

256Kx8 Static RAM CMOS, Module

Features

256Kx8 bit CMOS Static

Random Access Memory

- Access Times 20 thru 35ns
- TTL Compatible Inputs and Outputs
- Common Data Inputs/Outputs
- Output Enable Function
- Fully Static, No Clocks

Jedec Approved Pinout

- 32 Pin DIP, No. 61

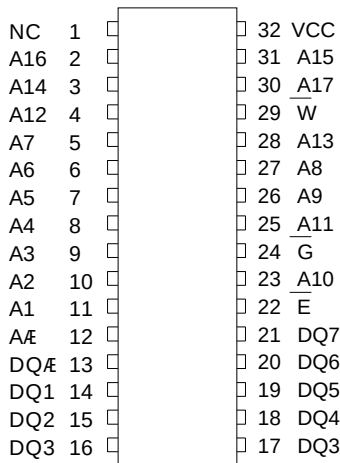
Single +5V ($\pm 10\%$) Supply Operation

The EDI8F8259C is a 2 megabit CMOS Static RAM based on two high speed 256Kx4 Static RAMs mounted on a multi-layered epoxy laminate (FR4) substrate.

The 32 pin DIP pinout adheres to the JEDEC standard for the two megabit device, to ensure compatibility with future monolithics.

All inputs and outputs are TTL compatible and operate from a single 5V supply. Fully asynchronous, the EDI8F8259C requires no clocks or refreshing for operation.

Pin Configurations and Block Diagram



Pin Names

A0-A17

E

W

G

DQ0-DQ7

VCC

VSS

NC

Address Inputs

Chip Enable

Write Enable

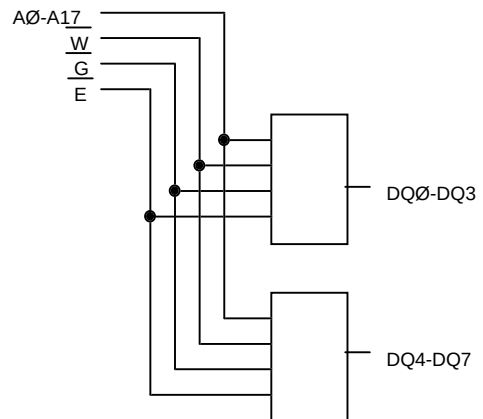
Output Enable

Common Data Input/Output

Power ($+5V \pm 10\%$)

Ground

No Connection



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Absolute Maximum Ratings*

Voltage on any pin relative to VSS	-0.5V to 7.0V
Operating Temperature TA (Ambient)	
Commercial	0°C to +70°C
Industrial	-40°C to +85°C
Storage Temperature	
Plastic	-55°C to +125°C
Power Dissipation	2.25 Watt
Output Current	20mA

*Stress greater than those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions greater than those indicated in the operational sections of this specification is not implied. Exposure to absolute maximum rating conditions for extended periods may affect reliability.

Recommended DC Operating Conditions

Parameter	Sym	Min	Typ	Max	Units
Supply Voltage	VCC	4.5	5.0	5.5	V
Supply Voltage	VSS	0	0	0	V
Input High Voltage	VIH	2.2	--	6.0	V
Input Low Voltage	VIL	-0.3	--	0.8	V

AC Test Conditions

Input Pulse Levels	VSS to 3.0V
Input Rise and Fall Times	5ns
Input and Output Timing Levels	1.5V
Output Load	1TTL, CL = 30pF

(note: For TEHQZ,TGHQZ and TWLQZ, CL = 5pF)

DC Electrical Characteristics

Parameter	Sym	Conditions	Min	Typ*	Max	Units
Operating Power	ICC1	$\bar{W}, \bar{E} = VIL, I/O = 0mA$	--	230	390	mA
Supply Current		Min Cycle				
Standby (TTL) Power	ICC2	$\bar{E} \square VIH, VIN - VIL$	--	30	50	mA
Supply Current		$VIN \square VIH$				
Full Standby Power	ICC3	$\bar{E} \square VCC-0.2V$	--	2	20	mA
Supply Current (CMOS)		$VIN \square VCC-0.2V$ or $VIN - 0.2V$				
Input Leakage Current	ILI	$VIN = 0V$ to VCC	-10	--	10	μA
Output Leakage Current	ILO	$V I/O = 0V$ to VCC	-10	--	10	μA
Output High Voltage	VOH	$IOH = -4.0mA$	2.4	--	--	V
Output Low Voltage	VOL	$IOL = 8.0mA$	--	--	0.4	V

*Typical: TA = 25°C, VCC = 5.0V

Truth Table

$\bar{G}$	$\bar{E}$	$\bar{W}$	Mode	Output	Power
X	H	X	Standby	High Z	ICC2, ICC3
H	L	H	Output Deselect	High Z	ICC1
L	L	H	Read	DOUT	ICC1
X	L	L	Write	DIN	ICC1

Capacitance

(f=1.0MHz, VIN=VCC or VSS)

Parameter	Sym	Max	Unit
Address Lines	CI	22	pF
Data Lines	CD/Q	20	pF

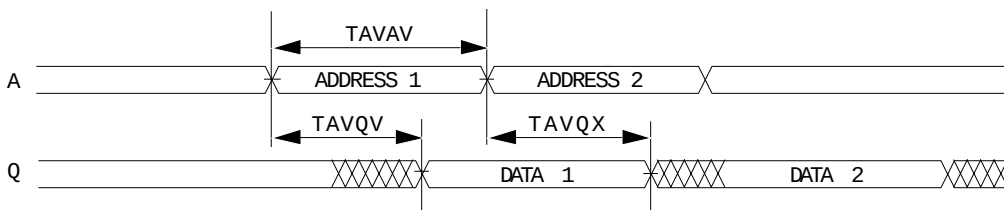
These parameters are sampled, not 100% tested.

AC Characteristics Read Cycle

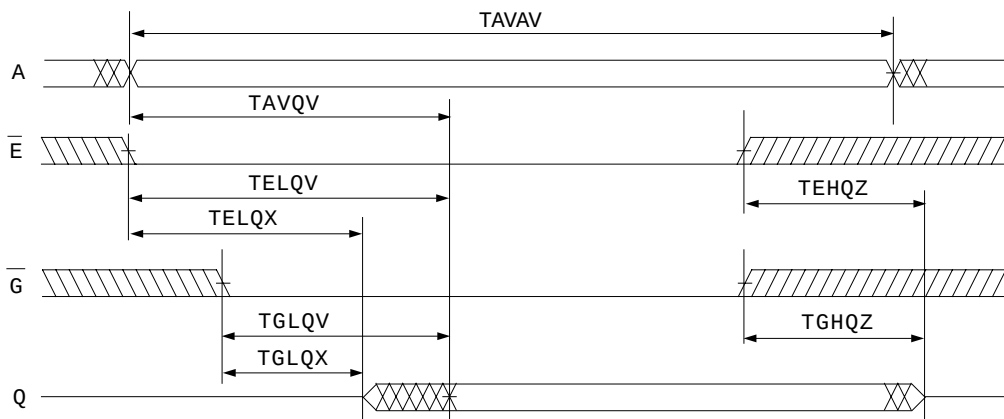
Parameter	Symbol		20ns		25ns		35ns		Units
	JEDEC	Alt.	Min	Max	Min	Max	Min	Max	
Read Cycle Time	TAVAV	TRC	20		25		35		ns
Address Access Time	TAVQV	TAA		20		25		35	ns
Chip Enable Access Time	TELQV	TACS		20		25		35	ns
Chip Enable to Output in Low Z (1)	TELQX	TCLZ	3		3		3		ns
Chip Disable to Output in High Z (1)	TEHQZ	TCHZ		10		12		15	ns
Output Hold from Address Change	TAVQX	TOH	3		3		3		ns
Output Enable to Output Valid	TGLQV	TOE		13		15		20	ns
Output Enable to Output in Low Z (1)	TGLQX	TOLZ	0		0		0		ns
Output Disable to Output in High Z (1)	TGHQZ	TOHZ		8		10		12	ns

Note 1: Parameter guaranteed, but not tested.

Read Cycle 1 - $\bar{W}$ High, $\bar{G}$, $\bar{E}$ Low



Read Cycle 2 - $\bar{W}$ High

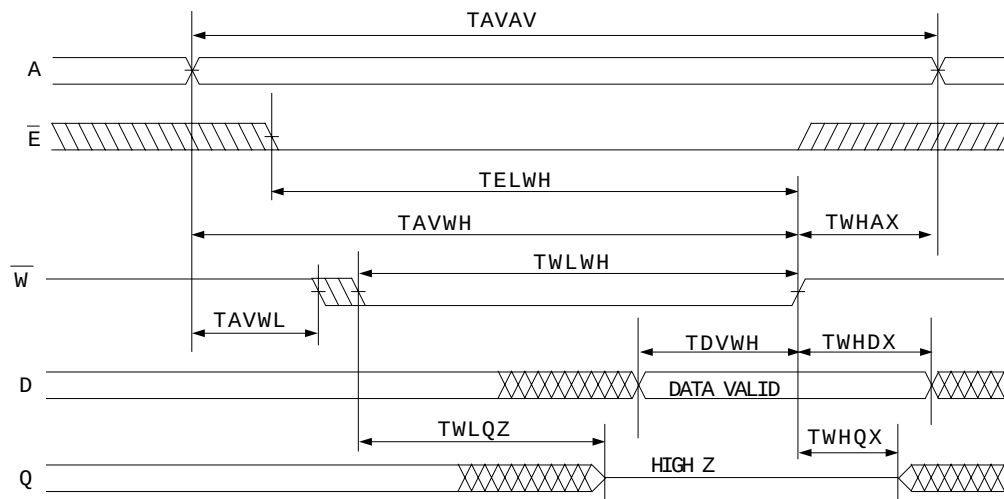


AC Characteristics Write Cycle

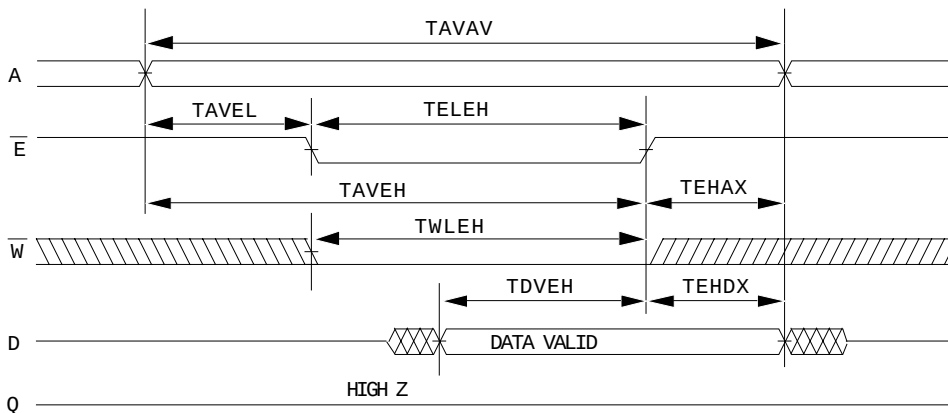
Parameter	Symbol		20ns		25ns		35ns		Units
	JEDEC	Alt.	Min	Max	Min	Max	Min	Max	
Write Cycle Time	TAVAV	TWC	20		25		35		ns
Chip Enable to End of Write	TELWH	TCW	15		20		30		ns
	TELEH	TCW	15		20		30		ns
Address Setup Time	TAVWL	TAS	0		0		0		ns
	TAVEL	TAS	0		0		0		ns
Address Valid to End of Write	TAVWH	TAW	15		20		30		ns
	TAVEH	TAW	15		20		30		ns
Write Pulse Width	TWLWH	TWP	15		20		25		ns
	TWLEH	TWP	15		20		25		ns
Write Recovery Time	TWHAX	TWR	0		0		0		ns
	TEHAX	TWR	0		0		0		ns
Data Hold Time	TWHDX	TDH	3		3		3		ns
	TEHDX	TDH	3		3		3		ns
Write to Output in High Z (1)	TWLQZ	TWHZ	0	10	0	12	0	15	ns
Data to Write Time	TDVWH	TDW	12		15		20		ns
	TDVEH	TDW	12		15		20		ns
Output Active from End of Write (1)	TWHQX	TWLZ	3		3		3		ns

Note 1: Parameter guaranteed, but not tested.

Write Cycle 1 - $\overline{W}$ Controlled



Write Cycle 2 - $\bar{E}$ Controlled



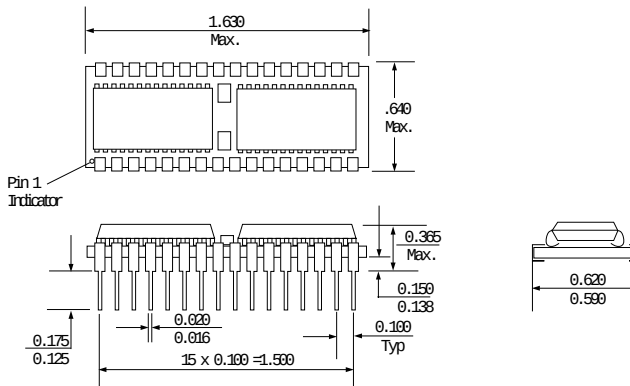
Ordering Information

Standard Power	Speed (ns)	Package No.
ED18F8259C20M6C	20	61
ED18F8259C25M6C	25	61
ED18F8259C35M6C	35	61

Note: To order an Industrial grade product substitute the letter C in the Suffix with the letter I.

Package Description

Package No. 61 32 Pin Dual-in-line Package



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