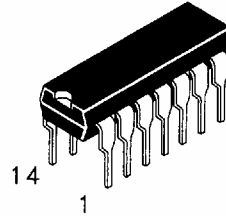


Hex Inverting Drivers with Open Collector Outputs

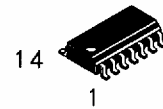
This device contains six independent drivers, each of which performs the logic INVERT/Complement function. The Outputs require external pull-up resistors for proper logical operations.

- AVG's ALS has 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
- Higher speed and 24mA Output Drive

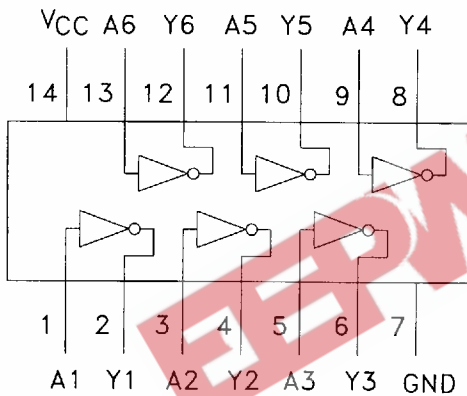
DV74ALS1005



N Suffix
Plastic DIP
AVG-001 Case



D Suffix
Plastic SOP
AVG-002 Case



TRUTH TABLE

Inputs	Outputs
A	Y
L	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	ALS1005	Unit
V _{CC}	Supply Voltage	7.0	V
V _{IN}	Input Voltage	7.0	V
T _{STG}	Storage Temperature Range	-65 to +150	°C

GUARANTEED OPERATING CONDITIONS

Symbol	Parameter	ALS1005		Unit
		Min	Max	
V _{CC}	Supply Voltage	4.5	5.5	V
V _{IH}	High Level Input Voltage	2.0		V
V _{IL}	Low Level Input Voltage		0.8	V
V _{OH}	High Level Output Voltage		5.5	V
I _{OL}	Low Level Output Current		24	mA
T _A	Ambient Temperature Range	-10 to +70		°C

DC ELECTRICAL CHARACTERISTICS over full operating conditions

Symbol	Parameter	Conditions	ALS1005			Unit	
			Min	Typ	Max		
V_{IK}	Input Clamp Voltage	$V_{CC} = \text{min}, I_{IN} = -18 \text{ mA}$			-1.5	V	
I_{OH}	Output HIGH Current	$V_{CC} = \text{min}, V_{OH} = 5.5\text{V}$			100	μA	
V_{OL}	Low Level Output Voltage	$V_{CC} = \text{min}$		$I_{OL} = 12.0 \text{ mA}$	0.25	0.4	V
				$I_{OL} = 24.0 \text{ mA}$	0.35	0.5	V
I_{IH}	High Level Input Current	$V_{CC} = \text{max}, V_{IN} = 2.7\text{V}$			20	μA	
		$V_{CC} = \text{max}, V_{IN} = 7.0\text{V}$			0.1	mA	
I_{IL}	Low Level Input Current	$V_{CC} = \text{max}, V_{IN} = 0.4\text{V}$			-0.1	mA	
I_{CC}	Supply Current $V_{CC} = \text{max}$	Total, Output HIGH Total, Output LOW		0.9	3	mA	
				7	12	mA	

SWITCHING CHARACTERISTICS over full operating conditions

Symbol	Parameter	ALS1005 $C_L = 50 \text{ pF}$ $R_L = 680 \Omega$		Unit
		Min	Max	
t_{PLH}	Turn Off Delay, Input to Output	5	30	ns
t_{PHL}	Turn On Delay, Input to Output	2	10	ns

SWITCHING WAVEFORMS