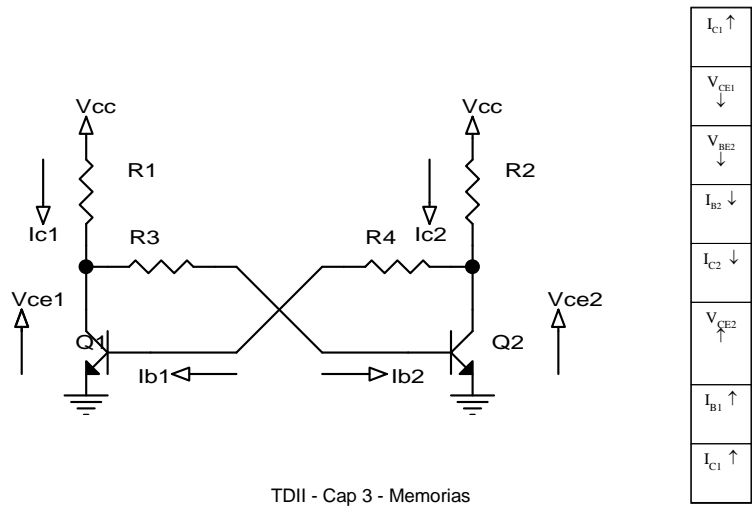


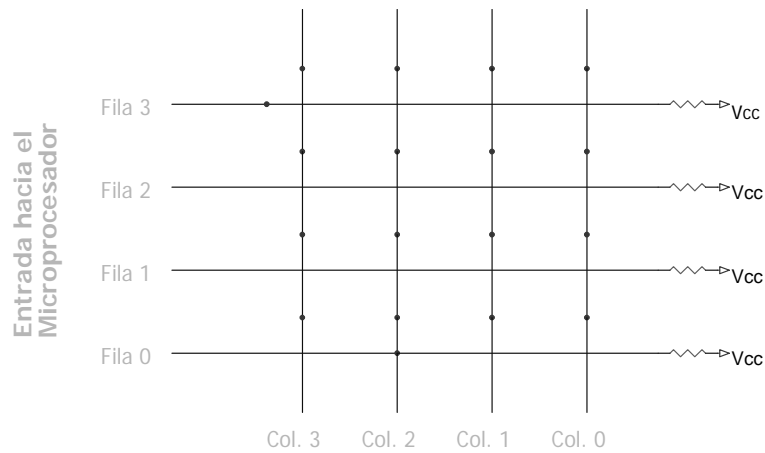
Principios de funcionamiento.



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1

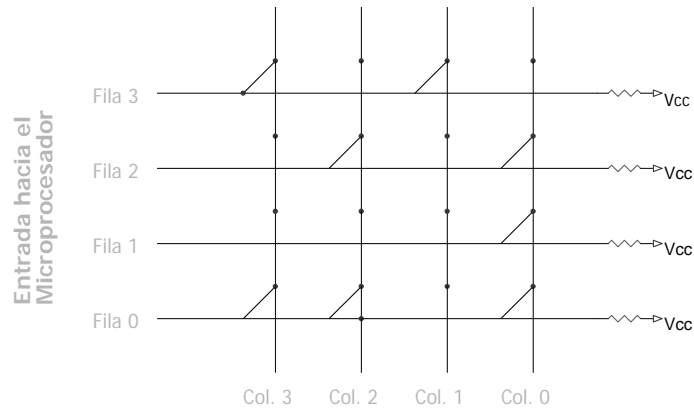
Almacenamiento de información binaria



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2

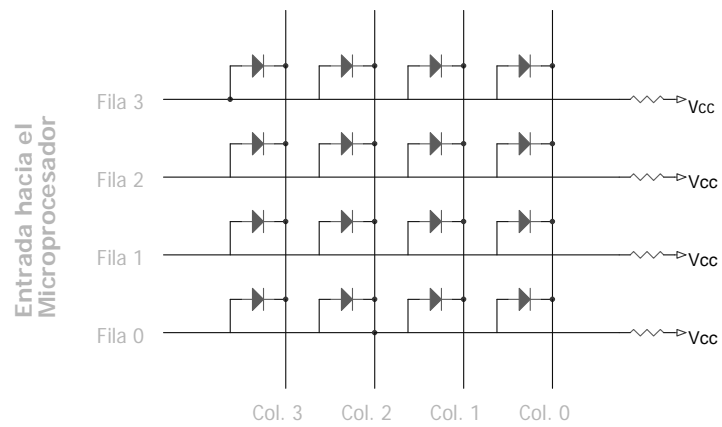
Cableado de uniones



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3

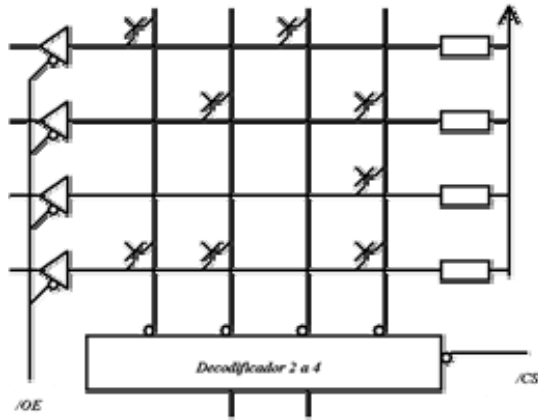
Uso de Diodos



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Uso de transistores



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Clasificación.

Según su funcionamiento

Memorias Estáticas.

Memorias Dinámicas.

Según su persistencia

Memorias volátiles

Memorias Perennes.

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Clasificación

Según su tecnología.

- PMOS.
- NMOS.
- CMOS
- HMOS
- HCMOS

Según su uso.

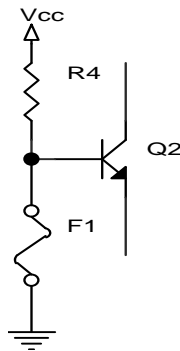
- De lectura y escritura.
- De lectura solamente.

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Memorias de Lectura mayoritaria

ROMs de máscara.
PROMs

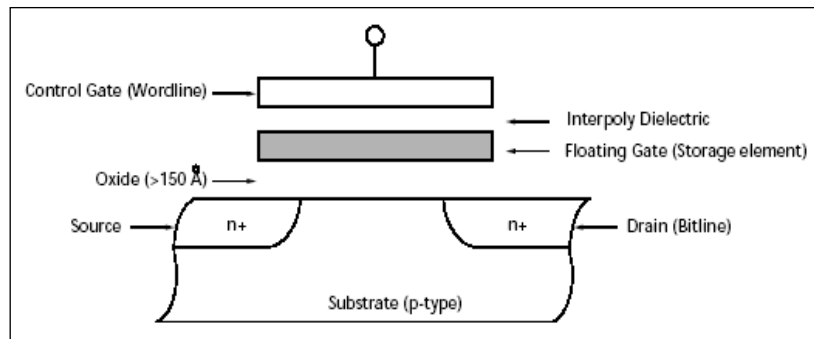


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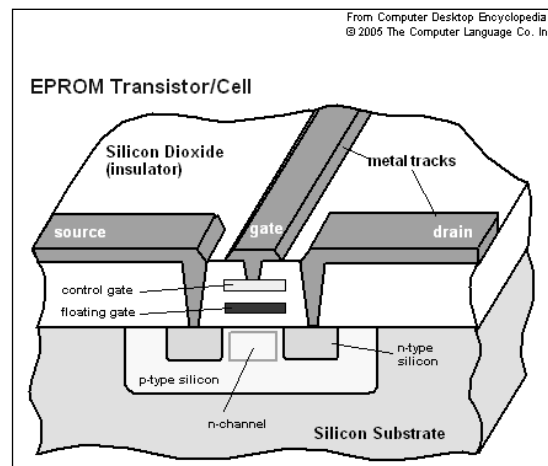
8

Eproms

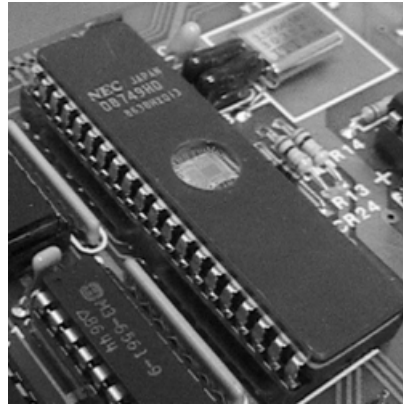
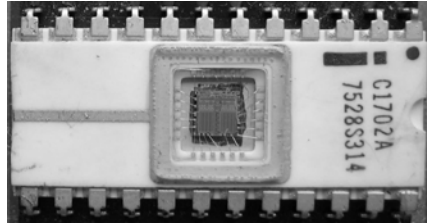
Memorias EPROM.



Eproms

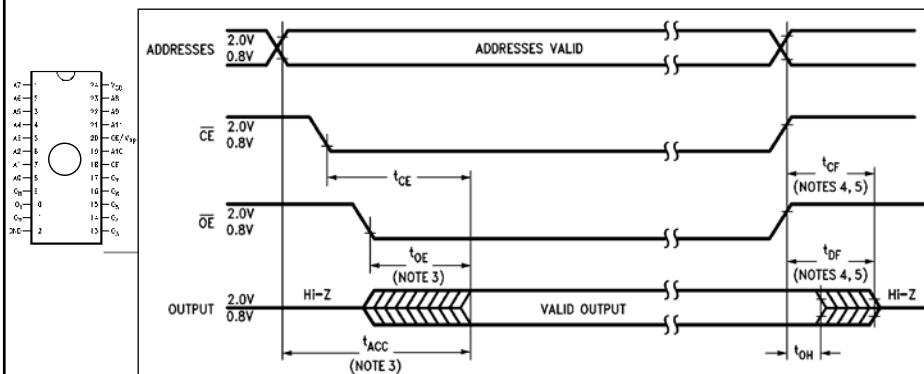


EPROM



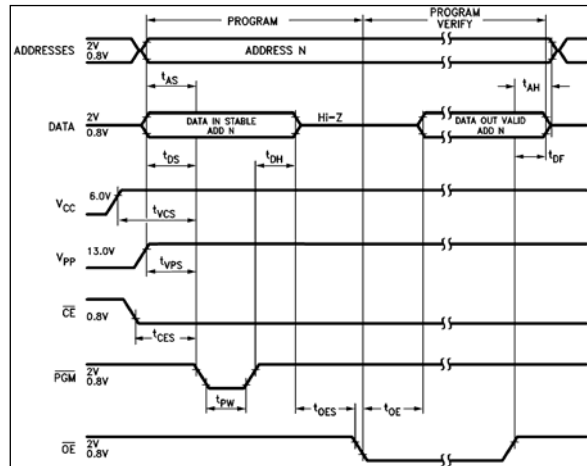
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Eproms



TDII - Cap 3 - Memorias

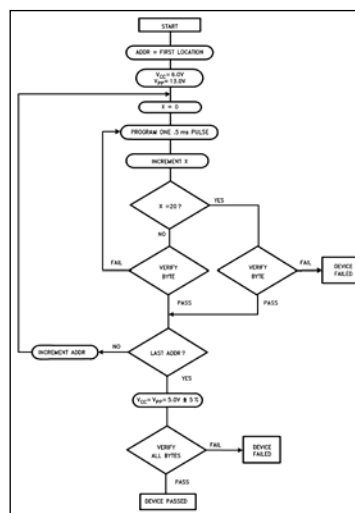
Programación EPROM



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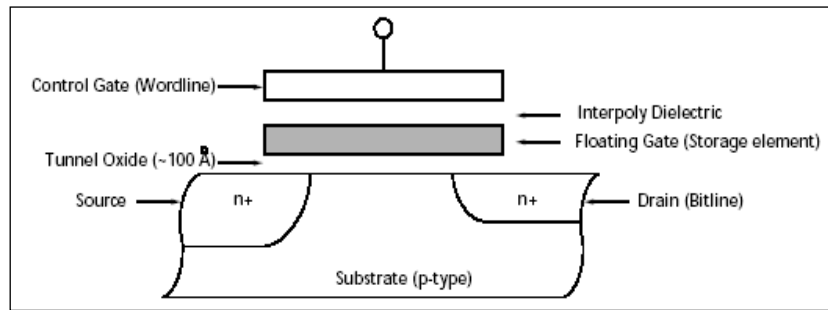
Programación Inteligente de EPROM



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14

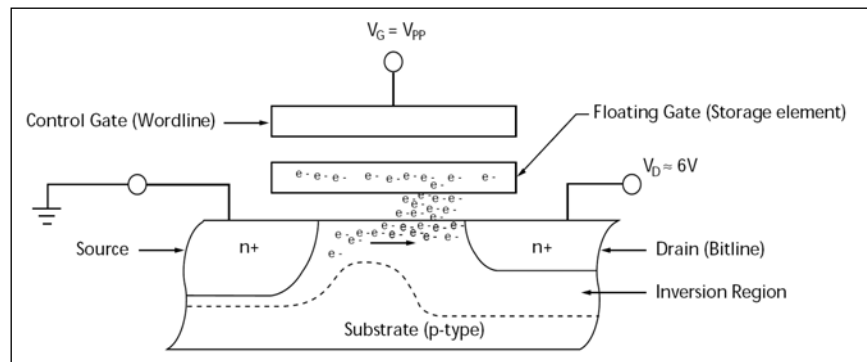
Flash



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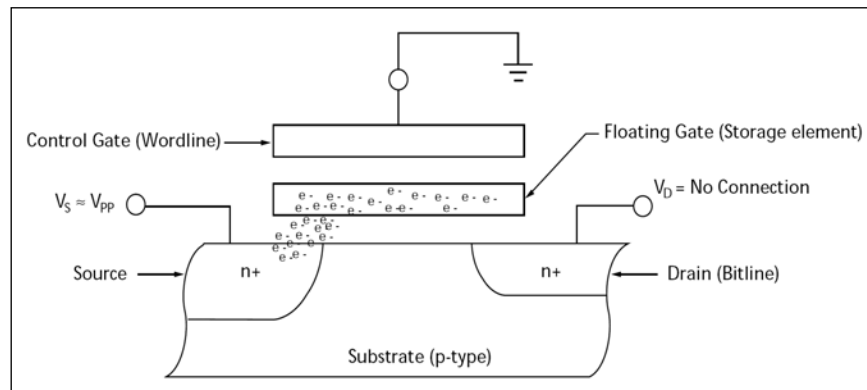
Flash - Escritura



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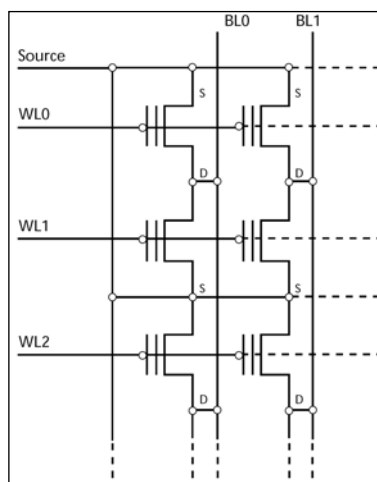
Flash - Borrado



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NOR Flash



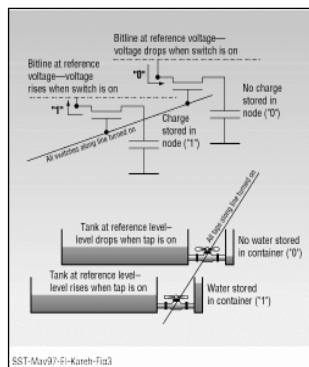
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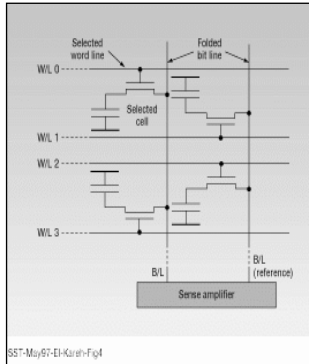
Denominación de las Memorias

N	Significado
3	ROM
7	EPROM
8	E ² PROM
9	FLASH

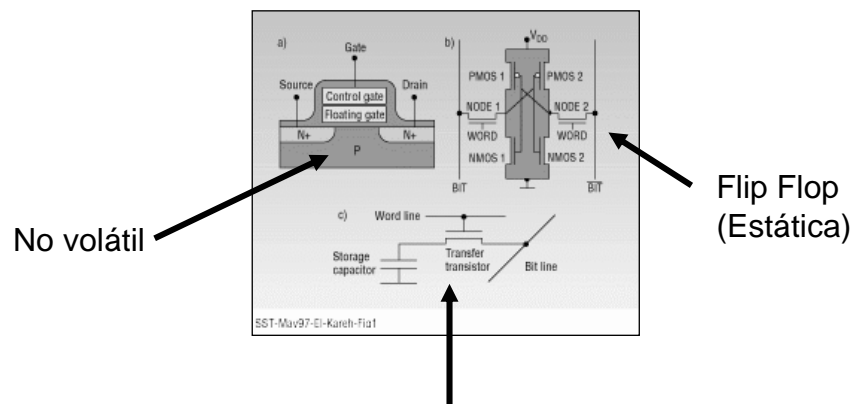
Memorias Dinámicas



Memorias Dinámicas



Esquemas típicos

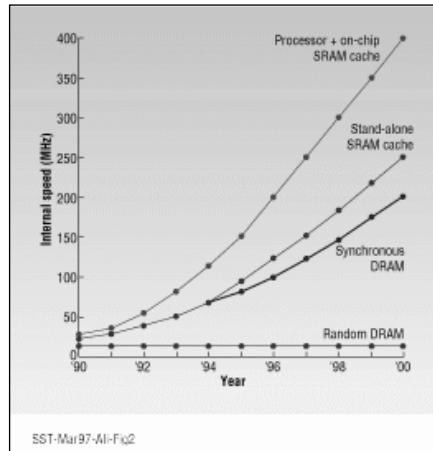


No volátil

Flip Flop
(Estática)

Dinámica de 1 transistor

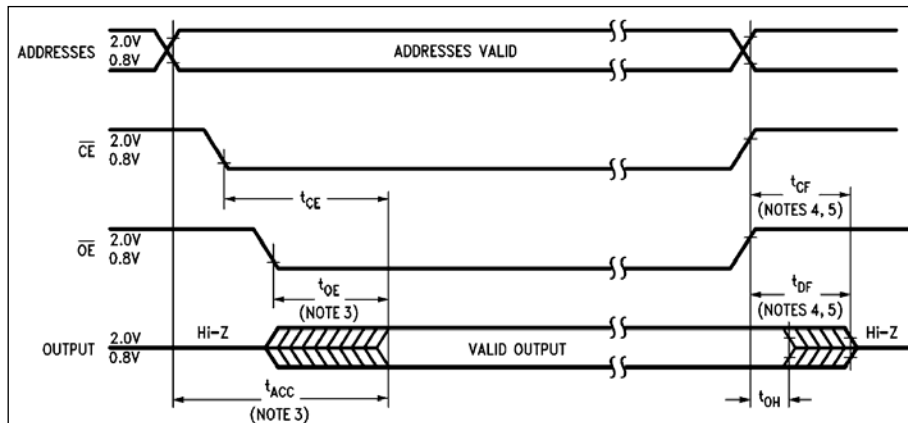
Velocidades de Distintos Tipos



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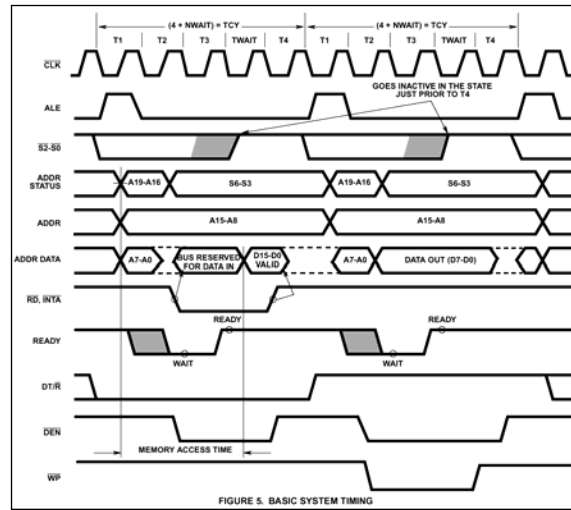
Tiempos de acceso



TDII - Cap 3 - Memorias

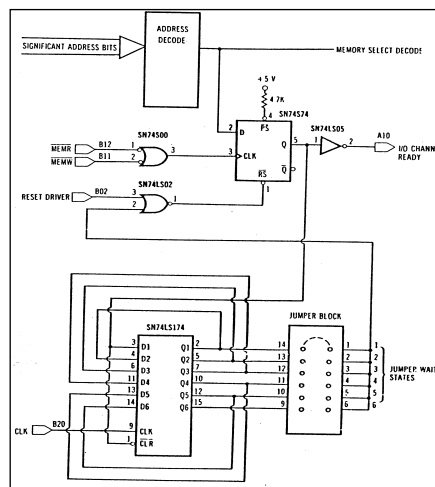
24

Tiempos de acceso



25

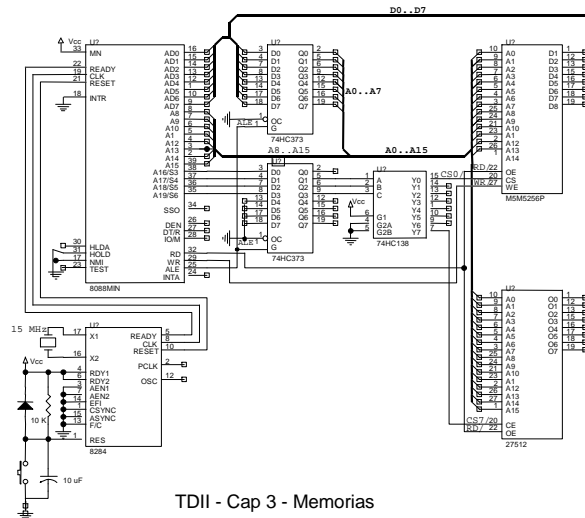
Tiempos de Espera



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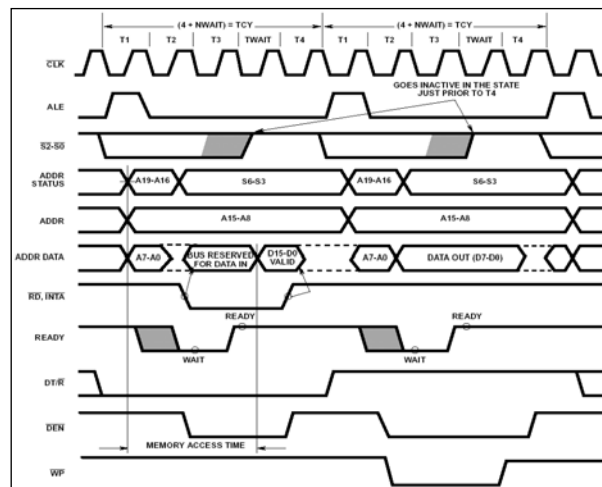
Tiempo de Acceso



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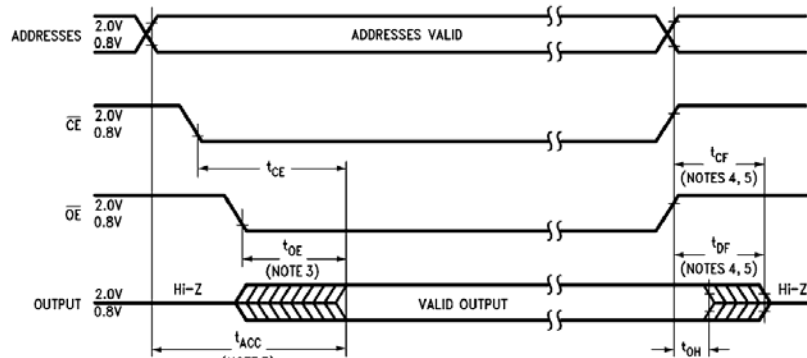
Diagramas Temporales μP



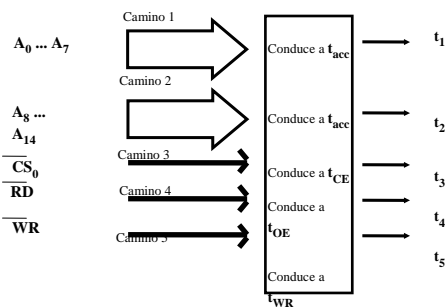
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Diagrama Temporal memoria



Tiempo de Acceso



Tiempo de Acceso

$$t_1 = t_{CLAV} + t_{p373} + t_{acc}$$

$$t_2 = t_{CLAV} + t_{acc}$$

$$t_3 = t_{CLAV} + t_{p373} + t_{p138} + t_{CE}$$

$$t_4 = t_{CLCL} + t_{CLRL} + t_{OE}$$

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Tiempo de Acceso

Symbol	Parameters	Condition	Vcc	T _A = 25°C		74HC	54HC	Units
				Typ	Guaranteed Limits		T _A = -40° to 85°C	
t _{PHL} , t _{PLH}	Maximum Propagation Delay, Data to Q	C _L -50pF	2.0V	50	150	188	225	ns
		C _L -150pF	2.0V	80	200	250	300	ns
		C _L -50pF	4.5V	22	30	37	45	ns
		C _L -150pF	4.5V	30	40	50	60	ns
		C _L -50pF	6.0V	19	26	31	39	ns
t _{PHL} , t _{PLH}	Maximum Propagation Delay, Clock to Q	C _L -50pF	2.0V	63	175	220	263	ns
		C _L -150pF	2.0V	110	225	280	338	ns
		C _L -50pF	4.5V	25	35	44	52	ns
		C _L -150pF	4.5V	35	45	56	68	ns
		C _L -50pF	6.0V	21	30	37	45	ns
	Maximum Output Enable Time	R _L -1kΩ						

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