ABSOLUTE MAXIMUM RATINGS*

Ambient Temperature Under Bias. . . . . .-10°C to 80°C
Storage Temperature . . . . . .-65°C to +150°C
Voltage On Any Pin With Respect
to Ground . . . . . -0.5V to +7V
Power Dissipation . . . . . .1.0 Watt

*COMMENT: Stresses above 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 at any other conditions above those indicated in the operational sections of this specification is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

D.C. AND OPERATING CHARACTERISTICS

T_A = 0°C to +70°C, V_{CC} = 5V ±10%, unless otherwise specified.

SYMBOL	PARAMETER	LIMITS			UNIT	TEST CONDITIONS
		MIN.	TYP.(1)	MAX.		
I_{LI}	Input Load Current (All Input Pins)			10	µA	V_{IN} = 0 to 5.25V
I_{LOH}	Output Leakage Current			10	µA	Chip Deselected, V_{OUT} = 4.0V
I_{LOL}	Output Leakage Current			-20	µA	Chip Deselected, V_{OUT} = 0.4V
I_{CC}	Power Supply Current		70	120	mA	All Inputs 5.25V Data Out Open
V_{IL}	Input "Low" Voltage	-0.5		0.8	V	
V_{IH}	Input "High" Voltage	2.4		V_{CC}+1.0V	V	
V_{OL}	Output "Low" Voltage			0.4	V	I_{OL} = 2.1 mA
V_{OH}	Output "High" Voltage	2.4			V	I_{OH} = −400 µA

NOTE: 1. Typical values for T_A = 25°C and nominal supply voltage.

A.C. CHARACTERISTICS

T_A = 0°C to +70°C, V_{CC} = +5V ±10%, unless otherwise specified.

SYMBOL	PARAMETER	LIMITS		UNIT
		MIN.	MAX.	
t_A	Address to Output Delay Time		450	ns
t_{CO}	Chip Select to Output Enable Delay Time		120	ns
t_{DF}	Chip Deselect to Output Data Float Delay Time	10	100	ns

CONDITIONS OF TEST FOR A.C. CHARACTERISTICS

Output Load . . . . . 1 TTL Gate and C_L = 100 pF
Input Pulse Levels . . . . . .0.8 to 2.4V
Input Pulse Rise and Fall Times (10% to 90%) . . . . . 20 ns
Timing Measurement Reference Level
Input . . . . . 1V and 2.2V
Output . . . . . .0.8V and 2.0V

CAPACITANCE(2) T_A = 25°C, f = 1 MHz

SYMBOL	TEST	LIMITS	
		TYP.	MAX.
C_{IN}	All Pins Except Pin Under Test Tied to AC Ground	5 pF	10 pF
C_{OUT}	All Pins Except Pin Under Test Tied to AC Ground	10 pF	15 pF

NOTE: 2. This parameter is periodically sampled and is not 100% tested.

2316E

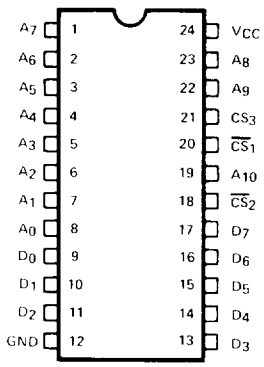
16,384 BIT STATIC ROM

- **Fast Access Time—450 ns Max.**
- **Single +5V ± 10% Power Supply**
- **Intel MCS 80 and 85 Compatible**
- **Three Programmable Chip Selects for Simple Memory Expansion and System Interface**
- **EPROM/ROM Pin Compatible for Cost-Effective System Development**
- **Completly Static Operation**
- **Inputs and Outputs TTL Compatible**
- **Three-State Output for Direct Bus Interface**

The Intel® 2316E is a 16,384-bit static, N-channel MOS read only memory (ROM) organized as 2048 words by 8 bits. Its high bit density is ideal for large, non-volatile data storage applications such as program storage. The three-state outputs and TTL input/output levels allow for direct interface with common system bus structures. The 2316E single +5V power supply and 450 ns access time are both ideal for usage with high performance microcomputers such as the Intel MCS™-80 and MCS™-85 devices.

A cost-effective system development program may be implemented by using the pin compatible Intel 2716 16K UV EPROM for prototyping and the lower cost 2316E ROM for production. The 2716 is fully compatible to the 2316E in all respects. The three 2316E programmable chip selects may be defined by the user and are fixed during the masking process. To simplify the conversion from 2716 prototyping to 2316E production, it is recommended that the 2316E programmable chip select logic levels be defined the same as that shown in the below data sheet pin configuration. This pin configuration and these chip select logic levels are the same as the 2716.

PIN CONFIGURATION



PIN NAMES

A_0–A_{10}	ADDRESS INPUTS
O_7–O_0	DATA OUTPUTS
CS_1–CS_3	CHIP SELECT INPUTS

BLOCK DIAGRAM