AVG *Semiconductors*

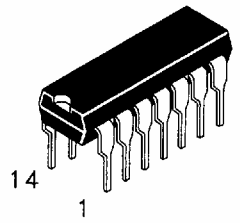
Technical Data

DDi™

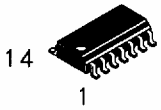
Hex Inverting Drivers with Open Collector Outputs

DV74ALS1005

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.

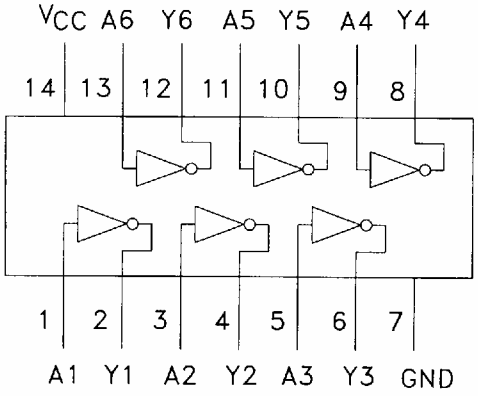


N Suffix
Plastic DIP
AVG-001 Case



D Suffix
Plastic SOP
AVG-002 Case

- **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**



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} = min, I_{IN} = −18 mA				−1.5	V
I_{OH}	Output HIGH Current	V_{CC}=min, V_{OH}=5.5V				100	µA
V_{OL}	Low Level Output Voltage	V_{CC}=min	I_{OL} =12.0mA		0.25	0.4	V
			I_{OL} =24.0 mA		0.35	0.5	V
I_{IH}	High Level Input Current	V_{CC}=max, V_{IN}=2.7V				20	µA
		V_{CC}=max, V_{IN}= 7.0V				0.1	mA
I_{IL}	Low Level Input Current	V_{CC}=max, V_{IN}=0.4V				−0.1	mA
I_{CC}	Supply Current V_{CC}=max	Total, Output HIGH Total, Output LOW			0.9 7	3 12	mA mA

SWITCHING CHARACTERISTICS over full operating conditions

Symbol	Parameter	ALS1005 C_L= 50 pF R_L= 680Ω		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