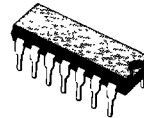
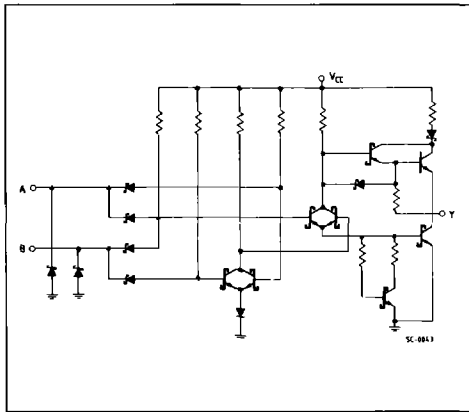
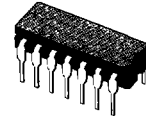


QUAD 2-INPUT EXCLUSIVE OR GATE
DESCRIPTION

The T74LS86 is a high speed QUAD 2-INPUT EXCLUSIVE OR GATE fabricated in LOW POWER SHOTTKY technology.

SCHEMATIC


B1
(Plastic Package)



D1
(Ceramic Package)



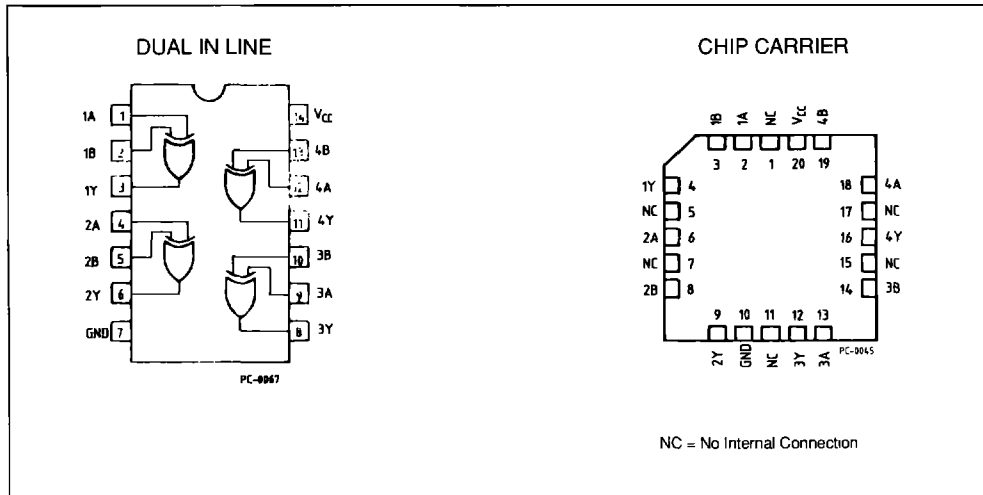
M1
(Micro Package)



C1
(Plastic Chip Carrier)

ORDER CODES :

T74LS86 D1 T74LS86 C1
 T74LS86 B1 T74LS86 M1

PIN CONNECTION (top view)


LOGIC DIAGRAM AND TRUTH TABLE

	<table border="1"> <thead> <tr> <th colspan="2">In</th> <th>Out</th> </tr> <tr> <th>A</th> <th>B</th> <th>Y</th> </tr> </thead> <tbody> <tr> <td>L</td> <td>L</td> <td>L</td> </tr> <tr> <td>L</td> <td>H</td> <td>H</td> </tr> <tr> <td>H</td> <td>L</td> <td>H</td> </tr> <tr> <td>H</td> <td>H</td> <td>L</td> </tr> </tbody> </table>	In		Out	A	B	Y	L	L	L	L	H	H	H	L	H	H	H	L
In		Out																	
A	B	Y																	
L	L	L																	
L	H	H																	
H	L	H																	
H	H	L																	

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 to 10	V
I_I	Input Current, into Inputs	- 30 to 5	mA
I_O	Output Current, Into Outputs	60	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.	
T74LS86XX	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	V
V_{IL}	Input LOW Voltage			0.8	Guaranteed Input LOW Voltage	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	2.7	3.4		$V_{CC} = \text{MIN}$, $I_{OH} = -400 \mu\text{A}$ $V_{IN} = V_{IH}$ or V_{IL} per Truth Table	V
V_{OL}	Output LOW Voltage		0.25	0.4	$I_{OL} = 4.0 \text{ mA}$	V
			0.35	0.5	$I_{OL} = 8.0 \text{ mA}$	V
I_{IH}	Input HIGH Current			40	$V_{CC} = \text{MAX}$, $V_{IN} = 2.7 \text{ V}$	μA
				0.2	$V_{CC} = \text{MAX}$, $V_{IN} = 7.0 \text{ V}$	mA
I_{IL}	Input LOW Current			- 0.6	$V_{CC} = \text{MAX}$, $V_{IN} = 0.4 \text{ V}$	mA
I_{OS}	Output Short Circuit Current (note 2)	- 20		- 100	$V_{CC} = \text{MAX}$, $V_{IN} = 0 \text{ V}$	mA
I_{CCH}	Supply Current HIGH		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.
2. Not more than one output should be shorted at a time.
(*) 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 Other		12	23	$V_{CC} = 5.0\text{ V}$ $C_L = 15\text{ pF}$	ns
t_{PHL}	Input LOW		10	17		ns
t_{PLH}	Propagation Delay Other		10	30		ns
t_{PHL}	Input HIGH		13	22		ns