

LM5534/LM7534 and LM5535/LM7535**electrical characteristics**LM5534/LM5535: The following apply for $-55^{\circ}\text{C} \leq T_A \leq 125^{\circ}\text{C}$, $V^+ = 5\text{V} \pm 5\%$, $V^- = -5\text{V} \pm 5\%$ (Note 1)

PARAMETER	MIN	TYP	MAX	UNIT	TEST CONDITIONS (EACH AMPLIFIER)					
					DIFF. INPUT	REF. INPUT	STROBE INPUT	LOGIC OUTPUT	SUPPLY VOLT.	COMMENTS
Differential Input Threshold Voltage (V_{TH}) (Note 2)	10(8) 35(33)	15	20(22) 45(47)	mV	$\pm V_{TH}$	15 mV	+5V	+5.25V	$\pm 5V \pm 5\%$	Logic Output $< 250 \mu A$
		15		mV	$\pm V_{TH}$	15 mV	+5V	+20 mA	$\pm 5V \pm 5\%$	Logic Output $< 0.4V$
		40		mV	$\pm V_{TH}$	40 mV	+5V	+5.25V	$\pm 5V \pm 5\%$	Logic Output $< 250 \mu A$
		40		mV	$\pm V_{TH}$	40 mV	+5V	+20 mA	$\pm 5V \pm 5\%$	Logic Output $< 0.4V$
Differential & Reference Input Bias Current		30	100	μA	0V	0V	+5.25V		$\pm 5.25V$	

LM7534/LM7535: The following apply for $0^{\circ}\text{C} \leq T_A \leq 70^{\circ}\text{C}$, $V^+ = 5\text{V} \pm 5\%$, $V^- = -5\text{V} \pm 5\%$

Differential Input Threshold Voltage (V_{TH}) (Note 3)	11(8)	15	19(22)	mV	$\pm V_{TH}$	15 mV	+5V	+5.25V	$\pm 5\text{V} \pm 5\%$	Logic Output $< 250\text{ }\mu\text{A}$	Logic Output $< 0.4\text{V}$ Logic Output $< 250\text{ }\mu\text{A}$ Logic Output $< 0.4\text{V}$
	36(33)	40	44(47)	mV	$\pm V_{TH}$	15 mV	+5V	+20 mA	$\pm 5\text{V} \pm 5\%$	Logic Output $< 0.4\text{V}$	
		40		mV	$\pm V_{TH}$	40 mV	+5V	+5.25V	$\pm 5\text{V} \pm 5\%$	Logic Output $< 250\text{ }\mu\text{A}$	
		40		mV	$\pm V_{TH}$	40 mV	+5V	+20 mA	$\pm 5\text{V} \pm 5\%$	Logic Output $< 0.4\text{V}$	
Differential & Reference Input Bias Current		30	75	μA	0V	0V	+5.25V		$\pm 5.25\text{V}$		

LM5534/LM5535: The following apply for $-55^{\circ}\text{C} \leq T_A \leq 125^{\circ}\text{C}$, $V^+ = 5\text{V} \pm 5\%$, $V^- = -5\text{V} \pm 5\%$ LM7534/LM7535: The following apply for $0^{\circ}\text{C} \leq T_A \leq 70^{\circ}\text{C}$, $V^+ = 5\text{V} \pm 5\%$, $V^- = -5\text{V} \pm 5\%$

Diff. Input Offset Current		0.5		μA	0V	0V	+5.25V		$\pm 5.25\text{V}$		Logic Output $< 250\text{ }\mu\text{A}$ Logic Output $< 0.4\text{V}$
Logic "0" Input Voltage			0.8	V	40 mV	20 mV	+0.8V	+5.25V	$\pm 4.75\text{V}$		
Logic "1" Input Voltage	2.0			V	40 mV	20 mV	+2.0V	+20 mA	$\pm 4.75\text{V}$		
Logic "0" Input Current		-1	-1.6	mA	40 mV	20 mV	+0.4V		$\pm 5.25\text{V}$		
Logic "1" Input Current		5	40	μA	0V	20 mV	+2.4V		$\pm 5.25\text{V}$		
Current		0.02	1	mA	0V	20 mV	+5.25V		$\pm 5.25\text{V}$		
Logic "0" Output Voltage		0.25	0.40	V	40 mV	20 mV	+2V	+20 mA	$\pm 4.75\text{V}$		
Output Leakage Current		0.01	250	μA	40 mV	20 mV	+0.8V	+5.25V	$\pm 4.75\text{V}$		
V^+ Supply Current		28	38	mA	0V	20 mV	0V		$\pm 5.25\text{V}$		
V^- Supply Current		-13	-18	mA	0V	20 mV	0V		$\pm 5.25\text{V}$		

LM5534/LM5535 and LM7534/LM7535: The following apply for $T_A = 25^{\circ}\text{C}$, $V^+ = 5\text{V}$, $V^- = -5\text{V}$

AC Common-Mode Input Firing Voltage		± 2.5		V	PULSE	20 mV	+5V	SCOPE			
Propagation Delays:											
Differential Input to Logical "1" Output		24		ns		20 mV					AC Test Circuit
Differential Input to Logical "0" Output		20	40	ns		20 mV					AC Test Circuit
Strobe Input to Logical "1" Output		16		ns		20 mV					AC Test Circuit
Strobe Input to Logical "0" Output		10	30	ns		20 mV					AC Test Circuit
Differential Input Overload Recovery Time		10		ns							
Common-Mode Input Overload Recovery Time		5		ns							
Min. Cycle Time		200		ns							

Note 1: For $0^{\circ}\text{C} \leq T_A \leq 70^{\circ}\text{C}$ operation, electrical characteristics for LM5534 and LM5535 are guaranteed the same as LM7534 and LM7535 respectively.

Note 2: Limits in parentheses pertain to LM5535, other limits pertain to LM5534.

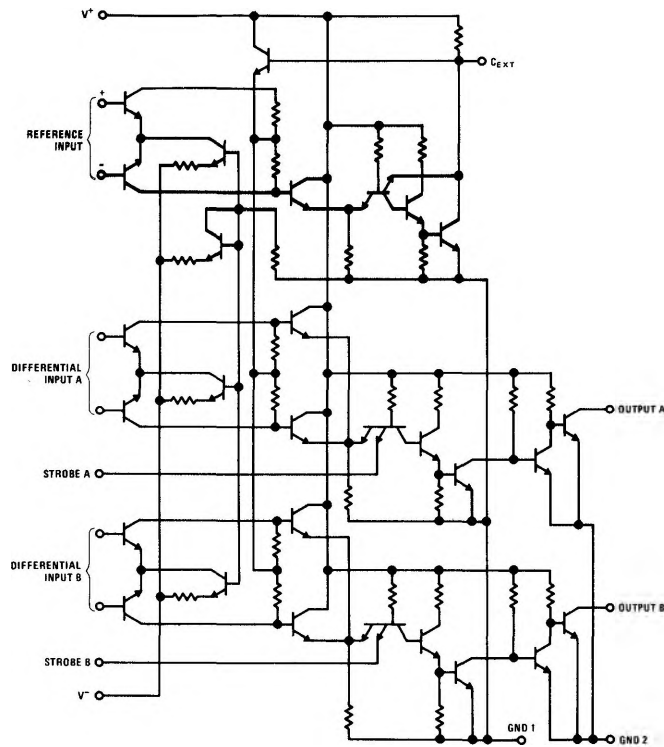
Note 3: Limits in parentheses pertain to LM7535, other limits pertain to LM7534.

Note 4: Positive current is defined as current into the referenced pin.

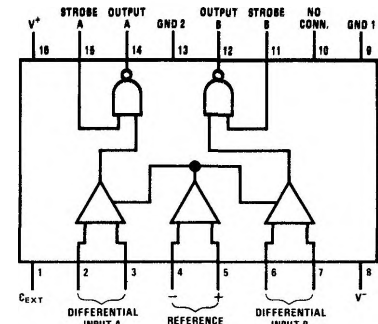
Note 5: Pin 1 to have $\geq 100\text{ pF}$ capacitor connected to ground.

LM5534/LM7534 and LM5535/LM7535

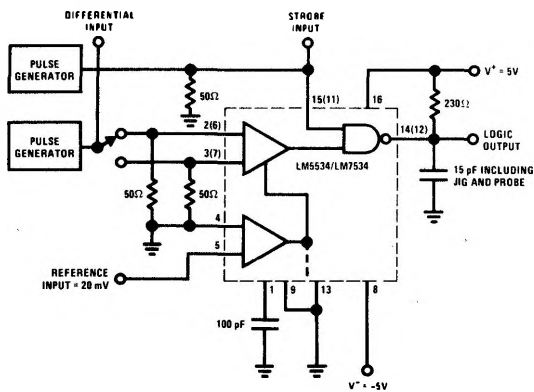
schematic diagram



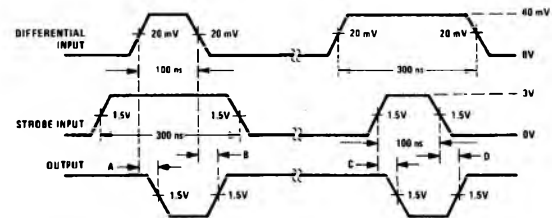
connection diagram



AC test circuit



voltage waveforms



1. Pulse generators have the following characteristics:
 $Z_{OUT} = 50\Omega$, $t_r = t_f = 15(±5)$ ns, PRA = 1 MW.
2. Propagation delays:
 A = Differential input to logical "0" output
 B = Differential input to logical "1" output
 C = Strobe input to logical "0" output
 D = Strobe input to logical "1" output