



Features

- 80ns MAXIMUM ADDRESS ACCESS TIME
- "THREE STATE" OR OPEN COLLECTOR OUTPUTS AND THREE CHIP ENABLE INPUTS
- SIMPLE HIGH SPEED PROGRAMMING PROCEDURE — ONE PULSE/BIT TYPICAL
- FAST ACCESS TIME — GUARANTEED FOR WORST CASE N² SEQUENCING OVER COMMERCIAL AND MILITARY TEMPERATURE AND VOLTAGE RANGES
- INDUSTRY'S HIGHEST PROGRAMMING YIELD

Description

The HM-76160/161 are fully decoded high speed Schottky TTL 16,384 bit Field Programmable ROMs in a 2K word by 8 bit/word format with open collector (HM-76160) or "Three State" (HM-76161) outputs. These PROMs are available in a 24 pin DIP.

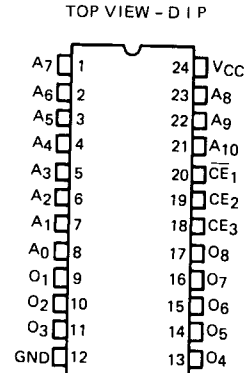
All bits are manufactured storing a logical "1" (Positive Logic) and can be selectively programmed for a logical "0" in any bit position.

The nickel-chromium fuse technology used is the same as all other Harris Bipolar PROMs and the JAN approved MIL-M-38510 PROMs.

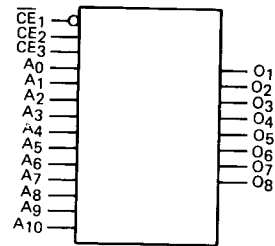
The HM-76160/161 contain test rows and columns which are in addition to the storage array to assure high programmability and guarantee parameters and A.C. performance. The fuses in these test rows and columns are blown prior to shipment.

There are three chip enable inputs on the HM-76160/161. \overline{CE}_1 low, CE_2 high, and CE_3 high enables the device.

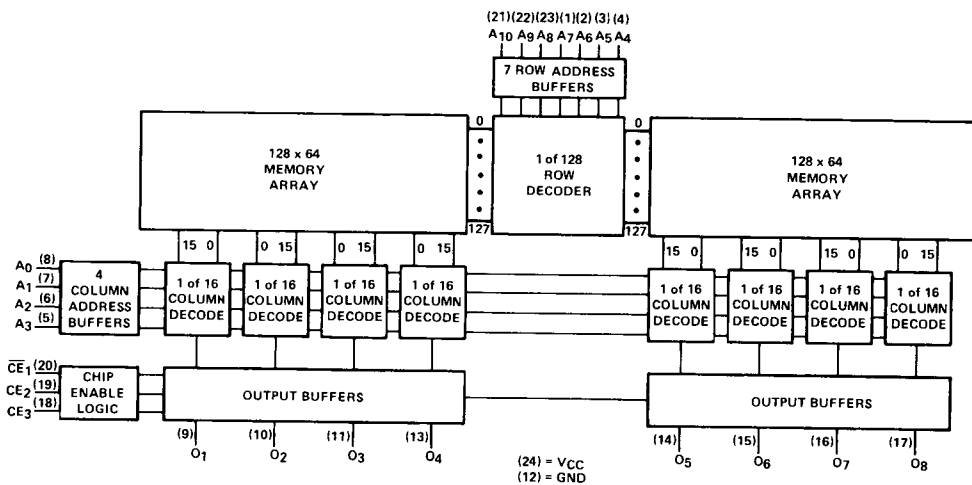
Pinout



Logic Symbol



Functional Diagram



Specifications HM-76160/161

ABSOLUTE MAXIMUM RATINGS

Output or Supply Voltage (Operating)	-0.3 to +7.0V	Storage Temperature	-65°C to +150°C
Address/Enable Input Voltage	5.5V	Operating Temperature (Ambient)	-55°C to +125°C
Address/Enable Input Current	-20mA	Maximum Junction Temperature	+175°C
Output Sink Current	100mA		

CAUTION: Stresses above those listed under the "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress only ratings 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. (While programming, follow the programming specifications.)

D.C. ELECTRICAL CHARACTERISTICS (Operating) HM-76160/161-5 ($V_{CC} = 5.0V \pm 5\%$, $T_A = 0^\circ C$ to $+75^\circ C$)
 HM-76160/161-2 ($V_{CC} = 5.0V \pm 10\%$, $T_A = -55^\circ C$ to $+125^\circ C$)
 Typical Measurements are at $T_A = 25^\circ C$, $V_{CC} = +5V$

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
I _{IH}	Address/Enable "1"	—	—	+40	μA	V _{IH} = V _{CC} Max.
I _{IL}	Input Current "0"	—	-50.0	-250	μA	V _{IL} = 0.45V
V _{IH}	Input Threshold "1"	2.0	1.5	—	V	V _{CC} = V _{CC} Min.
V _{IL}	Voltage "0"	—	1.5	0.8	V	V _{CC} = V _{CC} Max.
V _{OH}	Output "1"	2.4*	3.2*	—	V	I _{OH} = -2.0mA, V _{CC} = V _{CC} Min.
V _{OL}	Voltage "0"	—	0.35	0.50	V	I _{OL} = +16mA, V _{CC} = V _{CC} Min.
I _{OHE}	Output Disable "1"	—	—	+40	μA	V _{OH} , V _{CC} = V _{CC} Max.
I _{OLE}	Current "0"	—	—	-40*	μA	V _{OL} = 0.3V, V _{CC} = V _{CC} Max.
V _{CL}	Input Clamp Voltage	—	—	-1.2	V	I _{IN} = -18mA
I _{OS}	Output Short Circuit Current	-15*	—	-100*	mA	V _{OUT} = 0.0V, One Output at a Time for a Max. of 1 Second
I _{CC}	Power Supply Current	—	—	180	mA	V _{CC} = V _{CC} Max., All Inputs Grounded.

NOTE: Positive current defined as into device terminals.
 *"Three State" only

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A.C. ELECTRICAL CHARACTERISTICS (Operating)

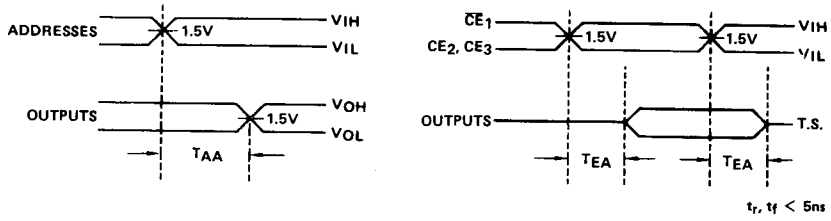
SYMBOL	PARAMETER	HM-76160/161-5 5V ±5% 0°C to +75°C			HM-76160/161-2 5V ±10% -55°C to +125°C			UNITS
		MIN	TYP	MAX	MIN	TYP	MAX	
TAA	Address Access Time	—	45	60	—	—	80	ns
TEA	Chip Enable Access Time	—	35	40	—	—	50	ns

A.C. limits guaranteed for worst case N2 sequencing with maximum test frequency of 5MHz.

CAPACITANCE: $T_A = 25^\circ C$ (NOTE: Sampled and guaranteed -- but not 100% tested.)

SYMBOL	PARAMETER	MAXIMUM	UNITS	TEST CONDITIONS
C _{INA} , C _{INCE}	Input Capacitance	8	pF	V _{CC} = 5V, V _{IN} = 2.0V, f = 1MHz
C _{OUT}	Output Capacitance	10	pF	V _{CC} = 5V, V _{OUT} = 2.0V, f = 1MHz

SWITCHING TIME DEFINITIONS



A.C. TEST LOAD

