New Products

LM3625 dual high speed MOS sense amp

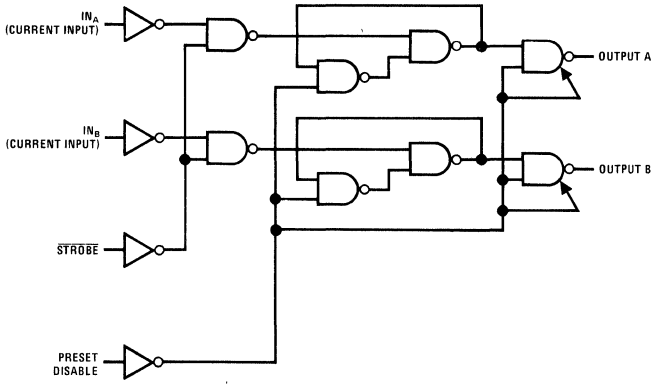
general description

The LM3625 is a dual high speed MOS to TTL level converter. It acts as an interface level converter between MOS and TTL logic devices. It consists of two 1-input converters with common strobe input to inhibit "0" entry when strobe is high. It allows parallel entry when strobe is low and the internal latch is preset by the common preset input. TRI-STATE® output logic is implemented in this circuit to facilitate high speed time sharing of decoder-drivers, fast random-access (or sequential) memory arrays, etc.

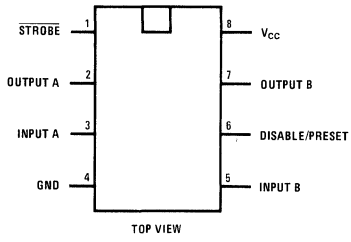
features

- Easily interfaces with most popular 1k and 2k dynamic MOS RAMs
- Pin-for-pin replacement for the 8T25
- Very low output impedance – high drive ability
- High impedance output state which allows many outputs to be connected to a common bus line
- Average power dissipation 110 mW per converter

logic and connection diagrams



Dual-In-Line Package



Order Number LM3625N
See Package 20

absolute maximum ratings (Note 1)

Supply Voltage	7.0V
Input Voltage	5.5V
Output Voltage	5.5V
Storage Temperature Range	−65°C to 150°C
Lead Temperature (Soldering, 10 seconds)	300°C

operating conditions

	MIN	MAX	UNITS
Supply Voltage (V_{CC})	4.75	5.25	V
Temperature (T_A)	0	+70	°C

electrical characteristics (Note 2)

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
Logical "1" Input Current (I_{INA}, I_{INB})	V_{CC} = Min	400			μA
Logical "0" Input Current (I_{INA}, I_{INB})	V_{CC} = Min			200	μA
Logical "1" Input Voltage, Strobe, Preset/Disable	V_{CC} = Min	2 0			V
Logical "0" Input Voltage; Strobe, Preset/Disable	V_{CC} = Min			0 8	V
Logical "1" Output Voltage	V_{CC} = Min, I_{OUT} = −1 5 mA	2 8			V
Logical "0" Output Voltage	V_{CC} = Min, I_{OUT} = 16 mA			0 4	V
Third State Output Current	V_{CC} = Max, V_O = 3 9V V_{CC} = Max, V_O = 0 0V			100 −100	μA μA
Logical "1" Input Current	V_{CC} = Max, V_{IN} = 2 4V V_{CC} = Max, V_{IN} = 5 5V			40 1 0	μA mA
Logical "0" Input Current	V_{CC} = Max, V_{IN} = 0 4V			−1 6	mA
Supply Current	V_{CC} = Max, $V_{IN(PRE/DIS)}$ = 2 0V Other Inputs = 0V			40	mA
Input Clamp Voltage	V_{CC} = Min, I_{IN} = −12 mA			1 5	V
Output Short Circuit Current (Note 3)	V_{CC} = Max, V_O = 0V	−20		−70	mA
Propagation Delay to a Logical "0" from STROBE to Output (t_{ds})	V_{CC} = 5 0V, T_A = 25°C		17	25	ns
Delay from Disable Input to High Impedance State (from Logical "1" Level)(t_{1H})	V_{CC} = 5 0V, T_A = 25°C		7.0	11	ns
Delay from Disable Input to High Impedance State (from Logical "0" Level)(t_{0H})	V_{CC} = 5 0V, T_A = 25°C		17	25	ns
Delay from Disable Input to Logical "1" Level (from High Impedance State)(t_{H1})	V_{CC} = 5 0V, T_A = 25°C		9 0	14	ns
Delay from Disable Input to Logical "0" Level (from High Impedance State)(t_{H0})	V_{CC} = 5 0V, T_A = 25°C		13.5	16	ns

Note 1: "Absolute Maximum Ratings" are those values beyond which the safety of the device cannot be guaranteed. Except for "Operating Temperature Range" they are not meant to imply that the devices should be operated at these limits. The table of "Electrical Characteristics" provides conditions for actual device operation.

Note 2: Unless otherwise specified min/max limits apply across the 0°C to +70°C range. All typicals are given for V_{CC} = 5.0V, T_A = 25°C.

Note 3: Only one output at a time should be shorted.