

54/74132
54S/74S132
54LS/74LS132

**QUAD 2-INPUT
SCHMITT TRIGGER NAND GATE**

ORDERING CODE: See Section 9

PKGS	PIN OUT	COMMERCIAL GRADE	MILITARY GRADE	PKG TYPE
		$V_{CC} = +5.0 \text{ V} \pm 5\%$, $T_A = 0^\circ \text{C to } +70^\circ \text{C}$	$V_{CC} = +5.0 \text{ V} \pm 10\%$, $T_A = -55^\circ \text{C to } +125^\circ \text{C}$	
Plastic DIP (P)	A	74132PC, 74S132PC 74LS132PC		9A
Ceramic DIP (D)	A	74132DC, 74S132DC 74LS132DC	54132DM, 54S132DM 54LS132DM	6A
Flatpak (F)	A	74132FC, 74S132FC 74LS132FC	54132FM, 54S132FM 54LS132FM	3I

INPUT LOADING/FAN-OUT: See Section 3 for U.L. definitions

PINS	54/74 (U.L.) HIGH/LOW	54/74S (U.L.) HIGH/LOW	54/74LS (U.L.) HIGH/LOW
Inputs	1.0/0.75	1.25/1.25	0.5/0.25
Outputs	20/10	25/12.5	10/5.0 (2.5)

DC AND AC CHARACTERISTICS: See Section 3*

SYMBOL	PARAMETER	54/74	54/74S	54/74LS	UNITS	CONDITIONS
		Min Max	Min Max	Min Max		
V_{T+}	Positive-going Threshold Voltage	1.5 2.0	1.6 1.9	1.4 1.9	V	$V_{CC} = +5.0 \text{ V}$
V_{T-}	Negative-going Threshold Voltage	0.6 1.1	1.1 1.4	0.5 1.0	V	$V_{CC} = +5.0 \text{ V}$
$V_{T+} - V_{T-}$	Hysteresis Voltage	0.4	0.2	0.4	V	$V_{CC} = +5.0 \text{ V}$
I_{T+}	Input Current at Positive-going Threshold	-0.43**	-0.9 **	-0.14**	mA	$V_{CC} = +5.0 \text{ V}$, $V_{IN} = V_{T+}$
I_{T-}	Input Current at Negative-going Threshold	-0.56**	-1.1 **	-0.18**	mA	$V_{CC} = +5.0 \text{ V}$, $V_{IN} = V_{T-}$
I_{OS}	Output Short Circuit Current	-18 -55			mA	$V_{CC} = \text{Max}$, $V_{OUT} = 0 \text{ V}$
I_{CCH} I_{CCL}	Power Supply Current	24 40	44 68	11 14	mA	$V_{IN} = \text{Gnd}$ $V_{IN} = \text{Open}$ $V_{CC} = \text{Max}$
t_{PLH} t_{PHL}	Propagation Delay	22 22	10.5 13	20 20	ns	Figs. 3-1, 3-4

*DC limits apply over operating temperature range; AC limits apply at $T_A = +25^\circ \text{C}$ and $V_{CC} = +5.0 \text{ V}$. **Typical Value

**CONNECTION DIAGRAM
PINOUT A**

