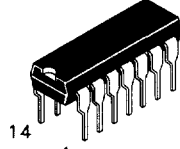


# 9-Bit Odd/Even Parity Generator/Checker

This device features Odd/Even Outputs to facilitate either Odd or Even parity. It can be expanded using the I Data Input as a cascade input.

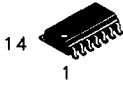
- AVG's LS operates over extended Vcc from 4.5 to 5.5 V
- AVG's LS and ALS both have guaranteed DC and AC specification over full temperature and Vcc range
- Switching specifications for ALS at 50 pF
- AVG's ALS has the lowest speed power product (4pJ per gate typical) of all logic series

**DV74LS280**  
**DV74ALS280**



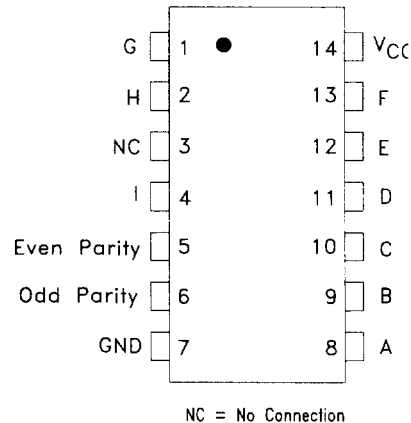
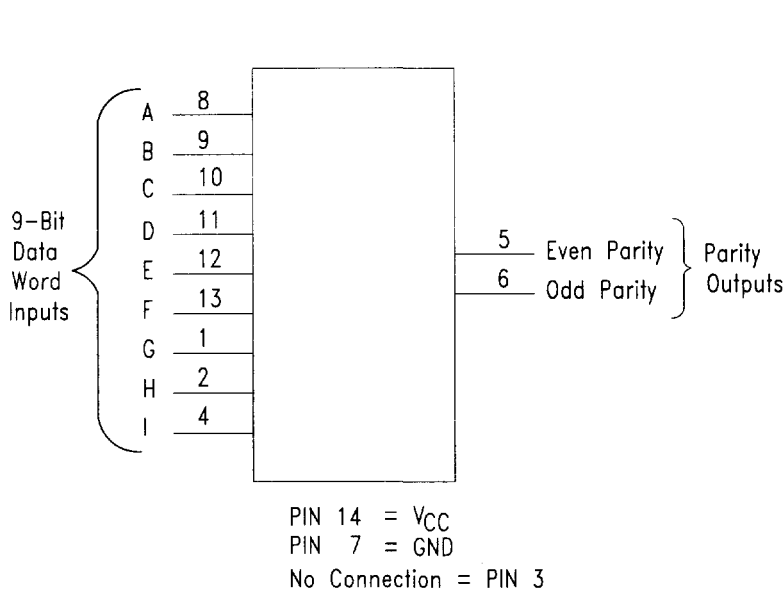
14  
1

N Suffix  
Plastic DIP  
AVG-001 Case



14  
1

D Suffix  
Plastic SOP  
AVG-002 Case



TRUTH TABLE		
Number of Inputs A thru I that are HIGH	Outputs	
	Σ EVEN	Σ ODD
0, 2, 4, 6, 8	H	L
1, 3, 5, 7, 9	L	H

H=HIGH Voltage Level  
L=LOW Voltage Level

### ABSOLUTE MAXIMUM RATINGS

Maximum ratings are those values beyond which damage to the device may occur.

Symbol	Parameter	LS280	ALS280	Unit
V <sub>CC</sub>	Supply Voltage	+7.0	+7.0	V
V <sub>IN</sub>	Input Voltage	-0.5 to +7.0	+7.0	V
T <sub>STG</sub>	Storage Temperature Range	-65 to +150	-65 to +150	°C

### GUARANTEED OPERATING CONDITIONS

Symbol	Parameter	LS280		ALS280		Unit
		Min	Max	Min	Max	
V <sub>CC</sub>	Supply Voltage	4.5	5.5	4.5	5.5	V
V <sub>IH</sub>	High Level Input Voltage	2.0		2.0		V
V <sub>IL</sub>	Low Level Input Voltage		0.8		0.8	V
I <sub>OH</sub>	High Level Output Current		-0.4		-2.6	mA
I <sub>OL</sub>	Low Level Output Current		8.0		24	mA
T <sub>A</sub>	Operating Free Air Temperature Range	-10 to 70		-10 to 70		°C

**DC ELECTRICAL CHARACTERISTICS** over full operating range

Symbol	Parameter	Condition	LS280			ALS280			Unit	
			Min	Typ	Max	Min	Typ	Max		
$V_{IK}$	Input Clamp Voltage	$V_{CC} = \text{min}, I_{IN} = -18 \text{ mA}$			-1.5			-1.5	V	
$V_{OH}$	High Level Output Voltage	$V_{CC} = \text{min}, I_{OH} = \text{max}, V_{IN} = V_{IH} \text{ or } V_{IL} \text{ per Truth Table}$	$V_{CC}-2$	3.5		$V_{CC}-2$			V	
$V_{OL}$	Low Level Output Voltage	$V_{CC} = \text{min}$	$I_{OL} = 4.0 \text{ mA}$		0.25	0.4				V
			$I_{OL} = 8.0 \text{ mA}$		0.35	0.5				V
			$I_{OL} = 12 \text{ mA}$					0.25	0.4	V
			$I_{OL} = 24 \text{ mA}$					0.35	0.5	V
$I_{IH}$	High Level Input Current	$V_{CC} = \text{max}, V_{IN} = 2.7 \text{ V}$			20			20	$\mu\text{A}$	
		$V_{CC} = \text{max}, V_{IN} = 7 \text{ V}$			0.1			0.1	$\text{mA}$	
$I_{IL}$	Low Level Input Current	$V_{CC} = \text{max}, V_{IN} = 0.4 \text{ V}$			-0.4			-0.1	$\text{mA}$	
$I_o$	Output Short Circuit Current	$V_{CC} = \text{max}, V_{OUT} = 2.25 \text{ V}$	-20		-110	-30		-112	$\text{mA}$	
$I_{CC}$	Supply Current	$V_{CC} = \text{max}, \text{Outputs Disabled}$			27		10	16	$\text{mA}$	

**SWITCHING CHARACTERISTICS** over full operating conditions

Symbol	Parameter	LS280 $C_L = 15 \text{ pF}$		ALS280 $C_L = 50 \text{ pF}$ $R_L = 500 \Omega$		Unit
		Min	Max	Min	Max	
$t_{PLH}$	Propagation Delay Time Data to Output $\Sigma$ EVEN		50	3	20	ns
$t_{PHL}$	Propagation Delay Time Data to Output $\Sigma$ ODD		45	3	20	ns
$t_{PLH}$	Propagation Delay Time Data to Output $\Sigma$ EVEN		35	3	20	ns
$t_{PHL}$	Propagation Delay Time Data to Output $\Sigma$ ODD		50	4	22	ns

**SWITCHING WAVEFORMS**