

ADVANCED LOW-POWER
SCHOTTKY TTLTYPES SN54ALS900 and SN74ALS900
QUAD 2-INPUT NAND BUFFERS

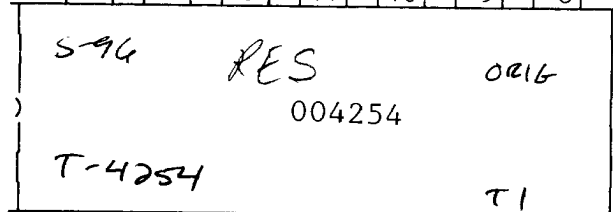
- * QUAD 2-INPUT NAND BUFFERS
- * ADVANCED OXIDE-ISOLATED, ION-IMPLANTED SCHOTTKY TTL PROCESS
- * FUNCTIONALLY and PIN-for-PIN COMPATIBLE with TTL COUNTERPART
- * IMPROVED AC PERFORMANCE over LS COUNTERPART
- * HALF the POWER of LS COUNTERPART
- * IMPROVED INPUT THRESHOLD VOLTAGE
- * IMPROVED LINE RECEIVING CHARACTERISTICS

ELECTRICAL PINOUT

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

Vcc 4B 4A 4Y 3B 3A 3Y

14	13	12	11	10	9	8
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1	2	3	4	5	6	7
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1A 1B 1Y 2A 2B 2Y GND

This advanced low-power Schottky device has been fabricated by an advanced oxide-isolated, ion-implanted Schottky TTL process developed by TI. The major benefit of this process is the improvement of the speed-power product by the reduction of parasitic and side-wall capacitance and enhanced f_T . The ALS family features the same output drive characteristics as the LS family.

switching characteristics $V_{CC}=5V$, $T_a=25^\circ C$, $C_L=50pF$, $R_L=667ohms$

PARAMETER		SN54ALS900		SN74ALS900		UNIT
		min	typ max	min	typ max	
t_{plh}	Propagation delay time, low-to-high-level output		3.5		3.5	ns
t_{phl}	Propagation delay time, high-to-low-level output		3.5		3.5	ns

supply current over recommended operating free-air temperature range

PARAMETER		TEST CONDITIONS		SN54ALS900		SN74ALS900		UNIT
				typ	max	typ	max	
I_{CCH}	Supply current, outputs high	$V_{CC}=MAX, V_i=0V$.86	2.1	.86	2.1	mA
I_{CCL}	Supply current, outputs low	$V_{CC}=MAX, V_i=4.5V$		4.0	6.8	4.0	6.8	mA

PARAMETER		TEST CONDITIONS		SN54ALS900		SN74ALS900		UNIT
				min	max	min	max	
$I_{O\uparrow}$	Output drive current	$V_{CC}=MAX, V_i=0V$	$V_o=2.25V$ $V_o=2.125V$	-15	-70	-15	-70	mA

† The output voltage conditions have been chosen to produce a current that closely approximates one-half of the true short-circuit output current, I_{OS} .

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TEXAS INSTRUMENTS

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