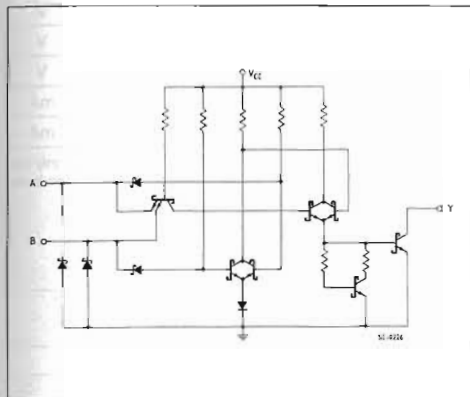


QUAD 2-INPUT EXCLUSIVE OR GATE

DESCRIPTION

The T74LS136 is a high speed QUAD 2-INPUT EXCLUSIVE OR GATE (with open collector output) fabricated in LOW POWER SCHOTTKY technology.

SCHEMATIC DIAGRAM



B1
(Plastic Package)

D1
(Ceramic Package)

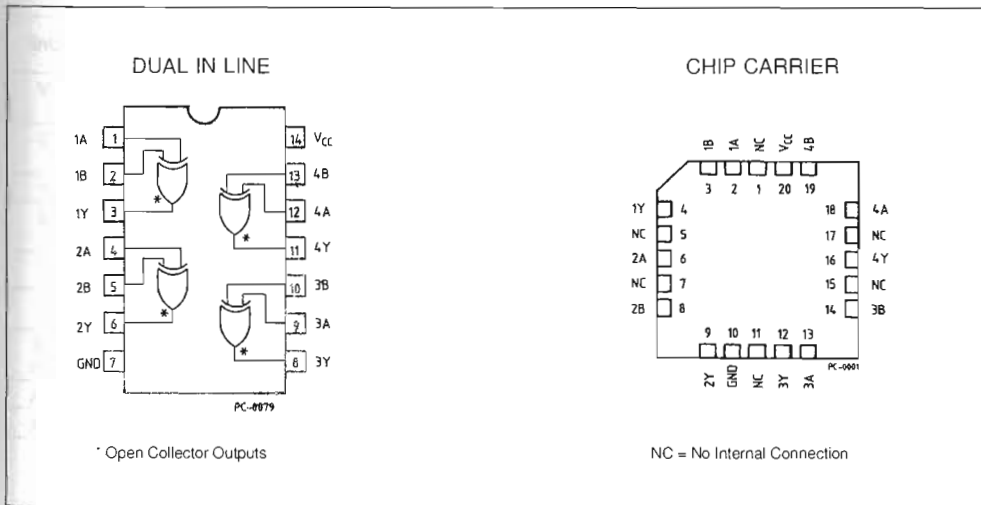
M1
(Micro Package)

C1
(Plastic Chip Carrier)

ORDER CODES

T74LS136 D1	T74LS136 C1
T74LS136 B1	T74LS136 M1

PIN CONNECTION (top view)



LOGIC DIAGRAM AND TRUTH TABLE



S-7975

A	B	Y
L	L	L
L	H	H
H	L	H
H	H	L

L = LOW Voltage level
H = HIGH Voltage level

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CC}	Supply Voltage	- 0.5 to 7	V
V_I	Input Voltage, Applied to Input	- 0.5 to 15	V
V_O	Output Voltage, Applied to Output	- 0.5 to 10	V
I_I	Input Current, Into Inputs	- 30 to 5	mA
I_O	Output Current, Into Outputs	50	mA

Stresses in excess of those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions in excess of those indicated in the operational sections of this specification is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

GUARANTEED OPERATING RANGE

Part Numbers	Supply Voltage			Temperature
	Min.	Typ.	Max.	
T74LS136XX	4.75 V	5.0 V	5.25 V	0 °C to + 70 °C

XX = package type.

DC CHARACTERISTICS OVER OPERATING TEMPERATURE RANGE

Symbol	Parameter	Limits			Test Condition (note 1)	Unit
		Min.	Typ. (*)	Max.		
V_{IH}	Input HIGH Voltage	2.0			Guaranteed Input HIGH Voltage for All Inputs	V
V_{IL}	Input LOW Voltage			0.8	Guaranteed Input LOW Voltage for All Inputs	V
V_{CD}	Input Clamp Diode Voltage		- 0.65	- 1.5	$V_{CC} = \text{MIN}$, $I_{IN} = -18 \text{ mA}$	V
V_{OH}	Output HIGH Voltage			100	$V_{CC} = \text{MIN}$, $V_{OH} = - 5.5 \text{ V}$ $V_{IN} = V_{IH}$ or V_{IL} per Truth Table	V
V_{OL}	Output LOW Voltage		0.25	0.4	$I_{OL} = 4.0 \text{ mA}$ $I_{OL} = 8.0 \text{ mA}$	$V_{CC} = \text{MIN}$
			0.35	0.5		$V_{IN} = V_{IH}$ or V_{IL} per Truth Table
I_{IH}	Input HIGH Current			40	$V_{CC} = \text{MAX}$, $V_{IN} = 2.7 \text{ V}$ $V_{CC} = \text{MAX}$, $V_{IN} = 5.5 \text{ V}$	μA
				0.2		mA
I_{IL}	Input LOW Current			- 0.6	$V_{CC} = \text{MAX}$, $V_{IN} = 0.4 \text{ V}$	mA
I_{CC}	Supply Current LOW		6.0	10	$V_{CC} = \text{MAX}$	mA

Notes : 1. For conditions shown as MIN or MAX, use the appropriate value specified under guaranteed operating ranges.

(*) Typical values are at $V_{CC} = 5.0 \text{ V}$, $T_A = 25 \text{ }^\circ\text{C}$.

AC CHARACTERISTICS: $T_A = 25^\circ\text{C}$ (for AC test circuits and waveforms see databook introduction)

Symbol	Parameter	Limits			Test Conditions	Unit
		Min.	Typ.	Max.		
t_{PLH}	Propagation Delay		18	30	$V_{CC} = 5.0\text{ V}$ $C_L = 15\text{ pF}$, $R_L = 2.0\text{ k}\Omega$	ns
t_{PHL}	Other Input LOW		18	30		
t_{PLH}	Propagation Delay		18	30		ns
t_{PHL}	Other Input HIGH		18	30		