

**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**

