



Line Drivers/Receivers

LM55107A/LM75107A, LM55108A/LM75108A, LM163/LM363 dual line receivers LM75207, LM75208, LM363A dual MOS sense amplifiers

general description

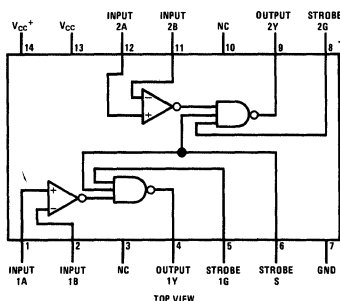
The nine products described herein are TTL compatible dual high speed circuits intended for sensing in a broad range of system applications. While the primary usage will be for line receivers or MOS sensing, any of the products may effectively be used as voltage comparators, level translators, window detectors, transducer preamplifiers, and in other sensing applications. As digital line receivers the products are applicable with the LM55109/LM75109 and LM55110/LM75110 companion drivers, or may be used in other balanced or unbalanced party-line data transmission systems. The improved input sensitivity and delay specifications of the LM75207, LM75208 and LM363A make them ideal for sensing high performance MOS memories as well as high sensitivity line receivers and voltage comparators. TRI-STATE® products enhance bused organizations.

features

- High speed 17 ns typ
- TTL compatible
- Input sensitivity ± 10 mV or ± 25 mV
- Input common-mode range ± 3 V
- High input impedance with normal V_{CC} , or $V_{CC} = 0$ V
- Strokes for channel selection
- TRI-STATE outputs for high speed buses
- Dual circuits
- Sensitivity guaranteed over full common-mode range
- Logic input clamp diodes
- 14 pin cavity or molded dual-in-line package
- Standard supply voltages ± 5 V

connection diagrams

Dual-In-Line Package

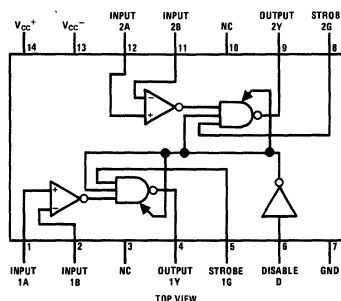


Order Number LM55107AF or LM55108AF
See Package 4

Order Number LM55107AJ, LM75107AJ,
LM55108AJ, LM75108AJ, LM75207J or LM75208J
See Package 16

Order Number LM75107AN, LM75108AN, LM75207N or LM75208N
See Package 22

Dual-In-Line Package



Order Number LM163J, LM363J,
or LM363AJ
See Package 16

Order Number LM363N or LM363AN
See Package 22

product selection guide

TEMPERATURE→ PACKAGE→	$-55^{\circ}\text{C} \leq T_A \leq +125^{\circ}\text{C}$ CAVITY DIP		$0^{\circ}\text{C} \leq T_A \leq +70^{\circ}\text{C}$ CAVITY OR MOLDED DIP
	± 25 mV		± 10 mV
INPUT SENSITIVITY→ OUTPUT LOGIC↓			
TTL Active Pull-up	LM55107A	LM75107A	LM75207
TTL Open Collector	LM55108A	LM75108A	LM75208
TTL TRI-STATE	LM163	LM363	LM363A

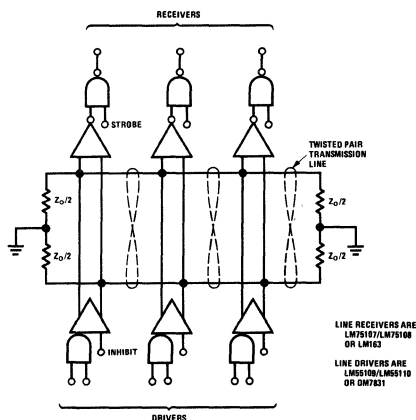
absolute maximum ratings

Supply Voltage, V_{CC}^+	7V	Strobe Input Voltage	5.5V
Supply Voltage, V_{CC}^-	-7V	Storage Temperature Range	-65°C to +150°C
Differential Input Voltage	±6V	Power Dissipation	600 mW
Common Mode Input Voltage	±5V	Lead Temperature (Soldering, 10 sec)	300°C

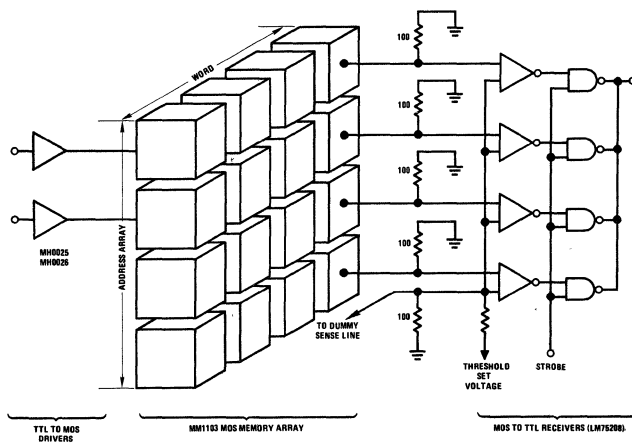
operating conditions

	LM55107A, LM55108A, LM163			LM75107A, LM75207 LM75108A, LM75208 LM363, LM363A		
	MIN	NOM	MAX	MIN	NOM	MAX
Supply Voltage V_{CC}^+	4.5V	5V	5.5V	4.75V	5V	5.25V
Supply Voltage V_{CC}^-	-4.5V	-5V	-5.5V	-4.75V	-5V	-5.25V
Operating Temperature Range	-55°C	to	+125°C	0°C	to	+70°C

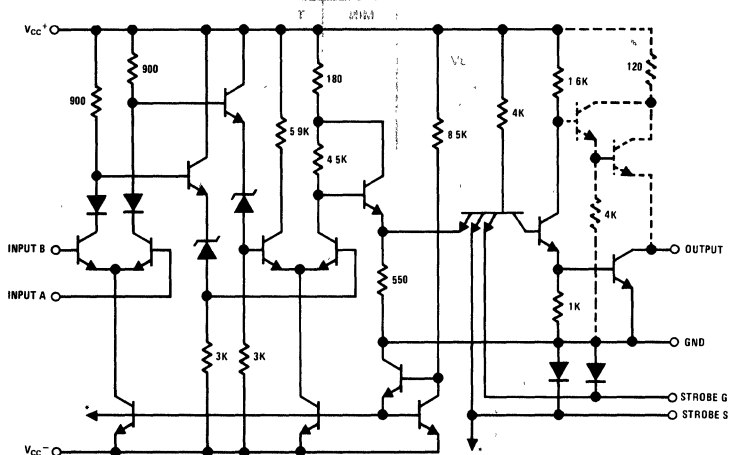
typical applications

Line Receiver Used in a
Party-Line or Data-Bus System

Line Receiver Used in MOS Memory System



schematic diagrams

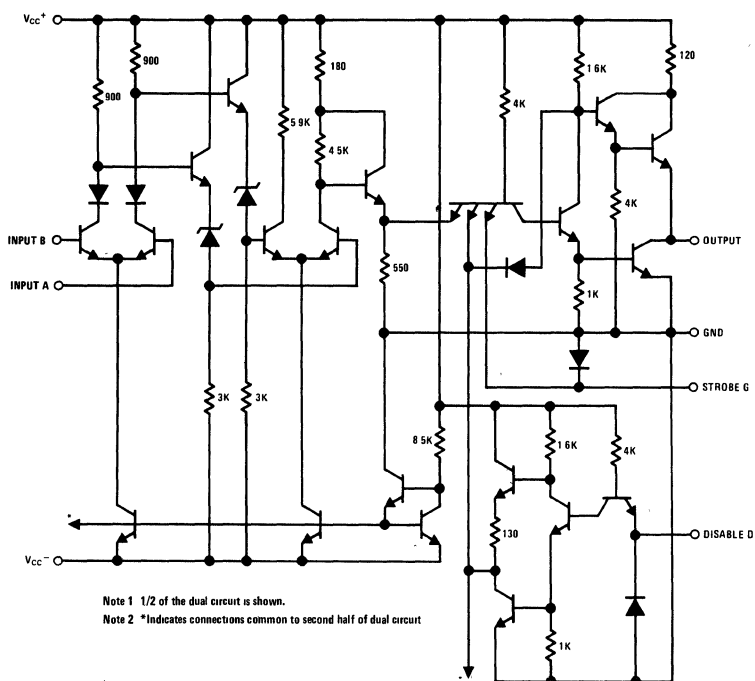
LM55107A/LM75107A, LM75207
LM55108A/LM75108A, LM75208

Note 1: 1/2 of the dual circuit is shown.

Note 2: *Indicates connections common to second half of dual circuit.

Note 3: Components shown with dash lines are applicable to the LM55107A, LM75107A, and LM75207 only.

LM163/LM363, LM363A



Note 1: 1/2 of the dual circuit is shown.

Note 2: *Indicates connections common to second half of dual circuit

LM55107A/LM75107A, LM55108A/LM75108A**dc electrical characteristics** ($T_{\text{MIN}} \leq T_A \leq T_{\text{MAX}}$)

PARAMETER	CONDITIONS	LIMITS						UNITS
		LM55107A/LM75107A			LM55108A/LM75108A			
		MIN	TYP	MAX	MIN	TYP	MAX	
High Level Input Current Into 1A, 1B, 2A or 2B (I_{IH})	$V_{CC}^+ = \text{Max}, V_{CC}^- = \text{Max},$ $V_{ID} = 0.5V, V_{IC} = -3V \text{ to } 3V$		30	75		30	75	μA
Low Level Input Current Into 1A, 1B, 2A or 2B (I_{IL})	$V_{CC}^+ = \text{Max}, V_{CC}^- = \text{Max},$ $V_{ID} = -2V, V_{IC} = -3V \text{ to } 3V$			-10			-10	μA
High Level Input Current Into 1G or 2G (I_{IH})	$V_{CC}^+ = \text{Max}, V_{CC}^- = \text{Max},$ $V_{IH(S)} = 2.4V$			40			40	μA
High Level Input Current Into 1G or 2G (I_{IH})	$V_{CC}^+ = \text{Max}, V_{CC}^- = \text{Max},$ $V_{IH(S)} = \text{Max } V_{CC}^+$			1			1	mA
Low Level Input Current Into 1G or 2G (I_{IL})	$V_{CC}^+ = \text{Max}, V_{CC}^- = \text{Max},$ $V_{IL(S)} = 0.4V$			-1.6			-1.6	mA
High Level Input Current Into S (I_{IH})	$V_{CC}^+ = \text{Max}, V_{CC}^- = \text{Max},$ $V_{IH(S)} = 2.4V$			80			80	μA
High Level Input Current Into S (I_{IH})	$V_{CC}^+ = \text{Max}, V_{CC}^- = \text{Max},$ $V_{IH(S)} = \text{Max } V_{CC}^+$			2			2	mA
Low Level Input Current Into S (I_{IL})	$V_{CC}^+ = \text{Max}, V_{CC}^- = \text{Max},$ $V_{IL(S)} = 0.4V$			-3.2			-3.2	mA
High Level Output Voltage (V_{OH})	$V_{CC}^+ = \text{Min}, V_{CC}^- = \text{Min},$ $I_{LOAD} = -400\mu A, V_{ID} = 25 \text{ mV},$ $V_{IC} = -3V \text{ to } 3V$	2.4						V
Low Level Output Voltage (V_{OL})	$V_{CC}^+ = \text{Min}, V_{CC}^- = \text{Min},$ $I_{SINK} = 16 \text{ mA}, V_{ID} = -25 \text{ mV},$ $V_{IC} = -3V \text{ to } 3V$			0.4			0.4	V
High Level Output Current (I_{OH})	$V_{CC}^+ = \text{Min}, V_{CC}^- = \text{Min}$ $V_{OH} = \text{Max } V_{CC}^+$						250	μA
Short Circuit Output Current (I_{OS})	$V_{CC}^+ = \text{Max}, V_{CC}^- = \text{Max}$	-18		-70				mA
High Logic Level Supply Current From V_{CC} (I_{CCH}^+)	$V_{CC}^+ = \text{Max}, V_{CC}^- = \text{Max},$ $V_{ID} = 25 \text{ mV}, T_A = 25^\circ C$		18	30		18	30	mA
High Logic Level Supply Current From V_{CC} (I_{CCH}^-)	$V_{CC}^+ = \text{Max}, V_{CC}^- = \text{Max},$ $V_{ID} = 25 \text{ mV}, T_A = 25^\circ C$		-8.4	-15		-8.4	-15	mA
Input Clamp Voltage on G or S (V_I)	$V_{CC}^+ = \text{Min}, V_{CC}^- = \text{Min},$ $I_{IN} = -12 \text{ mA}, T_A = 25^\circ C$		-1	-1.5		-1	-1.5	V

ac switching characteristics ($V_{CC}^+ = 5V, V_{CC}^- = -5V, T_A = 25^\circ C$)

PARAMETER	CONDITIONS	LIMITS						UNITS
		LM55107A/LM75107A			LM55108A/LM75108A			
		MIN	TYP	MAX	MIN	TYP	MAX	
Propagation Delay Time, Low to High Level, From Differential Inputs A and B to Output (Note 1) (t _{PLH(D)})	R _L = 390Ω, C _L = 50 pF		17	25				ns
Propagation Delay Time, Low to High Level, From Differential Inputs A and B to Output (Note 1) (t _{PLH(D)})	R _L = 390Ω, C _L = 15 pF					19	25	ns
Propagation Delay Time, High to Low Level, From Differential Inputs A and B to Output (Note 1) (t _{PHL(D)})	R _L = 390Ω, C _L = 50 pF		17	25				ns
Propagation Delay Time, High to Low Level, From Differential Inputs A and B to Output (Note 1) (t _{PHL(D)})	R _L = 390Ω, C _L = 15 pF					19	25	ns
Propagation Delay Time, Low to High Level, From Strobe Input G or S to Output (t _{PLH(S)})	R _L = 390Ω, C _L = 50 pF		10	15				ns
Propagation Delay Time, Low to High Level, From Strobe Input G or S to Output (t _{PLH(S)})	R _L = 390Ω, C _L = 15 pF					13	20	ns
Propagation Delay Time, High to Low Level, From Strobe Input G or S to Output (t _{PHL(S)})	R _L = 390Ω, C _L = 50 pF		8	15				ns
Propagation Delay Time, High to Low Level, From Strobe Input G or S to Output (t _{PHL(S)})	R _L = 390Ω, C _L = 15 pF					13	20	ns

Note 1: Differential input is +100 mV to -100 mV pulse. Delays read from 0 mV on input to 1.5V on output.

LM75207, LM75208**dc electrical characteristics** ($0^{\circ}\text{C} \leq T_A \leq +70^{\circ}\text{C}$)

PARAMETER	CONDITIONS	LIMITS						UNITS
		LM75207			LM75208			
		MIN	TYP	MAX	MIN	TYP	MAX	
High Level Input Current Into 1A, 1B, 2A or 2B (I_{IH})	$V_{CC}^{+} = \text{Max}, V_{CC}^{-} = \text{Max},$ $V_{ID} = 0.5\text{V}, V_{IC} = -3\text{V to } 3\text{V}$		30	75		30	75	μA
Low Level Input Current Into 1A, 1B, 2A or 2B (I_{IL})	$V_{CC}^{+} = \text{Max}, V_{CC}^{-} = \text{Max},$ $V_{ID} = -2\text{V}, V_{IC} = -3\text{V to } 3\text{V}$			-10			-10	μA
High Level Input Current Into 1G or 2G (I_{IH})	$V_{CC}^{+} = \text{Max}, V_{CC}^{-} = \text{Max},$ $V_{IH(S)} = 2.4\text{V}$			40			40	μA
High Level Input Current Into 1G or 2G (I_{IH})	$V_{CC}^{+} = \text{Max}, V_{CC}^{-} = \text{Max},$ $V_{IH(S)} = \text{Max } V_{CC}^{+}$		1				1	mA
Low Level Input Current Into 1G or 2G (I_{IL})	$V_{CC}^{+} = \text{Max}, V_{CC}^{-} = \text{Max},$ $V_{IL(S)} = 0.4\text{V}$			-1.6			-1.6	mA
High Level Input Current Into S (I_{IH})	$V_{CC}^{+} = \text{Max}, V_{CC}^{-} = \text{Max},$ $V_{IH(S)} = 2.4\text{V}$			80			80	μA
High Level Input Current Into S (I_{IH})	$V_{CC}^{+} = \text{Max}, V_{CC}^{-} = \text{Max},$ $V_{IH(S)} = \text{Max } V_{CC}^{+}$			2			2	mA
Low Level Input Current Into S (I_{IL})	$V_{CC}^{+} = \text{Max}, V_{CC}^{-} = \text{Max},$ $V_{IL(S)} = 0.4\text{V}$			-3.2			-3.2	mA
High Level Output Voltage (V_{OH})	$V_{CC}^{+} = \text{Min}, V_{CC}^{-} = \text{Min},$ $I_{LOAD} = -400\mu\text{A}, V_{ID} = 10\text{ mV},$ $V_{IC} = -3\text{V to } 3\text{V}$	2.4						V
Low Level Output Voltage (V_{OL})	$V_{CC}^{+} = \text{Min}, V_{CC}^{-} = \text{Min},$ $I_{SINK} = 16\text{ mA}, V_{ID} = -10\text{ mV},$ $V_{IC} = -3\text{V to } 3\text{V}$			0.4			0.4	V
High Level Output Current (I_{OH})	$V_{CC}^{+} = \text{Min}, V_{CC}^{-} = \text{Min},$ $V_{OH} = \text{Max } V_{CC}^{+}$						250	μA
Short Circuit Output Current (I_{OS})	$V_{CC}^{+} = \text{Max}, V_{CC}^{-} = \text{Max}$	-18		-70				mA
High Logic Level Supply Current From V_{CC} (I_{CCH}^{+})	$V_{CC}^{+} = \text{Max}, V_{CC}^{-} = \text{Max},$ $V_{ID} = 10\text{ mV}, T_A = 25^{\circ}\text{C}$		18	30		18	30	mA
High Logic Level Supply Current From V_{CC} (I_{CCH}^{-})	$V_{CC}^{+} = \text{Max}, V_{CC}^{-} = \text{Max},$ $V_{ID} = 10\text{ mV}, T_A = 25^{\circ}\text{C}$		-8.4	-15		-8.4	-15	mA
Input Clamp Voltage on G or S (V_I)	$V_{CC}^{+} = \text{Min}, V_{CC}^{-} = \text{Min},$ $I_{IN} = -12\text{ mA}, T_A = 25^{\circ}\text{C}$		-1	-1.5		-1	-1.5	V

ac switching characteristics ($V_{CC}^{+} = 5\text{V}, V_{CC}^{-} = -5\text{V}, T_A = 25^{\circ}\text{C}$)

PARAMETER	CONDITIONS	LIMITS						UNITS
		LM75207			LM75208			
		MIN	TYP	MAX	MIN	TYP	MAX	
Propagation Delay Time, Low to High Level, From Differential Inputs A and B to Output (Note 1) ($t_{PLH(D)}$)	$R_L = 470\Omega, C_L = 15\text{ pF}$			35				ns
Propagation Delay Time, Low to High Level, From Differential Inputs A and B to Output (Note 1) ($t_{PLH(D)}$)	$R_L = 470\Omega, C_L = 15\text{ pF}$						35	ns
Propagation Delay Time, High to Low Level, From Differential Inputs A and B to output (Note 1) ($t_{PHL(D)}$)	$R_L = 470\Omega, C_L = 15\text{ pF}$			20				ns
Propagation Delay Time, High to Low Level, From Differential Inputs A and B to Output (Note 1) ($t_{PHL(D)}$)	$R_L = 470\Omega, C_L = 15\text{ pF}$						20	ns
Propagation Delay Time, Low to High Level, From Strobe Input G or S to Output ($t_{PLH(S)}$)	$R_L = 470\Omega, C_L = 15\text{ pF}$			17				ns
Propagation Delay Time, Low to High Level, From Strobe Input G or S to Output ($t_{PLH(S)}$)	$R_L = 470\Omega, C_L = 15\text{ pF}$						17	ns
Propagation Delay Time, High to Low Level, From Strobe Input G or S to Output ($t_{PHL(S)}$)	$R_L = 470\Omega, C_L = 15\text{ pF}$			17				ns
Propagation Delay Time, High to Low Level, From Strobe Input G or S to Output ($t_{PHL(S)}$)	$R_L = 470\Omega, C_L = 15\text{ pF}$						17	ns

Note 1: Differential input is +10 mV to -30 mV pulse. Delays read from 0 mV on input to 1.5V on output.

LM163/LM363**dc electrical characteristics** ($T_{\text{MIN}} \leq T_A \leq T_{\text{MAX}}$)

PARAMETER	CONDITIONS	LIMITS			UNITS
		LM163/LM363			
		MIN	TYP	MAX	
High Level Input Current Into 1A, 1B, 2A or 2B (I_{IH})	$V_{CC}^{+} = \text{Max}, V_{CC}^{-} = \text{Max},$ $V_{ID} = 0.5V, V_{IC} = -3V \text{ to } 3V$		30	75	μA
Low Level Input Current Into 1A, 1B, 2A or 2B (I_{IL})	$V_{CC}^{+} = \text{Max}, V_{CC}^{-} = \text{Max};$ $V_{ID} = -2V, V_{IC} = -3V \text{ to } 3V$			-10	μA
High Level Input Current Into 1G, 2G or D (I_{IH})	$V_{CC}^{+} = \text{Max}, V_{CC}^{-} = \text{Max};$ $V_{IH(S)} = 2.4V$			40	μA
High Level Input Current Into 1G, 2G or D (I_{IH})	$V_{CC}^{+} = \text{Max}, V_{CC}^{-} = \text{Max},$ $V_{IH(S)} = \text{Max } V_{CC}^{+}$			1	mA
Low Level Input Current Into D (I_{IL})	$V_{CC}^{+} = \text{Max}, V_{CC}^{-} = \text{Max},$ $V_{IL(D)} = 0.4V$			-1.6	mA
Low Level Input Current Into 1G or 2G (I_{IL})	$V_{CC}^{+} = \text{Max}, V_{CC}^{-} = \text{Max},$ $V_{IH(D)} = 2V, V_{IL(G)} = 0.4V$			-40	μA
Low Level Input Current Into 1G or 2G (I_{IL})	$V_{CC}^{+} = \text{Max}, V_{CC}^{-} = \text{Max},$ $V_{IL(D)} = 0.8V, V_{IL(G)} = 0.4V$			-1.6	mA
High Level Output Voltage (V_{OH})	$V_{CC}^{+} = \text{Min}, V_{CC}^{-} = \text{Min},$ $I_{LOAD} = -2 \text{ mA}, V_{ID} = 25 \text{ mV},$ $V_{IL(D)} = 0.8V, V_{IC} = -3V \text{ to } 3V$	2.4			V
Low Level Output Voltage (V_{OL})	$V_{CC}^{+} = \text{Min}, V_{CC}^{-} = \text{Min},$ $I_{SINK} = 16 \text{ mA}, V_{ID} = -25 \text{ mV},$ $V_{IL(D)} = 0.8V, V_{IC} = -3V \text{ to } 3V$			0.4	V
Output Disable Current (I_{OD})	$V_{CC}^{+} = \text{Max}, V_{CC}^{-} = \text{Max},$ $V_{IH(D)} = 2V, V_{OUT} = 2.4V$			40	μA
Output Disable Current (I_{OD})	$V_{CC}^{+} = \text{Max}, V_{CC}^{-} = \text{Max},$ $V_{IH(D)} = 2V, V_{OUT} = 0.4V$			-40	μA
Short Circuit Output Current (I_{OS})	$V_{CC}^{+} = \text{Max}, V_{IL(D)} = 0.8V,$ $V_{CC}^{-} = \text{Max}$	-18		-70	mA
High Logic Level Supply Current From V_{CC}^{+} (I_{CCH}^{+})	$V_{CC}^{+} = \text{Max}, V_{CC}^{-} = \text{Max},$ $V_{ID} = 25 \text{ mV}, T_A = 25^{\circ}C$		28	40	mA
High Logic Level Supply Current From V_{CC}^{-} (I_{CCH}^{-})	$V_{CC}^{+} = \text{Max}, V_{CC}^{-} = \text{Max},$ $V_{ID} = 25 \text{ mV}, T_A = 25^{\circ}C$		-8.4	-15	mA
Input Clamp Voltage on G or D (V_I)	$V_{CC}^{+} = \text{Min}, V_{CC}^{-} = \text{Min},$ $I_{IN} = -12 \text{ mA}, T_A = 25^{\circ}C$		-1	-1.5	V

ac switching characteristics ($V_{CC}^+ = 5V, V_{CC}^- = -5V, T_A = 25^\circ C$)

PARAMETER	CONDITIONS	LIMITS			UNITS
		LM163/LM363			
		MIN	TYP	MAX	
Propagation Delay Time, Low to High Level, From Differential Inputs A and B to Output (Note 1) ($t_{PLH(D)}$)	$R_L = 390\Omega, C_L = 50 \text{ pF}$		17	25	ns
Propagation Delay Time, High to Low Level, From Differential Inputs A and B to Output (Note 1) ($t_{PHL(D)}$)	$R_L = 390\Omega, C_L = 50 \text{ pF}$		17	25	ns
Propagation Delay Time, Low to High Level, From Strobe Input G to Output ($t_{PLH(S)}$)	$R_L = 390\Omega, C_L = 50 \text{ pF}$		10	15	ns
Propagation Delay Time, High to Low Level, From Strobe Input G to Output ($t_{PHL(S)}$)	$R_L = 390\Omega, C_L = 50 \text{ pF}$		8	15	ns
Disable Low to High to Output High to Off (t_{TH})	$R_L = 390\Omega, C_L = 5 \text{ pF}$			20	ns
Disable Low to High to Output Low to Off (t_{OH})	$R_L = 390\Omega, C_L = 5 \text{ pF}$			30	ns
Disable High to Low to Output Off to High (t_{HT})	$R_L = 1k \text{ to } 0V, C_L = 50 \text{ pF}$			25	ns
Disable High to Low to Output Off to Low (t_{HO})	$R_L = 390\Omega, C_L = 50 \text{ pF}$			25	ns

Note 1: Differential input is +100 mV to -100 mV pulse. Delays read from 0 mV on input to 1.5V on output

LM363A**dc electrical characteristics** ($0^{\circ}\text{C} \leq T_A \leq +70^{\circ}\text{C}$)

PARAMETER	CONDITIONS	LIMITS			UNITS
		LM363A			
		MIN	TYP	MAX	
High Level Input Current Into 1A, 1B, 2A or 2B (I_{IH})	$V_{CC}^{+} = \text{Max}, V_{CC}^{-} = \text{Max},$ $V_{ID} = 0.5\text{V}, V_{IC} = -3\text{V to } 3\text{V}$		30	75	μA
Low Level Input Current Into 1A, 1B, 2A or 2B (I_{IL})	$V_{CC}^{+} = \text{Max}, V_{CC}^{-} = \text{Max},$ $V_{ID} = -2\text{V}, V_{IC} = -3\text{V to } 3\text{V}$			-10	μA
High Level Input Current Into 1G, 2G or D (I_{IH})	$V_{CC}^{+} = \text{Max}, V_{CC}^{-} = \text{Max},$ $V_{IH(S)} = 2.4\text{V}$			40	μA
High Level Input Current Into 1G, 2G or D (I_{IH})	$V_{CC}^{+} = \text{Max}, V_{CC}^{-} = \text{Max},$ $V_{IH(S)} = \text{Max } V_{CC}^{+}$			1	mA
Low Level Input Current Into D (I_{IL})	$V_{CC}^{+} = \text{Max}, V_{CC}^{-} = \text{Max},$ $V_{IL(D)} = 0.4\text{V}$			-1.6	mA
Low Level Input Current Into 1G or 2G (I_{IL})	$V_{CC}^{+} = \text{Max}, V_{CC}^{-} = \text{Max},$ $V_{IH(D)} = 2\text{V}, V_{IL(G)} = 0.4\text{V}$			-40	μA
Low Level Input Current Into 1G or 2G (I_{IL})	$V_{CC}^{+} = \text{Max}, V_{CC}^{-} = \text{Max},$ $V_{IL(D)} = 0.8\text{V}, V_{IL(G)} = 0.4\text{V}$			-1.6	mA
High Level Output Voltage (V_{OH})	$V_{CC}^{+} = \text{Min}, V_{CC}^{-} = \text{Min},$ $I_{LOAD} = -2\text{mA}, V_{ID} = 10\text{mV},$ $V_{IL(D)} = 0.8\text{V}, V_{IC} = -3\text{V to } 3\text{V}$	2.4			V
Low Level Output Voltage (V_{OL})	$V_{CC}^{+} = \text{Min}, V_{CC}^{-} = \text{Min},$ $I_{SINK} = 16\text{mA}, V_{ID} = -10\text{mV},$ $V_{IL(D)} = 0.8\text{V}, V_{IC} = -3\text{V to } 3\text{V}$			0.4	V
Output Disable Current (I_{OD})	$V_{CC}^{+} = \text{Max}, V_{CC}^{-} = \text{Max},$ $V_{IH(D)} = 2\text{V}, V_{OUT} = 2.4\text{V}$			40	μA
Output Disable Current (I_{OD})	$V_{CC}^{+} = \text{Max}, V_{CC}^{-} = \text{Max},$ $V_{IH(D)} = 2\text{V}, V_{OUT} = 0.4\text{V}$			-40	μA
Short Circuit Output Current (I_{OS})	$V_{CC}^{+} = \text{Max}, V_{IL(D)} = 0.8\text{V},$ $V_{CC}^{-} = \text{Max}$	-18		-70	mA
High Logic Level Supply Current From V_{CC}^{+} (I_{CCH}^{+})	$V_{CC}^{+} = \text{Max}, V_{CC}^{-} = \text{Max},$ $V_{ID} = 10\text{mV}, T_A = 25^{\circ}\text{C}$		28	40	mA
High Logic Level Supply Current From V_{CC}^{-} (I_{CCH}^{-})	$V_{CC}^{+} = \text{Max}, V_{CC}^{-} = \text{Max},$ $V_{ID} = 10\text{mV}, T_A = 25^{\circ}\text{C}$		-8.4	-15	mA
Input Clamp Voltage on G or D (V_I)	$V_{CC}^{+} = \text{Min}, V_{CC}^{-} = \text{Min},$ $I_{IN} = -12\text{mA}, T_A = 25^{\circ}\text{C}$		-1	-1.5	V

ac switching characteristics ($V_{CC}^{+} = 5\text{V}, V_{CC}^{-} = -5\text{V}, T_A = 25^{\circ}\text{C}$)

PARAMETER	CONDITIONS	LIMITS			UNITS
		LM363A			
		MIN	TYP	MAX	
Propagation Delay Time, Low to High Level, From Differential Inputs A and B to Output (Note 1) ($t_{PLH(D)}$)	$R_L = 470\Omega$, $C_L = 15\text{ pF}$			35	ns
Propagation Delay Time, High to Low Level, From Differential Inputs A and B to Output (Note 1) ($t_{PHL(D)}$)	$R_L = 470\Omega$, $C_L = 15\text{ pF}$			20	ns
Propagation Delay Time, Low to High Level, From Strobe Input G to Output ($t_{PLH(S)}$)	$R_L = 470\Omega$, $C_L = 15\text{ pF}$			17	ns
Propagation Delay Time, High to Low Level, From Strobe Input G to Output ($t_{PHL(S)}$)	$R_L = 470\Omega$, $C_L = 15\text{ pF}$			17	ns
Disable Low to High to Output High to Off (t_{1H})	$R_L = 470\Omega$, $C_L = 5\text{ pF}$			20	ns
Disable Low to High to Output Low to Off (t_{0H})	$R_L = 470\Omega$, $C_L = 5\text{ pF}$			30	ns
Disable High to Low to Output Off to High (t_{H1})	$R_L = 1\text{ k to } 0\text{V}$, $C_L = 15\text{ pF}$			25	ns
Disable High to Low to Output Off to Low (t_{H0})	$R_L = 470\Omega$, $C_L = 15\text{ pF}$			25	ns

Note 1: Differential input is +10 mV to -30 mV pulse. Delays read from 0 mV on input to 1.5V on output.