

**9-BIT ODD/EVEN PARITY GENERATORS/CHECKERS**

- GENERATES EITHER ODD OF EVEN PARITY FOR NINE DATA LINES
- CASCADABLE FOR n-BIT
- TYPICAL DATA TO OUTPUT DELAY OF ONLY 33 ns
- CAN BE USED TO UPGRADE SYSTEMS USING MSI PARITY CIRCUITS
- TYPICAL DISSIPATION = 80 mW

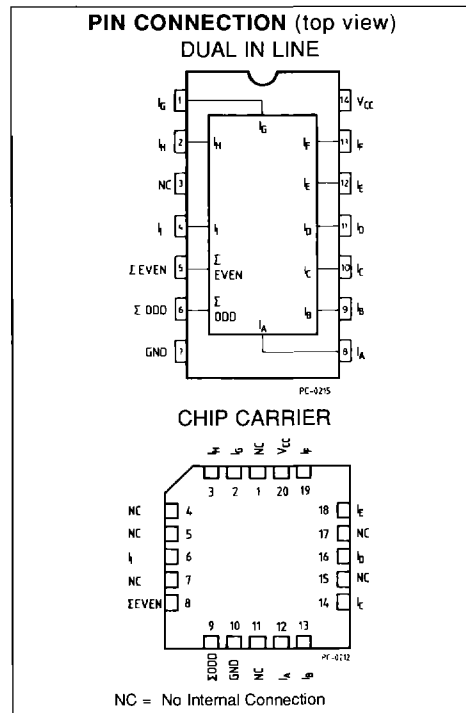
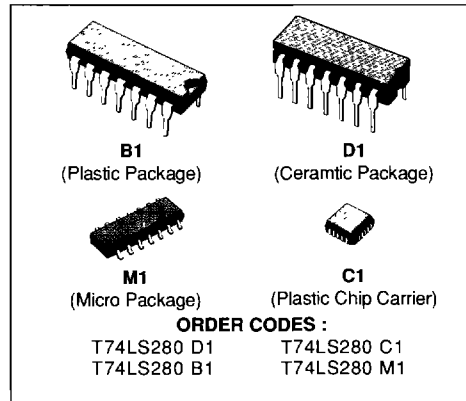
**DESCRIPTION**

The T74LS280 is a (universal) 9-Bit Odd-Even Parity Generator/Checker. It is composed of odd/even outputs to facilitate either odd or even parity. By cascading, the word length can be easily expanded. The LS280 has no expander input implementation, but the corresponding function is supplied by an input at pin 4 and the absence of any connection at pin 3. This configuration allows the LS280 to be a replacement for the LS180 which results in improved performance. The LS280 has buffered inputs to reduce the drive requirements to one LD unit load.

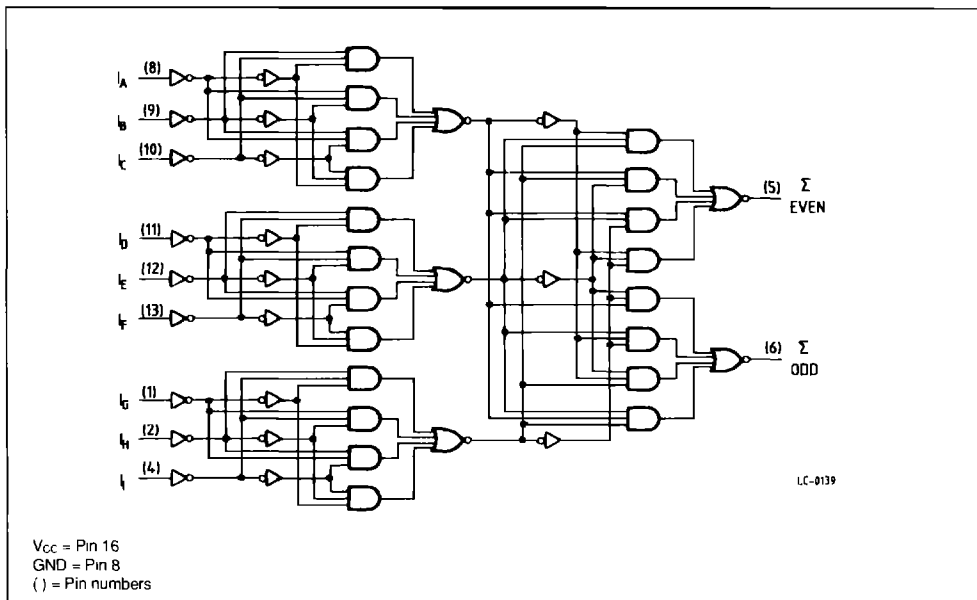
**FUNCTION TABLE**

Number of Inputs a Thru 1 that are High	Outputs	
	$\Sigma$ EVEN	$\Sigma$ ODD
0, 2, 4, 6, 8	H	L
1, 3, 5, 7, 9	L	H

H = HIGH Voltage Level  
 L = LOW Voltage Level



## FUNCTIONAL BLOCK DIAGRAM



## 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	50	mA

Stresses in excess of those listed "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.	
T74LS280XX	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 Threshold Voltage for all Input	V
$V_{IL}$	Input LOW Voltage			0.8	Guaranteed Input LOW Threshold Voltage for all Input	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	$I_{OL} = 4.0 \text{ mA}$ ; $V_{CC} = \text{MIN}$ $V_{IN} = V_{IH}$ or $V_{IL}$ per Truth Table	V
			0.35	0.5	$I_{OL} = 8.0 \text{ mA}$	V
$I_{IH}$	Input HIGH Current			20 0.1	$V_{CC} = \text{MAX}$ , $V_{IN} = 2.7 \text{ V}$ $V_{CC} = \text{MAX}$ , $V_{IN} = 7.0 \text{ V}$	$\mu\text{A}$ mA
$I_{IL}$	Input LOW Current			- 0.4	$V_{CC} = \text{MAX}$ , $V_{IN} = 0.4 \text{ V}$	mA
$I_{OS}$	Output Short Circuit Current (note 2)	- 20		- 100	$V_{CC} = \text{MAX}$	mA
$I_{CC}$	Power Supply Current			27	$V_{CC} = \text{MAX}$	mA

Notes : 1 For Conditions shown as MIN or MAX, use the appropriate value specified under guarantee operating range.  
 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 :  $T_A = 25 \text{ }^\circ\text{C}$ 

Symbol	Parameter	Limits			Test Conditions	Unit
		Min.	Typ.	Max.		
$t_{PLH}$ $t_{PHL}$	Propagation Delay, $\Sigma \text{ EVEN}$		33 29	50 45	$V_{CC} = 5.0 \text{ V}$ Input not under test at 0.V $C_L = 15 \text{ pF}$	ns
$t_{PHL}$ $t_{PLH}$	Propagation Delay, $\Sigma \text{ ODD}$		23 31	35 50		ns