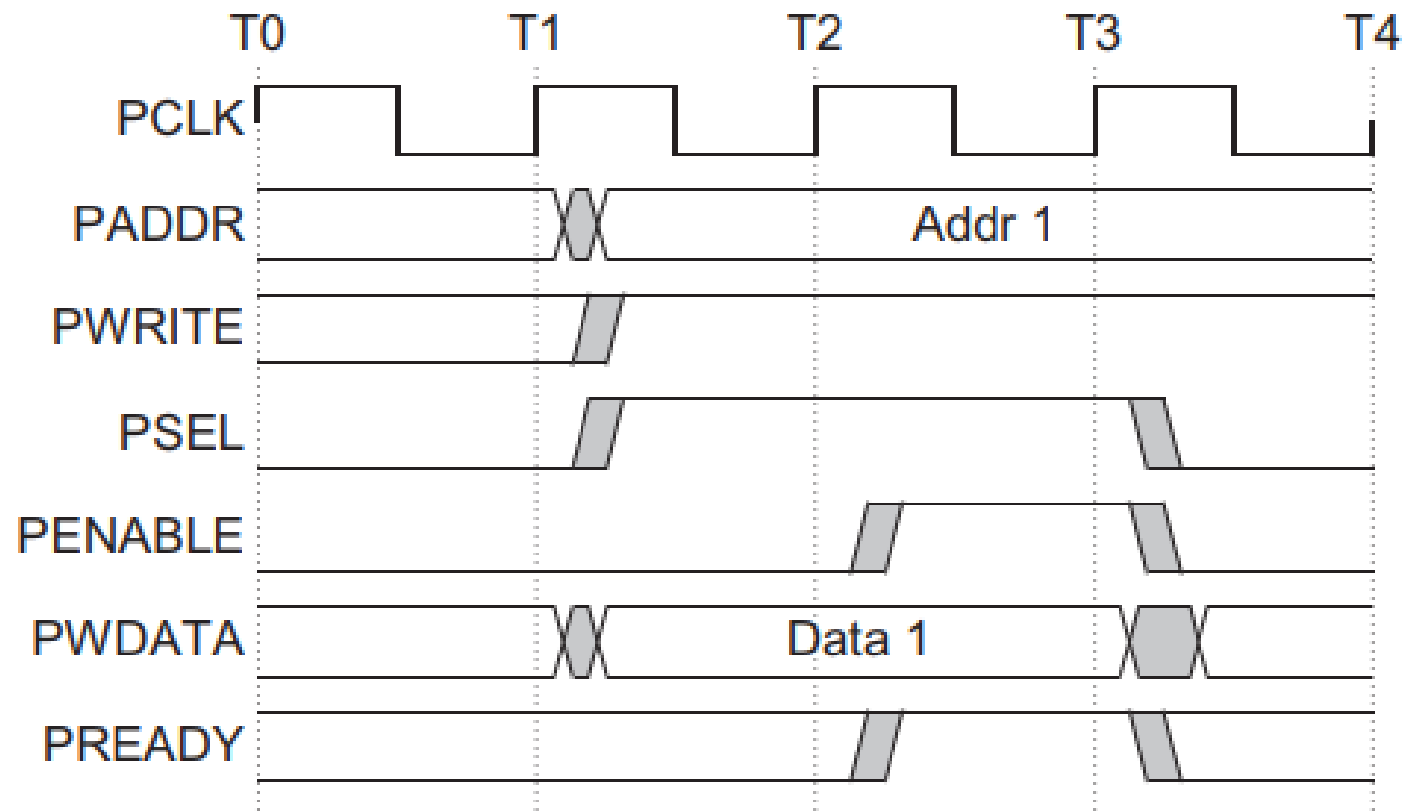
Block Diagram



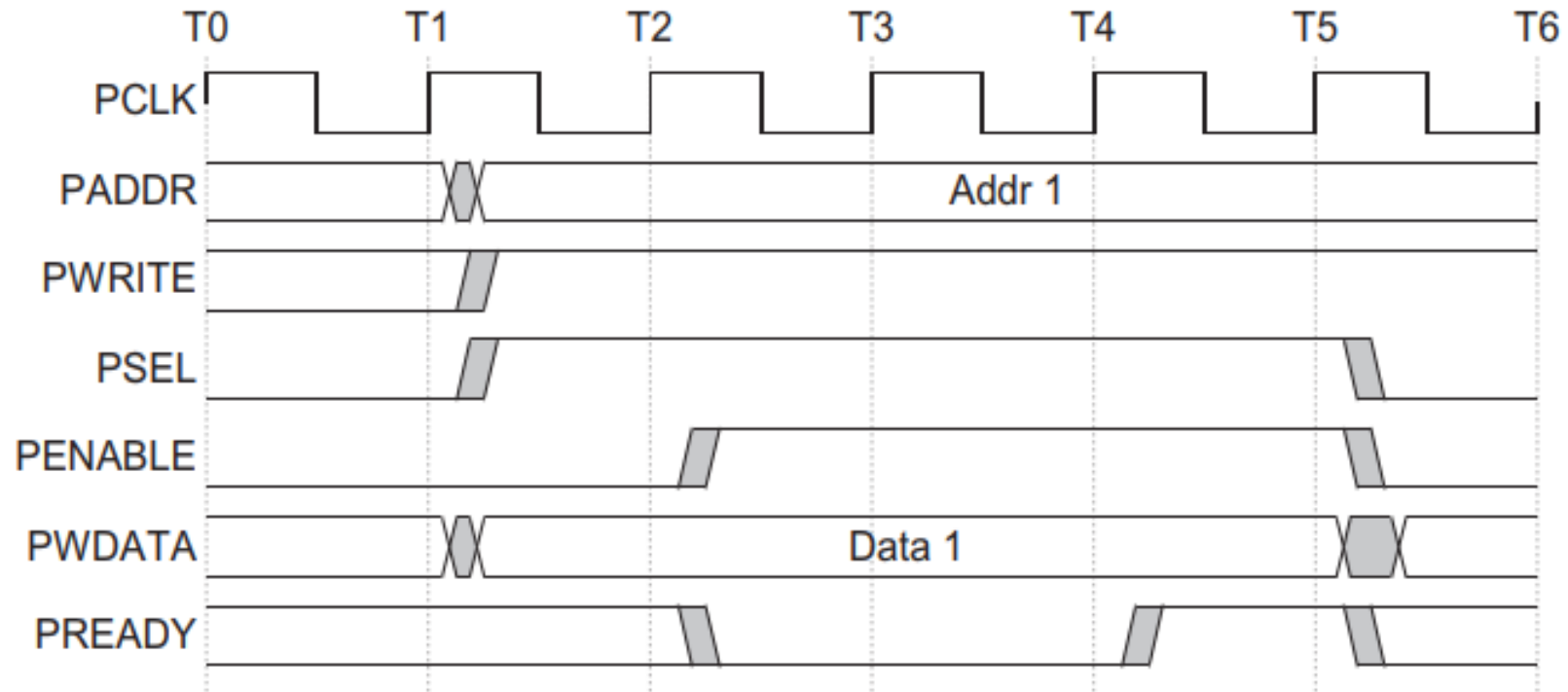
Operating States



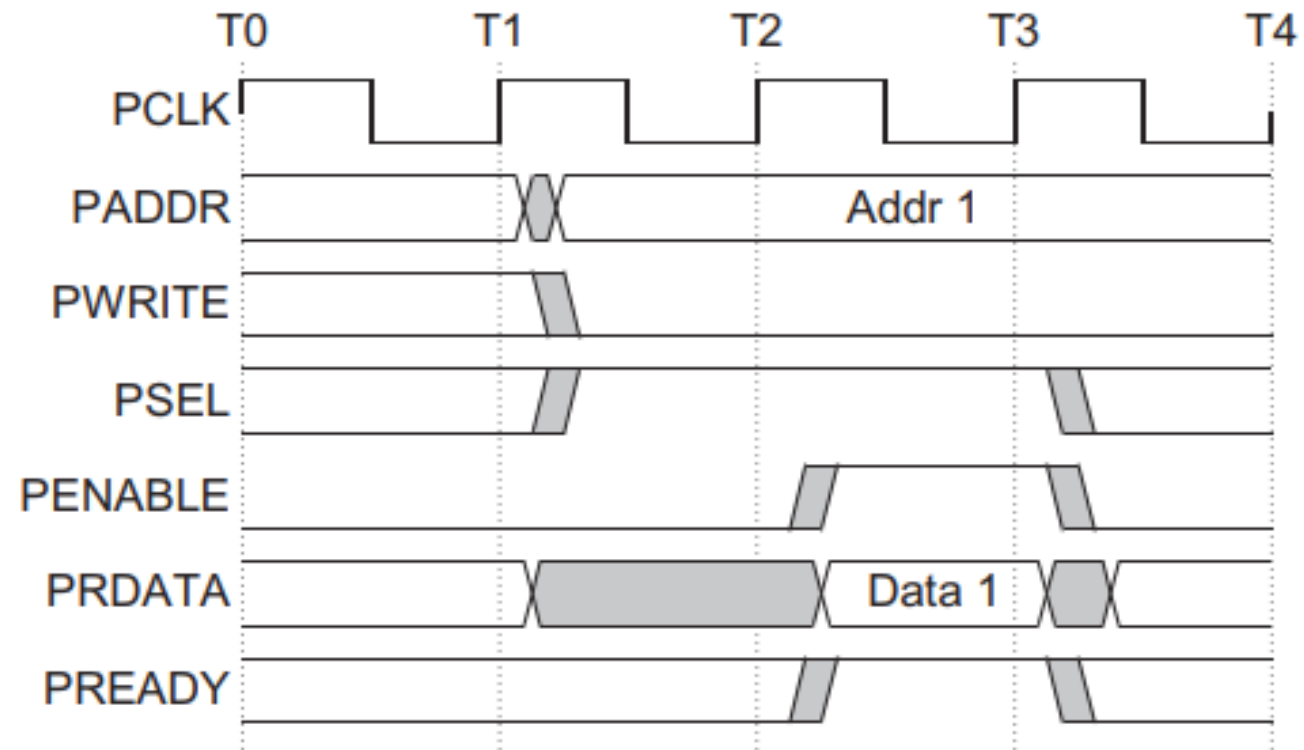
Write with no wait state



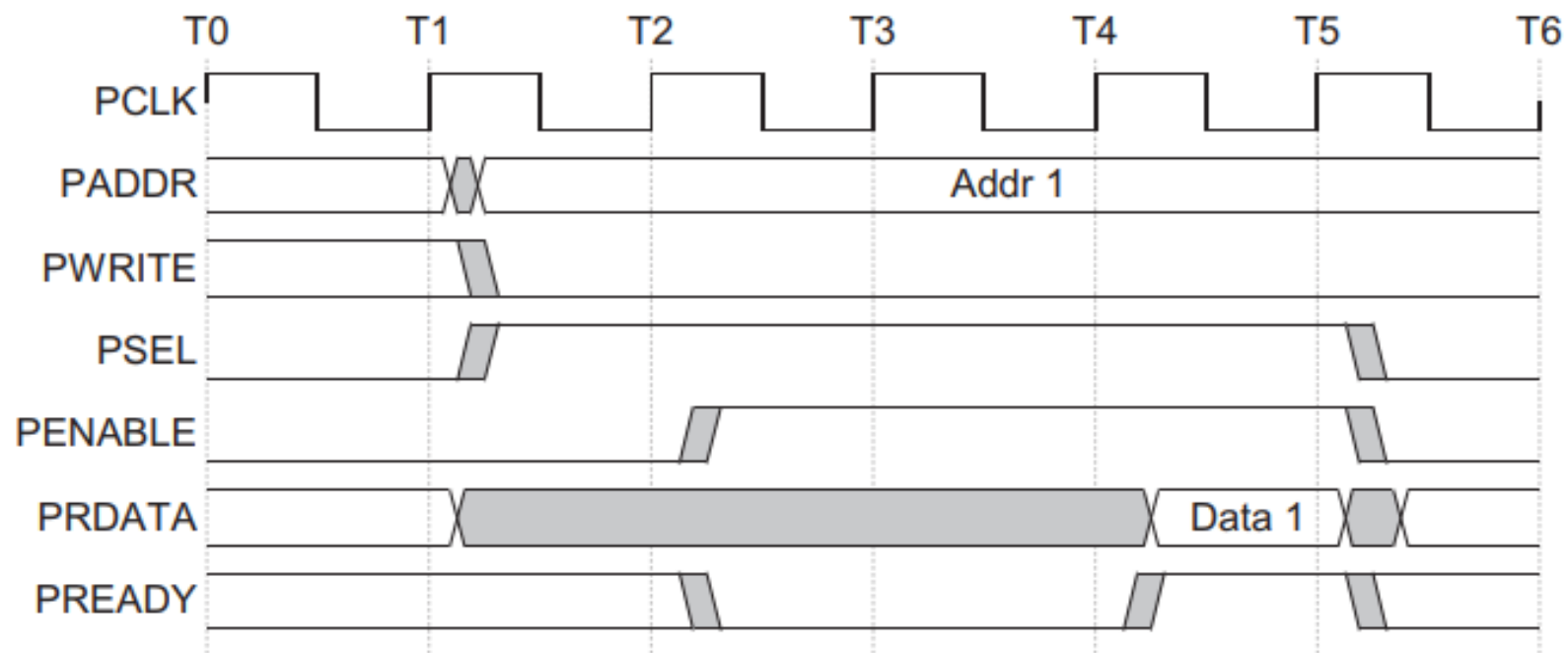
Write with wait state



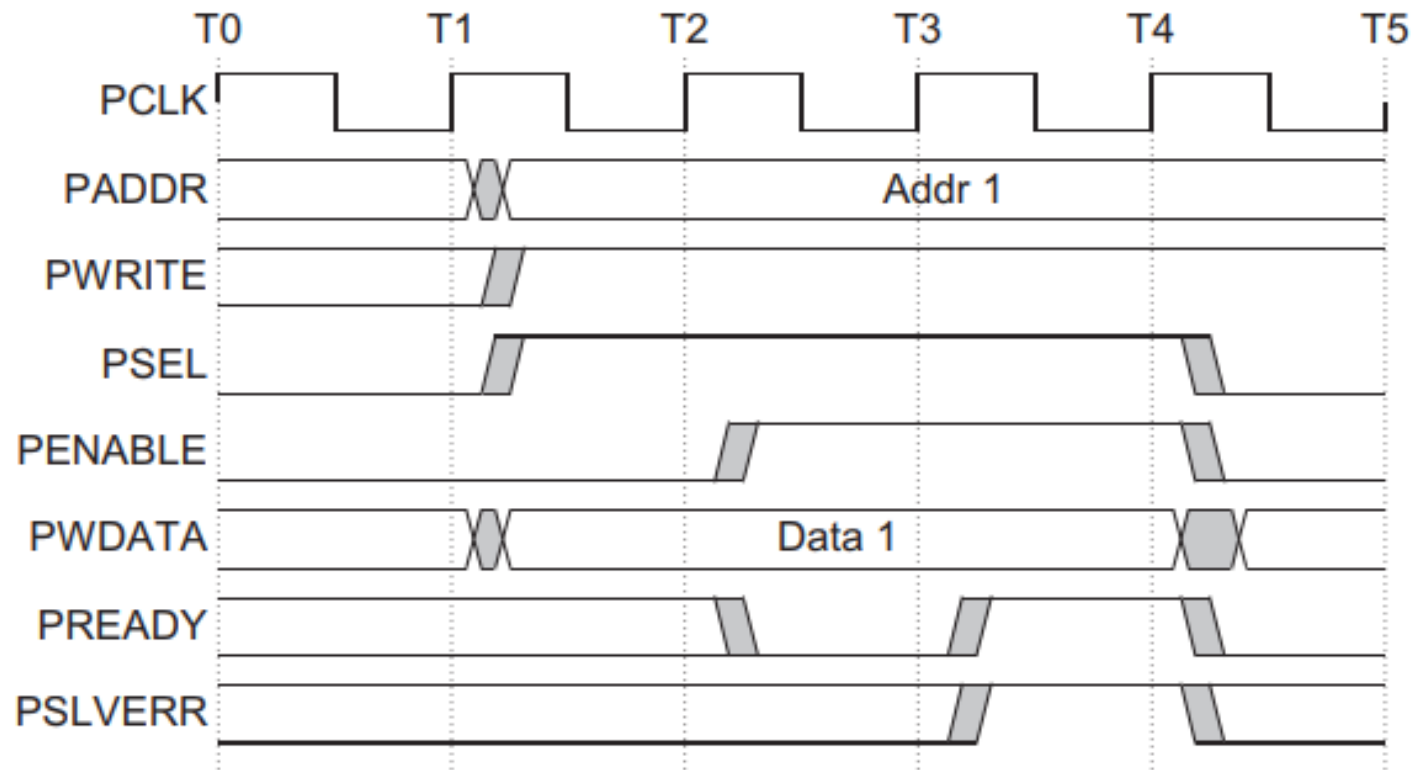
Read with no wait states



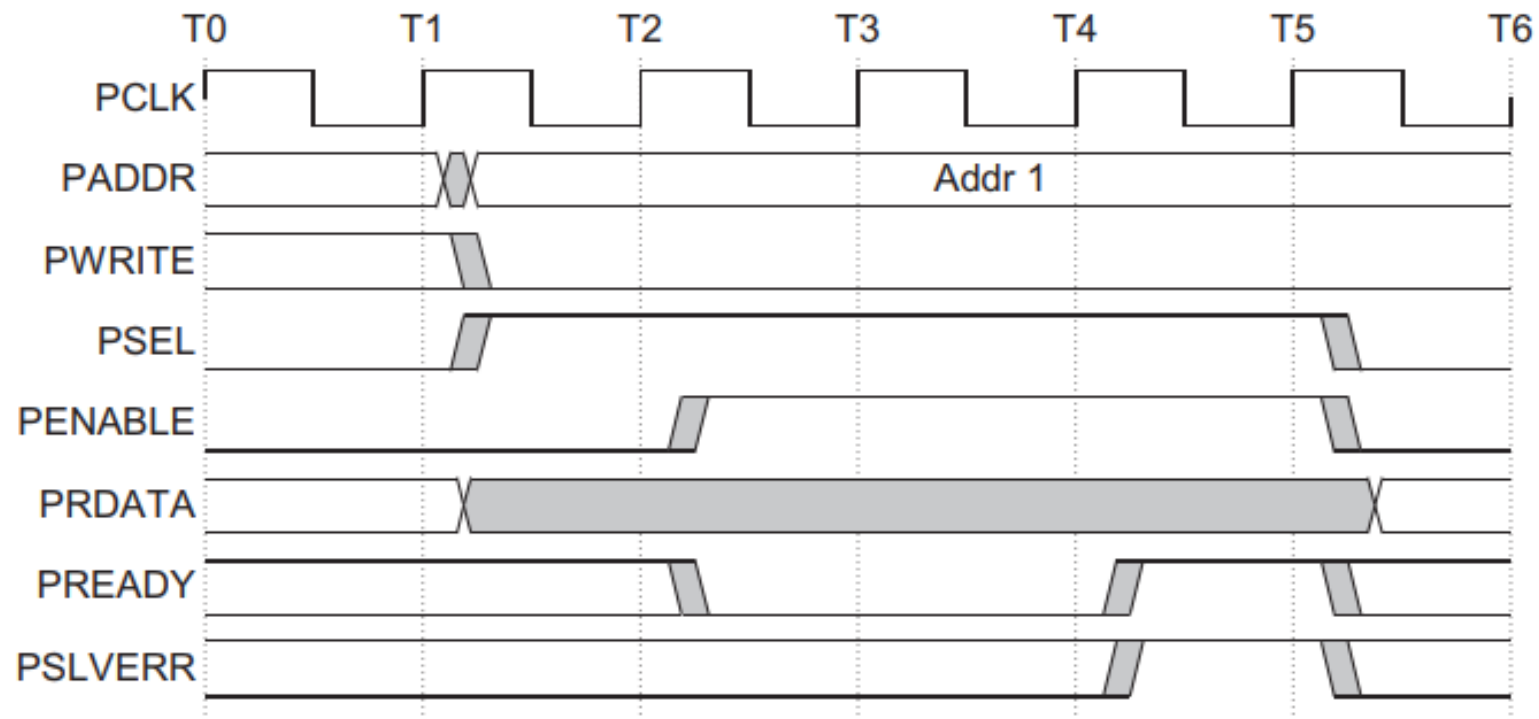
Read with wait states



Error response for write transfer



Error response for read transfer



THANK YOU