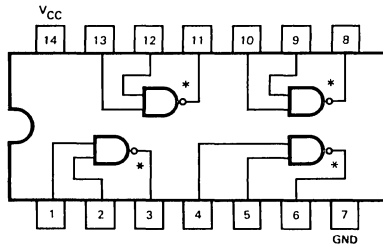




SN54LS03
SN74LS03



*OPEN COLLECTOR OUTPUTS

J Suffix — Case 632-07 (Ceramic)
N Suffix — Case 646-05 (Plastic)

QUAD 2-INPUT NAND GATE
LOW POWER SCHOTTKY

GUARANTEED OPERATING RANGES

SYMBOL	PARAMETER		MIN	TYP	MAX	UNIT
V _{CC}	Supply Voltage	54	4.5	5.0	5.5	V
		74	4.75	5.0	5.25	
T _A	Operating Ambient Temperature Range	54	-55	25	125	°C
		74	0	25	70	
V _{OH}	Output Voltage — High	54, 74			5.5	V
I _{OL}	Output Current — Low	54			4.0	mA
		74			8.0	

DC CHARACTERISTICS OVER OPERATING TEMPERATURE RANGE (unless otherwise specified)

SYMBOL	PARAMETER	LIMITS			UNITS	TEST CONDITIONS
		MIN	TYP	MAX		
V _{IH}	Input HIGH Voltage	2.0			V	Guaranteed Input HIGH Voltage for All Inputs
V _{IL}	Input LOW Voltage	54		0.7	V	Guaranteed Input LOW Voltage for All Inputs
		74		0.8		
V _{IK}	Input Clamp Diode Voltage		-0.65	-1.5	V	V _{CC} = MIN, I _{IN} = -18 mA
I _{OH}	Output HIGH Current	54, 74		100	μA	V _{CC} = MIN, V _{OH} = MAX
V _{OL}	Output LOW Voltage	54, 74	0.25	0.4	V	V _{CC} = V _{CC} MIN, V _{IN} = V _{IL} or V _{IH} per Truth Table
		74	0.35	0.5	V	
I _{IH}	Input HIGH Current			20	μA	V _{CC} = MAX, V _{IN} = 2.7 V
				0.1	mA	V _{CC} = MAX, V _{IN} = 7.0 V
I _{IL}	Input LOW Current			-0.4	mA	V _{CC} = MAX, V _{IN} = 0.4 V
I _{CC}	Power Supply Current Total, Output HIGH Total, Output LOW			1.6	mA	V _{CC} = MAX
				4.4		

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AC CHARACTERISTICS: T_A = 25°C

SYMBOL	PARAMETER	LIMITS			UNITS	TEST CONDITIONS
		MIN	TYP	MAX		
t _{PLH}	Turn Off Delay, Input to Output		17	32	ns	V _{CC} = 5.0 V C _L = 15 pF, R _L = 2.0 kΩ
t _{PHL}	Turn On Delay, Input to Output		15	28	ns	