HL0512
Bipolar Prom

Legacy Device: *Harris JAN0512*

Features

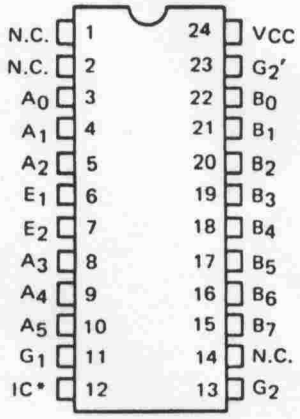
- FIELD PROGRAMMABLE
- 64 WORDS/8 BITS PER WORD
- FULLY DECODED
- DTL/TTL COMPATABLE
- 55ns ACCESS TIME (TYPICAL)
- OPERATING TEMPERATURE; T_A = –55°C TO + 125°C

Description

The HL0512 is a field programmable 64 word by 8 bit PROM. In an unprogrammed memory, all "Memory Elements" are short circuits so that logical "zeros" appear at each output bit position for any address input. "Electronic Programming" involves the alteration of specific "Memory Elements" to create logical "ones" in selected bit positions. This alteration is irreversible and cannot be accomplished under normal operating conditions.

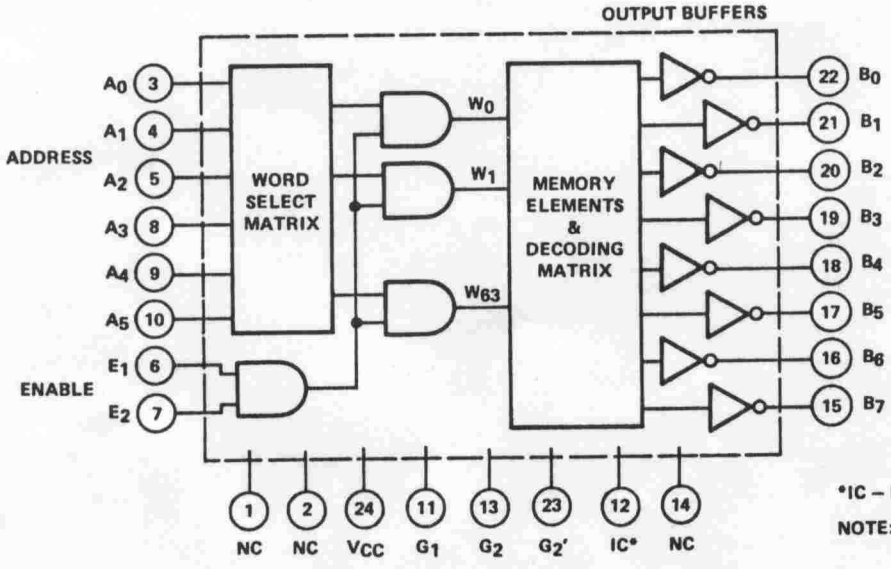
Pinout

TOP VIEW – D.I.P.



*Must be left open circuit

Block Diagram

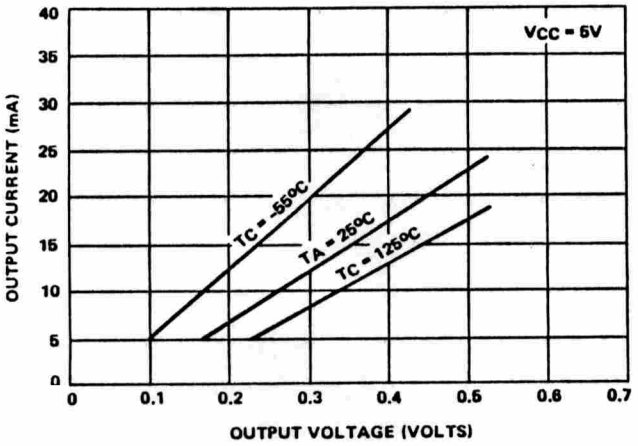


*IC – Internal Connection must be left open

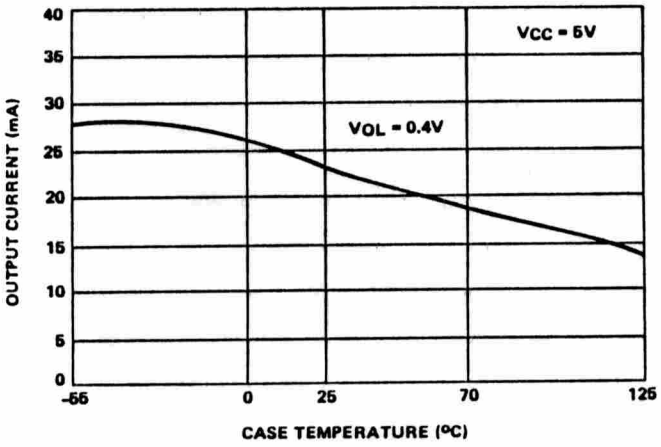
NOTE: For operational condition, return pins 11, 13, and 23 to system ground.

Characteristic Curves

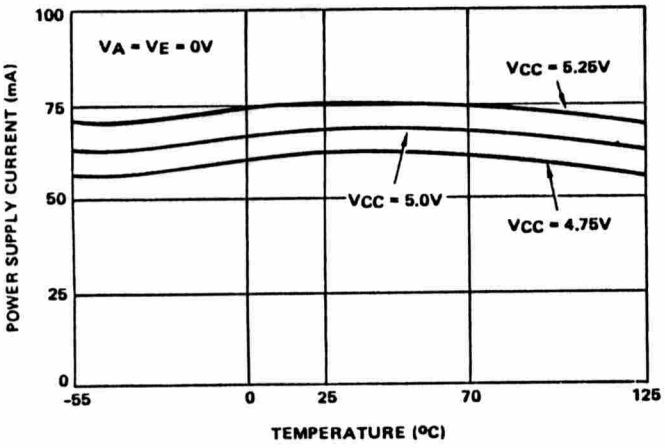
OUTPUT CHARACTERISTICS



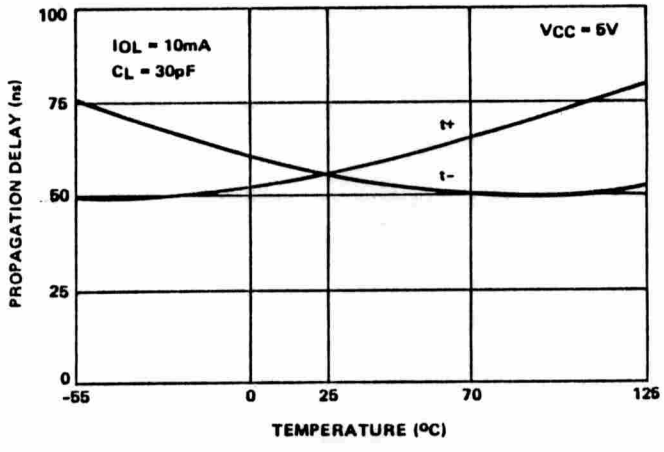
OUTPUT CURRENT vs. TEMPERATURE



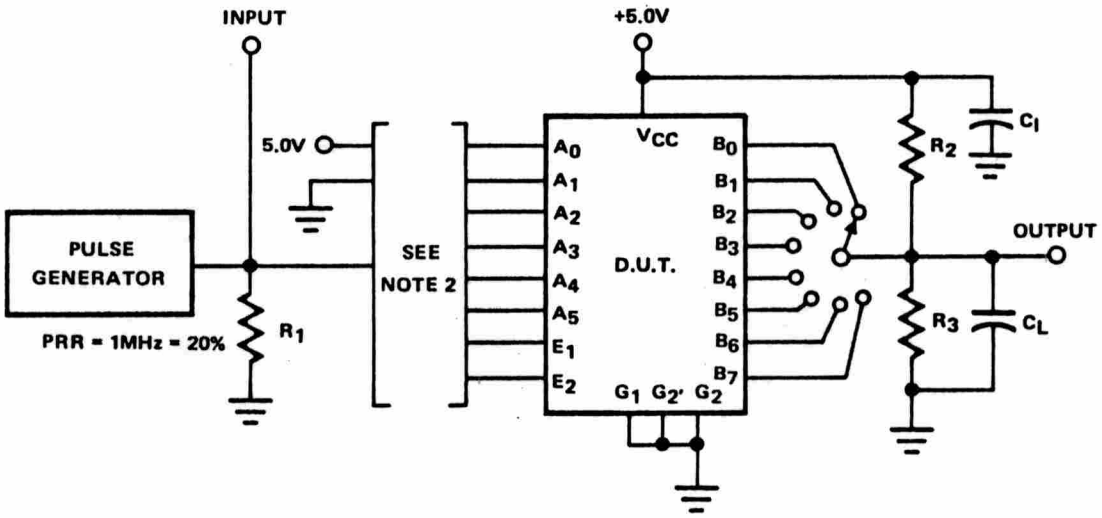
POWER SUPPLY CURRENT vs. TEMPERATURE

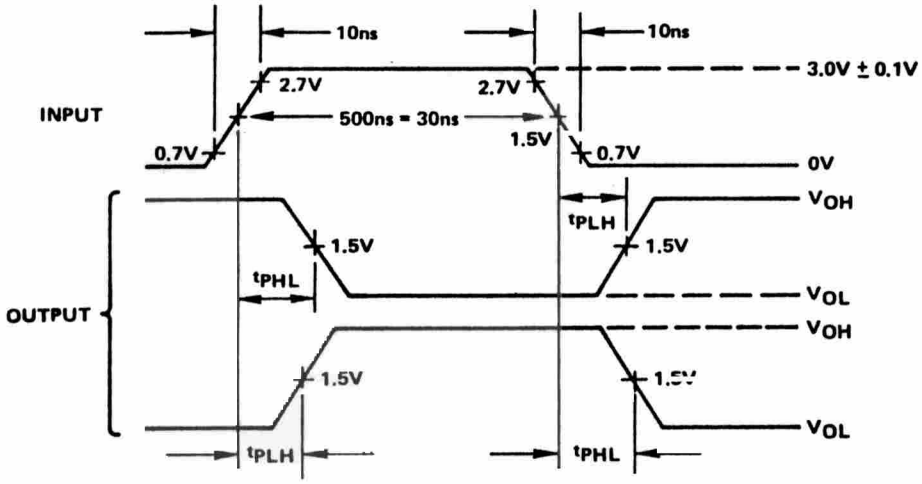


PROPAGATION DELAY vs. TEMPERATURE



Switching Time Test Circuits





NOTES:

1. Pins 12 and 14 shall be left open.
2. The applicable test table should be selected from the altered item drawing.
3. C_1 = 0.5μF ±10%; R_1 = 50Ω ±5%; R_2 = 470Ω ±5%; R_3 = 1kΩ ±5%; C_L = 30pF including jig and probe capacitance.

ABSOLUTE MAXIMUM RATINGS

Supply Voltage Range	-0.5 V_{DC} to 7.0 V_{DC}
Input Voltage Range	-1.5 V_{DC} at -12mA to 5.5V_{DC}
Storage Temperature Range	-65°C to +150°C
Lead Temperature (Soldering 10 Seconds)	300°C
Thermal Resistance, Junction-to-Case	JC' Case J = 30°C/w
Output Supply Voltage	-0.5V_{DC} to 7.0V_{DC}
Output Sink Current	+30mA
Maximum Power Dissipation, P_D	575mWdc
Maximum Junction Temperature, T_J	175°C

RECOMMENDED OPERATING CONDITIONS

Supply Voltage	4.75 V_{DC} Min. to 5.25V_{DC} Maximum
Minimum High Level Input Voltage	2.0V_{DC}
Maximum Low Level Input Voltage	0.8V_{DC}
Normalized Fanout (Each Output)	6 Maximum (10mA)
Ambient Operating Temperature Range	-55°C to +125°C

ELECTRICAL CHARACTERISTICS

The electrical characteristics are as specified in the table and apply over the full recommended ambient operating temperature range, unless otherwise specified.

SYMBOL	TEST	LIMITS MIN	LIMITS MAX	UNITS	TEST CONDITIONS
V_{OL}	Low Level Output Voltage		0.45	Volts	V_{CC} = 4.75V V_{IN} = 2.0V I_{OL} = 10mA
V_{IC}	Input Clamp Voltage		-1.5	Volts	V_{CC} = 4.75V I_{IN} = -12mA T_A = 25°C
I_{CEX1}	Maximum Collector Cut-Off Current		100	μA	V_{CC} = 5.25V V_{OH} = 2.8V V_{IN} = 0.8V
I_{CEX2}			200	μA	V_{CC} = 5.25V V_{OH} = 5.25V V_{IN} = 0.8V
I_{IH1}	High Level Input Current		60	μA	V_{CC} = 5.25V V_{IN} = 2.4V;
I_{IH2}			100	μA	V_{CC} = 5.25V V_{IN} = 5.25; ①
I_{IL}	Low Level Input Current	-0.2	-1.6	mA	V_{CC} = 5.25V V_{IN} = 0.4V; ②
I_{CC}	Supply Current		100	mA	V_{CC} = 5.25V V_{IN} = 0
tPHL	Propagation Delay Time High-to-Low Level Logic	25	140	ns	V_{CC} = 5.0V C_L = 30pF Min. R_1 = 470 Ω ±5%
tPLH	Propagation Delay Time Low-to-High Level Logic	25	140	ns	

NOTES: 1. When testing one E input, apply 5.25V to the other.
2. When testing one E input, apply GND to the other.