MC7524L
MC7525L

DUAL SENSE AMPLIFIERS

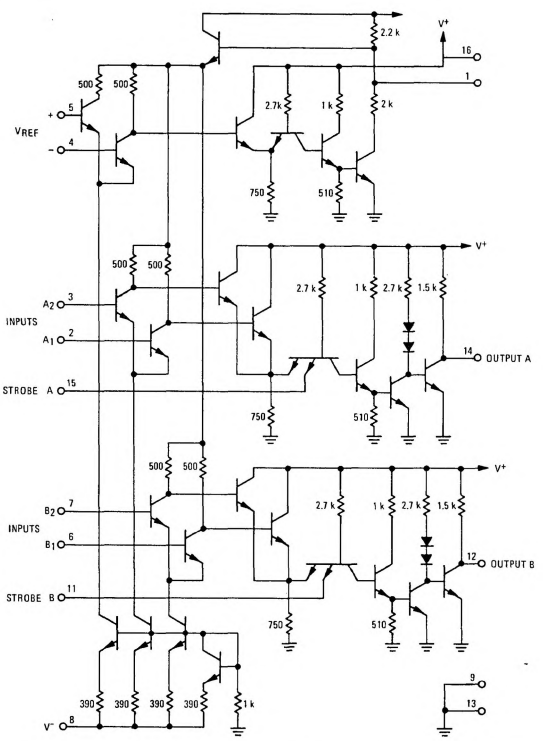
Advance Information

MONOLITHIC DUAL SENSE AMPLIFIERS

This dual sense amplifier is designed for use with high-speed memory systems. Low level pulses originating in the memory are converted to logic levels compatible with MDTL and MTTL circuits.

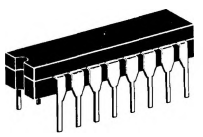
. Features:

- Adjustable Threshold Voltage Levels
- High-Speed, Fast Recovery Time
- Time and Amplitude Signal Discrimination
- High dc Logic Noise Margin
  1.0 Volt typ
- Good Fan-Out Capability
- Independent Strobing
- Separate Logic Outputs



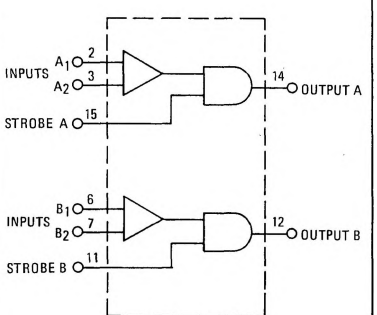
DUAL HIGH-SPEED SENSE AMPLIFIER INTEGRATED CIRCUIT

MONOLITHIC SILICON EPITAXIAL PASSIVATED



CERAMIC PACKAGE
CASE 620

Equivalent Circuit



See Packaging Information Section for outline dimensions.

MAXIMUM RATINGS (T_A = +25°C unless otherwise noted)

Rating	Symbol	Value	Units
Power Supply Voltage	V^+ V^-	+7.0 -7.0	Vdc Vdc
Differential Input Voltages	V_{in} or V_{ref}	±5.0	Vdc
Power Dissipation Derate above T_A = +25°C	P_D	575 3.85	mW mW/°C
Operating Temperature Range	T_A	0 to +70	°C
Storage Temperature Range	T_{stg}	-55 to +150	°C

ELECTRICAL CHARACTERISTICS (V^+ = 5.0 V, V^- = -5.0 V, T_A = 0 to +70°C unless otherwise noted)

Characteristic		Symbol	Min	Typ	Max	Unit
Input Threshold Voltage		V_{th}				mV
V_{ref} = 15 mV	MC7524L		11	15	19	
	MC7525L		8.0	15	22	
V_{ref} = 40 mV	MC7524L		36	40	44	
	MC7525L		33	40	47	
Common-Mode Input Firing Voltage		V_{CMF}	–	±3.0	–	Volts
Input Bias Current		I_{in}	–	30	75	μA
Input Offset Current		I_{io}	–	0.5	–	μA
Input Impedance (f = 1.0 kHz)		$Z_{(in)\ D}$	–	2.0	–	k ohms
Input Voltage Logic "1" Level (Strobe Inputs)	$V_{in(0)}$ = 0.8 V	$V_{in\ (1)}$	2.0	–	–	Volts
Input Voltage Logic "0" Level (Strobe Inputs)	$V_{in(1)}$ = 2.0 V	$V_{in\ (0)}$	–	–	0.8	Volt
Input Current Logic "0" Level (Strobe Inputs)	$V_{in(0)}$ = 0.4 V	$I_{in\ (0)}$	–	-1.0	-1.6	mA
Input Current Logic "1" Level (Strobe Inputs)	$V_{in(1)}$ = 2.4 V $V_{in(1)}$ = V^+	$I_{in\ (1)}$	– –	– –	40 1.0	μA mA
Output Voltage Logic "1" Level	$V_{in(1)}$ = 2.0 V, $V_{in(0)}$ = 0.8 V	$V_{out\ (1)}$	2.4	3.9	–	Volts
Output Voltage Logic "0" Level	$V_{in(0)}$ = 0.8 V	$V_{out\ (0)}$	–	0.25	0.4	Volt
Short-Circuit Output Current		$I_{sc(out)}$	2.1	–	3.5	mA
V^+ Supply Current @ T_A = +25°C		I^+	–	25	–	mA
V^- Supply Current @ T_A = +25°C		I^-	–	-15	–	mA

SWITCHING CHARACTERISTICS (V^+ = 5.0 V, V^- = -5.0 V, T_A = +25°C unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Propagation Delay Time (Differential Input to Output)	$t_{pd\ (1)\ D}$ $t_{pd\ (0)\ D}$	– –	15 40	40 –	ns
Propagation Delay Time (Strobe Input to Output)	$t_{pd\ (1)\ S}$ $t_{pd\ (0)\ S}$	– –	15 35	30 –	ns
Differential-Mode Input Overload Recovery Time	$t_{OR\ DM}$	–	20	–	ns
Common-Mode Input Overload Recovery Time	$t_{OR\ CM}$	–	20	–	ns
Minimum Cycle Time	$t_{c\ (min)}$	–	200	–	ns