54132/74132 Quadruple 2-Input Positive-NAND Schmitt Trigger

	Schottky TTL					High-Speed TTL					Low-Power Schottky TTL					Standard TTL					Low-Power TTL				
	Device Type	Package C	P	M	CF	Device Type	Package C	P	M	CF	Device Type	Package C	P	M	CF	Device Type	Package C	P	M	CF	Device Type	Package C	P	M	CF
T.I.	SN54S132	J ①			W ①						SN54LS132	J ①			W ①	SN54132	J ①			W ①					
	SN74S132	J ①	N ①								SN74LS132	J ①	N ①			SN74132	J ①	N ①							
FAIRCHILD	FM54S132 FM9S132	D ①			F ①						FM54LS132/FM9LS132	D ①			F ①	FM54132/FM9N132	D ①								
	FC74132 FC9S132	D ①	P ①		F ①						FC74LS132/FC9LS132	D ①	P ②		F ①	FC74132/FC9N132	D ①	P ①							
MOTOROLA																									
											SN74LS132		P ①			SN74132		P ①							
N.S.C.											DM54LS132		①			DM54132	J ①	N ①		W ①					
											DM74LS132		①			DM74132	J ①	N ①		W ①					
PHILIPS																									
											N74LS132		①			N74132		①							
SIGNETICS																S54132	F ①	B ①		W ①					
											N74LS132		A ①			N74132	F ①	B ①							
SIEMENS																									
																FLH601		①							
FUJITSU																									
HITACHI											HD74LS132		P ①			HD74132		P ①							
MITSUBISHI											M74LS132		P ①			M53352		P ①							
NEC																									
TOSHIBA																									

Electrical Characteristics SN54LS132/SN74LS132

absolute maximum ratings over operating free-air temperature range

Supply voltage, V_{CC}	7V	Operating free-air temperature range	SN54LS	−55°C to 125°C
Input voltage	7V		SN74LS	0°C to 70°C
		Storage temperature range		−65°C to 150°C

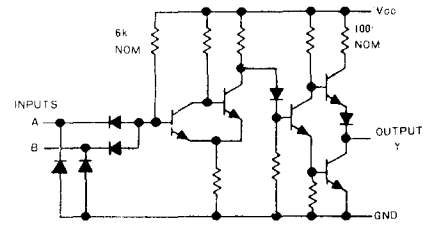
recommended operating conditions

	SN54LS132			SN74LS132			UNIT
	MIN	NOM	MAX	MIN	NOM	MAX	
Supply voltage, V_{CC}	4.5	5	5.5	4.75	5	5.25	V
High-level output current, I_{OH}			400			−400	μA
Low-level output current, I_{OL}			4			8	mA
Operating free-air temperature, T_A	−55		125	0		70	°C

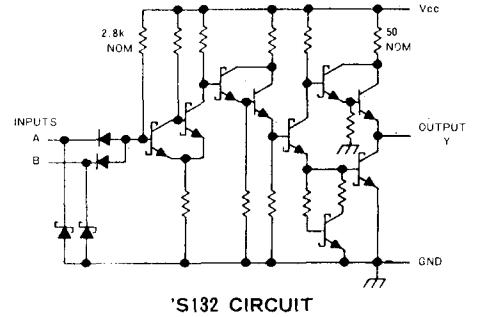
electrical characteristics over recommended operating free-air temperature range

PARAMETER		TEST CONDITIONS†		MIN	TYP‡	MAX	UNIT
V_{T+}	Positive-going threshold voltage	V_{CC} 5 V		1.4	1.6	1.9	V
V_{T-}	Negative-going threshold voltage	V_{CC} 5 V		0.5	0.8	1	V
	Hysteresis ($V_{T+} - V_{T-}$)	V_{CC} 5 V		0.4	0.8		V
V_I	Input clamp voltage	V_{CC} MIN, I_I −18mA				−1.5	V
V_{OH}	High-level output voltage	V_{CC} MIN, I_{OH} MAX	V_I V_{T-} max	2.7	3.4		V
V_{OL}	Low-level output voltage	V_{CC} MIN, I_{OL} 4mA	V_I V_{T+} max		0.25	0.4	V
I_{T+}	Input current at positive-going threshold	V_{CC} 5V, V_I V_{T+}			0.14		mA
I_{T-}	Input current at negative-going threshold	V_{CC} 5V, V_I V_{T-}			0.18		mA
I_I	Input current at maximum input voltage	V_{CC} MAX, V_I 7V				0.1	mA
I_{IH}	High-level input current	V_{CC} MAX, V_I 2.7V				20	μA
I_{IL}	Low-level input current	V_{CC} MAX, V_I 0.4V				−0.4	mA
I_{OS}	Short-circuit output current◆	V_{CC} MAX		−20		−100	mA
I_{CCH}	Supply current	V_{CC} MAX	Total, outputs high		5.9	11	mA
I_{CCL}	Supply current		Total, outputs low		8.2	14	mA
I_{CC}	Supply current	V_{CC} 5V	Average per gate (50% duty cycle)		1.76		mA
t_{PLH}	Propagation delay time, low-to-high-level output	V_{CC} 5 V, T_A 25°C, C_L 15pF, R_L 2kΩ			15	22	ns
t_{PHL}	Propagation delay time, high-to-low-level output				15	22	ns

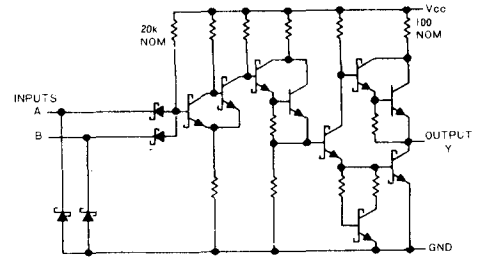
Schematics (each gate)



'132 CIRCUIT



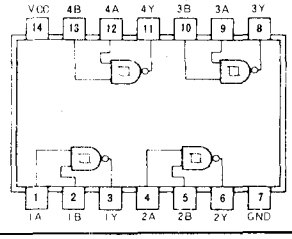
'S132 CIRCUIT



'LS132 CIRCUIT

Resistor values shown are nominal and in ohms.

Pin Assignment (Top View) ①



Positive logic:
$Y = \overline{AB}$

†For conditions shown as MIN or MAX, use the appropriate value specified under recommended operating conditions.
‡All typical values are at V_{CC} = 5 V, T_A = 25°C.
◆Not more than one output should be shorted at a time, and for 'S132, duration of output short-circuit should not exceed one second.