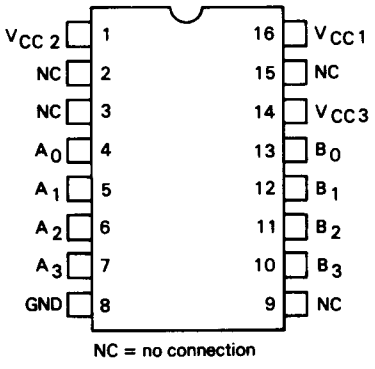
FEATURES

- DUAL 3 INPUT BIPOLAR to MOS DRIVER IN A 16-PIN CERDIP PACKAGE.
- TTL COMPATIBLE INPUTS, HIGH VOLTAGE OUTPUTS COMPATIBLE WITH microNOVA mN606 MOS RANDOM ACCESS MEMORY CLOCK INPUTS.

PACKAGE



NC = no connection

DG-04811

GENERAL DESCRIPTION

The mN638 Clock Driver chips contains two TTL level to high voltage converters. These may be used to drive the clock input of the mN606 Random Access Memory chip.

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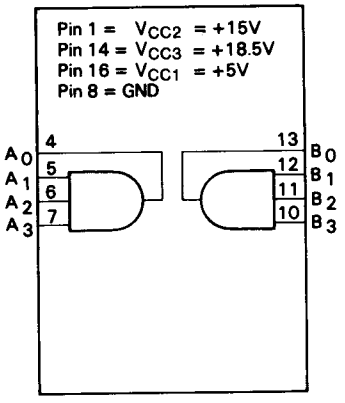
FUNCTIONAL PIN CONNECTION DIAGRAM



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PIN DESCRIPTIONS

MNEMONIC	PIN NO.	IN/ OUT	FUNCTION
A_1, A_2, A_3	5,6,7	In	TTL inputs to 3-input AND gate. A_O is high voltage output.
A_O	4	Out	High Voltage output of 3-input (A_1,A_2,A_3) AND gate.
B_1, B_2, B_3	12, 11, 10	In	TTL inputs to 3-input AND gate. B_O is high voltage output.
B_O	13	Out	High voltage output of 3-input (B_1,B_2,B_3) AND gate.
V_{CC1}	16		+5 ± 0.25 volts
V_{CC2}	1		+15 ± 1.0 volts
V_{CC3}	14		+18.5 ± 0.75 volts
GND	8		Ground

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ELECTRICAL SPECIFICATIONS

ABSOLUTE MAXIMUM RATINGS

Supply voltage, V_{CC1}	7V
Supply voltage, V_{CC2}	18V
Supply voltage, V_{CC3}	21V
Input voltage, V_I	5.5V
Output current, I_O	60mA
Operating ambient temperature range, T_A	0 deg. to 70 deg. C
Storage temperature range, T_{STG}	-55 deg. to 125 deg. C

NOTE: Subjecting a circuit to conditions either outside these limits or at these limits for an extended period of time may cause irreparable damage to the circuit. These ratings are not intended to be used during the operation of the circuit.

RECOMMENDED OPERATING CONDITIONS

Supply voltage, V_{CC1}	5.0 ± 0.25V
Supply voltage, V_{CC2}	15.0 ± 1V
Supply voltage, V_{CC3}	18.5 ± 0.75V
Average power dissipation	1.0 W
Operating free-air temperature range, T_A	0 deg. to 70 deg. C

DC CHARACTERISTICS

SYMBOL	CHARACTERISTICS	CONDITIONS	MIN.	MAX.	UNITS
V_{IH}	A_{1-3}, B 1-3		2.0		V
V_{IL}	A_{1-3}, B 1-3			0.8	V
I_{IH}	A_{1-3}, B 1-3	V_{CC1} = 5.25V V_I = 2.4V		40	µA
I_{IL}	A_{1-3}, B 1-3	V_{CC1} = 5.25V V_I = 0.5V		-1.6	mA

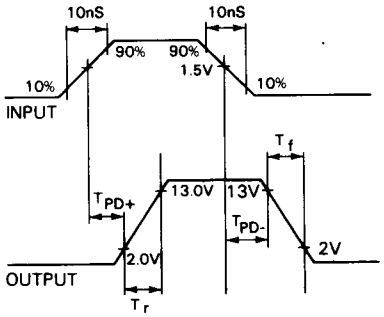
DC CHARACTERISTICS (Cont.)

SYMBOL	CHARACTERISTICS	CONDITIONS	MIN.	MAX.	UNITS
V_{OH}	A_O, B_O	V_{CC1} = 4.75V V_{CC2} = 14V V_{CC3} = 17.75V I_O = -20mA	13		V
V_{OL}	A_O, B_O	V_{CC1} = 4.75 V I_O = 25mA	0	0.5	V
I_{CC1H}	SUPPLY CURRENT	V_{CC1} = 5.5V		9	mA
I_{CC2H}	SUPPLY CURRENT	V_{CC2} = 16V	-2.7	.25	mA
I_{CC3H}	SUPPLY CURRENT	V_{CC3} = 19.25V		4	mA
I_{CC1L}	SUPPLY CURRENT	V_{CC1} = 5.5V		80	mA
I_{CC2L}	SUPPLY CURRENT	V_{CC2} = 16V		250	μA
I_{CC3H}	SUPPLY CURRENT	V_{CC3} = 19.25V		20	mA

NOTE: Positive current is into the pin.

AC CHARACTERISTICS

Switching Diagram



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Transition Timing

SYMBOL	CHARACTERISTIC	CONDITIONS	MIN.	MAX.	UNITS
T_r	OUTPUT RISE TIME (A_O, B_O)	C_L = 15pF	5		ns
		C_L = 470pF		25	ns
T_f	OUTPUT FALL TIME (A_O, B_O)	C_L = 15pF	5		ns
		C_L = 470pF		25	ns
T_{PD+}	PROPAGATION DELAY	C_L = 15pF	3		ns
T_{PD-}		C_L = 470pF		20	ns

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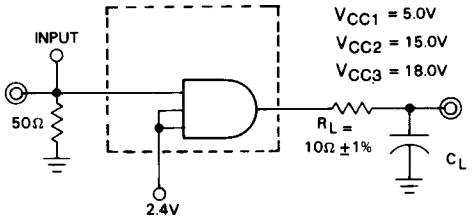
TEST CONDITIONS



1. Input Pulse: Amplitude = 0 to .3v
   Width = 400nS (50% to 50%)
   t r = t f = 10nS
   Freq. = 1.67MHz

NOTE: LOAD CAPACITOR INCLUDES JIG AND WIRING CAPACITANCE.

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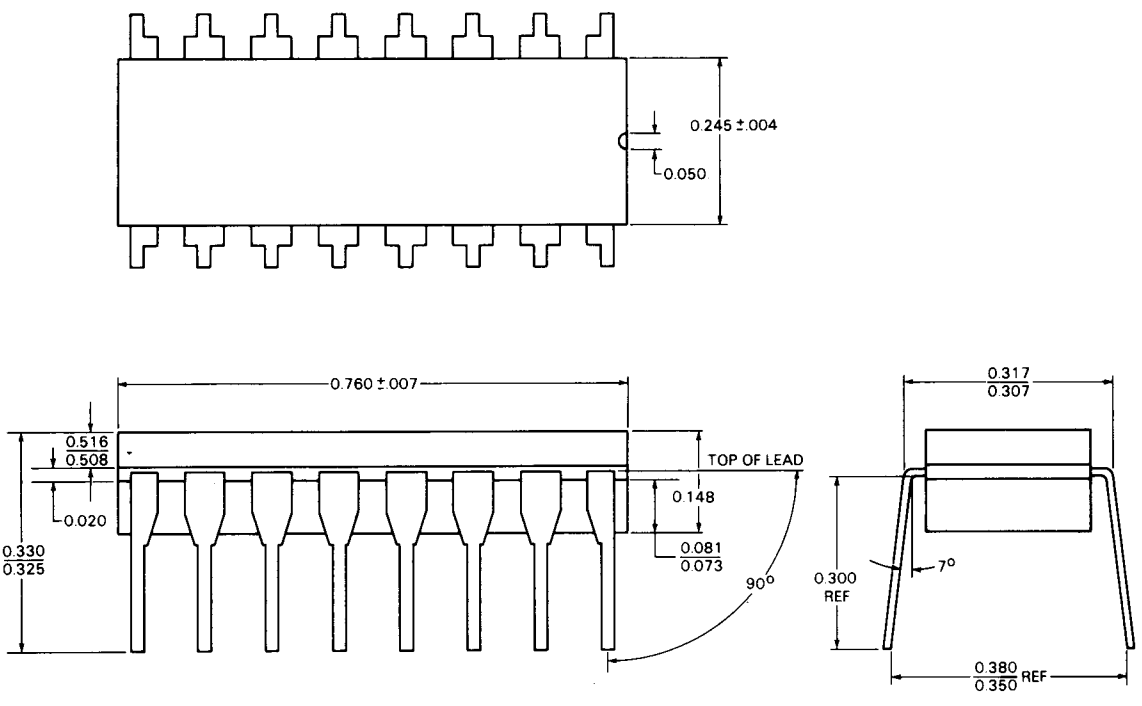
PACKAGE SPECIFICATIONS



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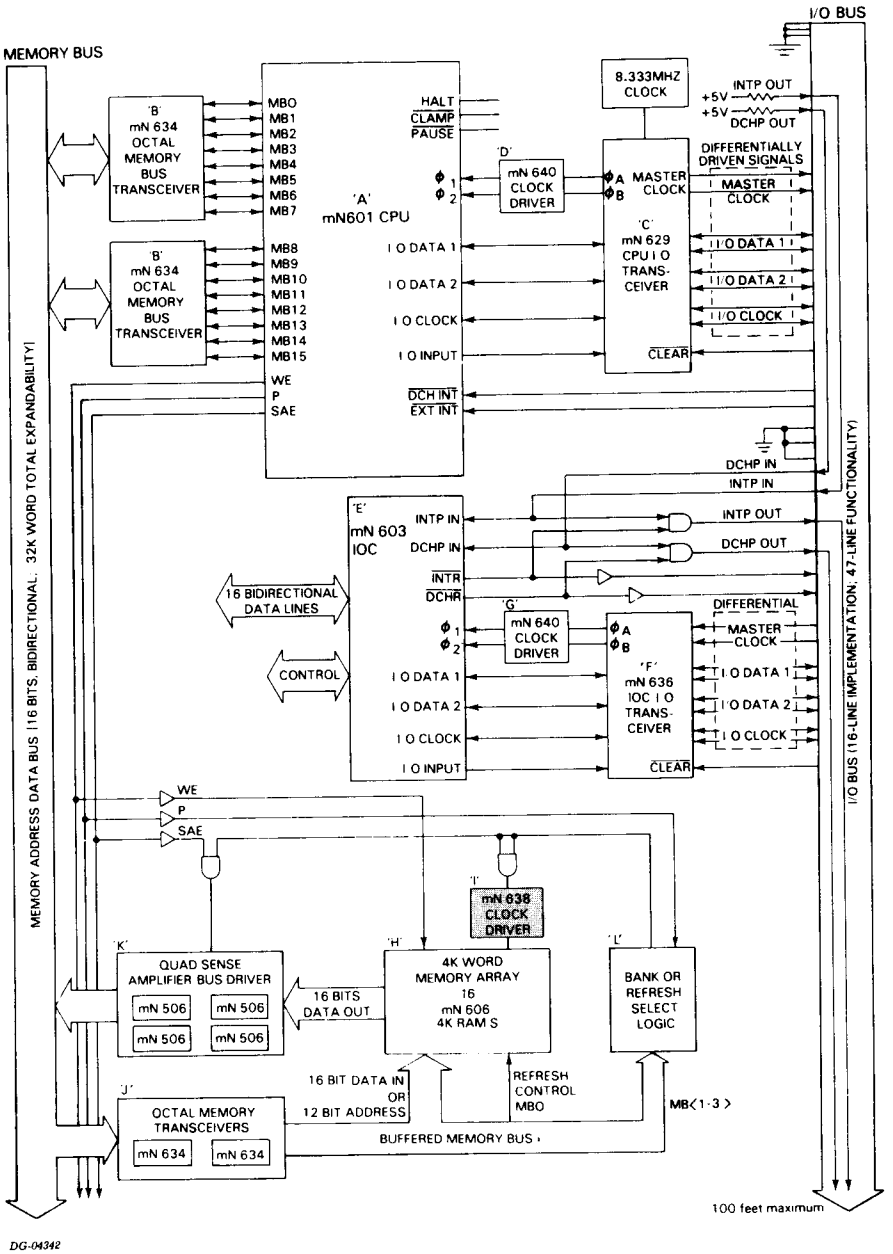
mN638
MEMORY CLOCK DRIVER



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