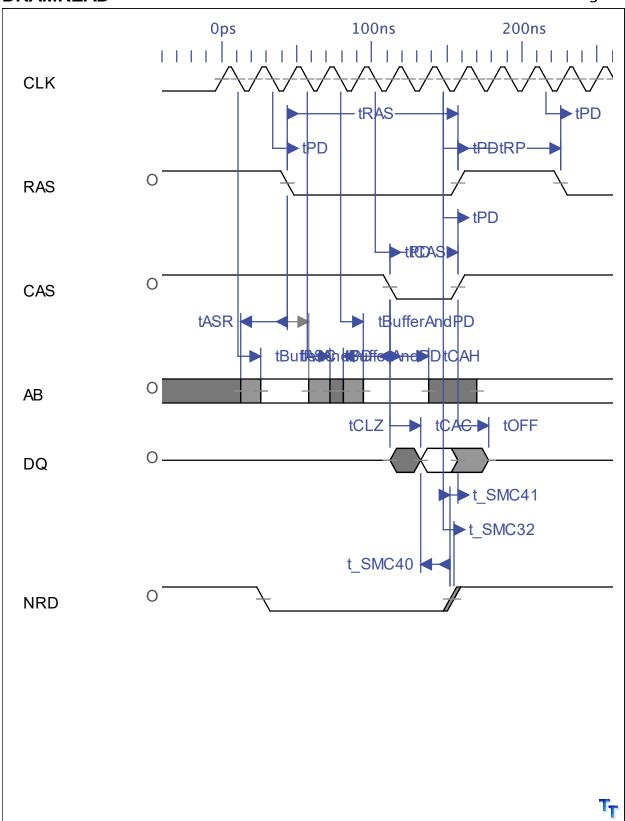
DRAMREAD Page 1



Page 2

General Data						rage 2
SYMBOL	DEFINITION	DESCRIPTION	MIN	MAX	NOTES	
tASR	Row-address setup time before RAS low	to be defined	0ns			
tASC	Column-address setup time before CAS low	to be defined	0ns			
tDS	Data setup time	to be defined	0ns			
tRCS	Read setup time before CAS low	to be defined				
tCWL	W low setup time before CAS	to be defined	20ns			
tRWL	W low setup time before RAS	to be defined				
tWCS	W low setup time before CAS	to be defined	0ns			
tWSR	W high setup time (CAS-before-RAS refresh only)	to be defined	10ns			
tCAH	Column-address hold time after CAS low	to be defined	15ns			
tDHR	Data hold time after RAS low	to be defined	60ns			
tDH	Data hold time	to be defined	15ns			
tAR	Column-address hold time after RAS low	to be defined	60ns			
tRAH	Row-address hold time after RAS low	to be defined	10ns			
tRCH	Read hold time after CAS high	to be defined	0ns			
tRRH	Read hold time after RAS high	to be defined	0ns			
tWCH	Write hold time after CAS low	to be defined	15ns			
tWCR	Write hold time after RAS low	to be defined	60ns			
tWHR	W high hold time (CAS-before-RAS refresh only)	to be defined	10ns			
tCHR	Delaytime, RAS low to CAS high	to be defined	20ns			τ_{Γ}

General Data con	tinued					
SYMBOL	DEFINITION	DESCRIPTION	MIN	MAX	NOTES	
tCRP	Delay time, CAS high to RAS low	to be defined	0ns			
tCSH	Delaytime, RAS low to CAS high	to be defined	80ns			
tCSR	Delaytime, CAS low to RAS low	to be defined	10ns			
tRAD	Delay time, RAS low to column-address	to be defined	15ns	40ns		
tRAL	Delay time, column-address to RAS high	to be defined	40ns			
tCAL	Delay time, column-address to CAS high	to be defined	40ns			
tRCD	Delaytime, RAS low to CAS low	to be defined	20ns	60ns		
tRPC	Delaytime, RAS high to CAS low	to be defined	0ns			
tRSH	Delaytime, CAS low to RAS high	to be defined	20ns			
tΤ	Transition time	to be defined	2ns	50ns		
tRAS	Non-page-mode pulse duration, RAS low	to be defined	80ns	10000ns		
tCAS	Pulse duration, CAS low	to be defined	20ns	10000ns		
tCLZ	CAS to output in low Z	to be defined	0ns			
tOFF	output disable time after CAS high	to be defined	0ns	20ns		
tBufferAndPD	Buffer propagation delays	to be defined	1.3ns	15.1ns		
tPD	CPLD worst case path	to be defined		10ns		
tCAC	Access time from CAS low	to be defined		20ns		
tRAC	Access time from RAS low	to be defined		80ns		
tRP	Pulse duration, RAS high	to be defined	60ns			Τ _T

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SYMBOL	DEFINITION	DESCRIPTION	MIN	MAX	NOTES	
t_SMC40	Data Setup time before NRD	to be defined	7.5ns			
t_SMC41	Data Hold time after NRD rising	to be defined	-3.4ns			
t_SMC32	MCK falling to NRD inactive	to be defined	4.5ns	6.8ns		
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