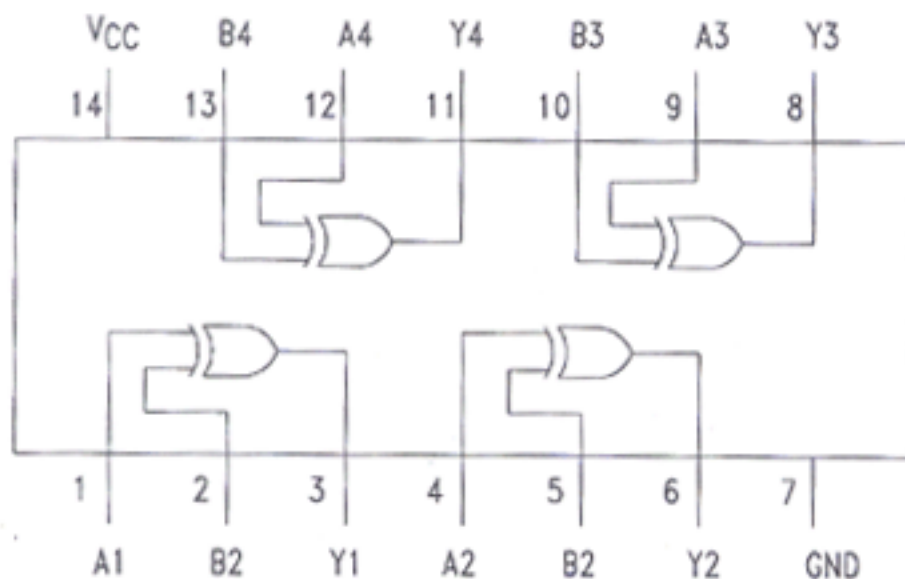
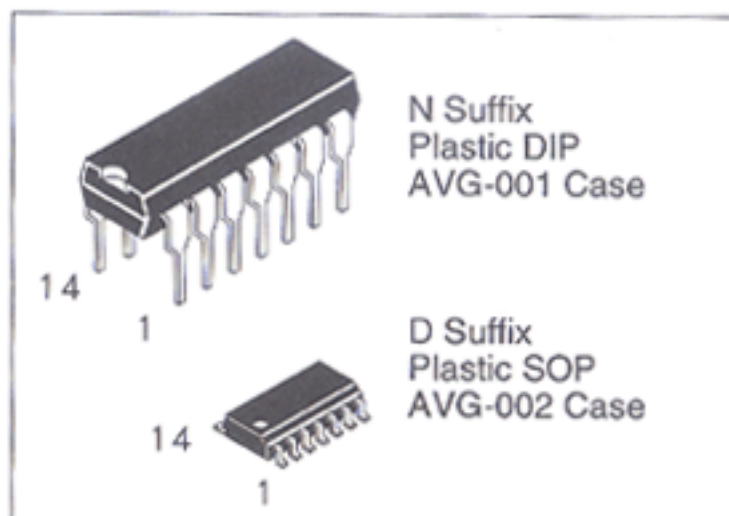


Quad 2-Input Exclusive OR Gate with Open Collector Outputs

This device contains four independent gates, each of which performs the exclusive OR function.

- 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

DV74LS136
DV74ALS136



TRUTH TABLE
 $Y = A \oplus B$

Inputs		Output
A	B	Y
L	L	L
L	H	H
H	L	H
H	H	L

H = High Level Logic
L = Low Level Logic

ABSOLUTE MAXIMUM RATINGS

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

Symbol	Parameter	LS136	ALS136	Unit
V _{CC}	Supply Voltage	7.0	7.0	V
V _{IN}	Input Voltage	7.0	7.0	V
T _{STG}	Storage Temperature Range	-65 to +150	-65 to +150	°C

GUARANTEED OPERATING CONDITIONS

Symbol	Parameter	LS136		ALS136		Unit
		Min	Max	Min	Max	
V _{CC}	Supply Voltage	4.5	5.5	4.5	5.5	V
V _{OH}	High Level Output Voltage		5.5		5.5	V
V _{IH}	High Level Input Voltage	2.0		2.0		V
V _{IL}	Low Level Input Voltage		0.8		0.8	mV
I _{OL}	Low Level Output Current		8.0		8.0	mA
T _A	Ambient Temperature Range	-10 to +70		-10 to +70		°C

DC ELECTRICAL CHARACTERISTICS over full operating conditions

Symbol	Parameter	Conditions	LS136			ALS136			Units
			Min	Typ	Max	Min	Typ	Max	
V _{IK}	Input Clamp Voltage	V _{CC} = min, I _{IN} = -18 mA			-1.5			-1.5	V
V _{OL}	Low Level Output Voltage	V _{CC} =min;							
		V _{CC} =min; I _{OL} = 4 mA		0.25	0.4		0.25	0.4	V
		V _{CC} =min; I _{OL} = 8 mA		0.35	0.5		0.35	0.5	V
I _{OH}	High Level Output Current	V _{CC} =min; V _{OH} = max			100			100	µA
I _{IH}	High Level Input Current	V _{CC} =max, V _{IN} = 2.7V			40			20	µA
		V _{CC} =max, V _{IN} = 7V			0.2			0.1	mA
I _{IL}	Low Level Input Current	V _{CC} =max, V _{IN} =0.4V			-0.8			-0.1	mA
I _{CC}	Supply Current	V _{CC} =max			10.0		3.9	5.9	mA

SWITCHING CHARACTERISTICS

Symbol	Parameter	LS136 C _L =15pF R _L = 2.0kΩ		ALS136 C _L = 50 pF R _L = 2.0kΩ		Unit
		Min	Max	Min	Max	
t _{PLH}	Turn Off Delay, Input to Output, Other Input LOW		30	20	50	ns
t _{PHL}	Turn On Delay, Input to Output, Other Input HIGH		30	3	12	ns

SWITCHING WAVEFORMS

