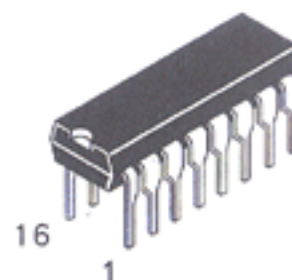


Quad 1 of 2 Line Data Selector

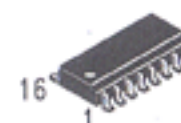
This data selector/multiplexer contains inverters and drivers to supply full data selection to the four output gates. Four bits of data from two sources can be selected using the common Select (S) and Enable (\bar{E}) inputs. The Enable Input (\bar{E}) is active LOW. When \bar{E} is HIGH, all of the outputs (Y) are forced LOW regardless of all other inputs. The four buffered outputs present the selected data in the true (non-inverted) form.

- AVG's LS operates over extended V_{CC} from 4.5 to 5.5 V
- AVG's LS and ALS both have guaranteed DC and AC specification over full temperature and V_{CC} 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

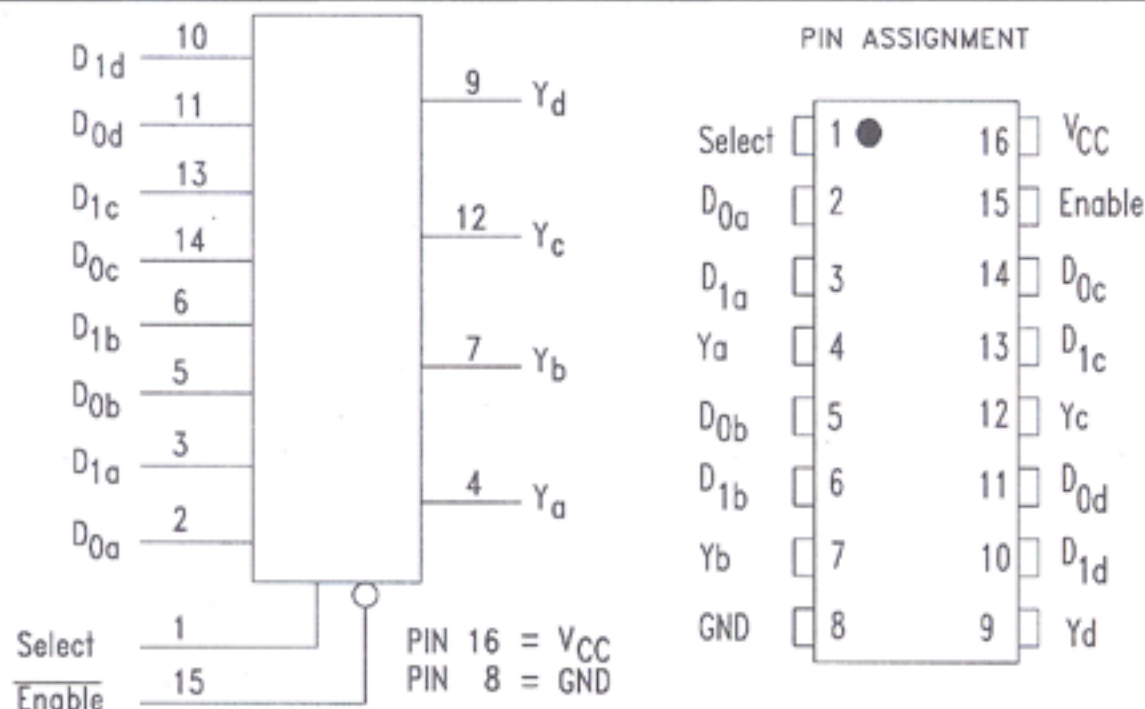
DV74LS157 DV74ALS157



N Suffix
Plastic DIP
Avg-003 Case



D Suffix
Plastic SOP
AVG-004 Case



TRUTH TABLE

Inputs				Output
Enable \bar{E}	Select S	Data D_0	Data D_1	Y
H	X	X	X	L
L	H	X	L	L
L	H	X	H	H
L	L	L	X	L
L	L	H	X	H

H = High Logic Level
L = Low Logic Level
X = Don't Care

ABSOLUTE MAXIMUM RATINGS

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

Symbol	Parameter	LS157	ALS157	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	LS157		ALS157		Unit
		Min	Max	Min	Max	
V_{CC}	Supply Voltage	4.5	5.5	4.5	5.5	V
V_{IH}	High Level Input Voltage	2.0		2.0		V
V_{IL}	Low Level Input Voltage		0.8		0.8	V
I_{OH}	High Level Output Current		-0.4		-0.4	mA
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	LS157			ALS157			Unit
			Min	Typ	Max	Min	Typ	Max	
V_{IK}	Input Clamp Voltage	$V_{CC} = \min, I_{IN} = -18 \text{ mA}$			-1.5			-1.5	V
V_{OH}	High Level Output Voltage	$V_{CC} = \min, I_{OH} = \max$	$V_{CC} - 2$	3.5		$V_{CC} - 2$			V
V_{OL}	Low Level Output Voltage	$V_{CC} = \min; I_{OL} = 4.0 \text{ mA}$		0.25	0.4		0.25	0.4	V
		$V_{CC} = \min; I_{OL} = 8.0 \text{ mA}$		0.35	0.5		0.35	0.5	V
I_{IH}	High Level Input Current	$V_{CC} = \max, V_{IH} = 2.7 \text{ V}$ DATA E, S			20 40			20	μA
		$V_{CC} = \max, V_{IH} = 7$ DATA E, S			0.1 0.2			0.1 0.2	mA
I_{IL}	Low Level Input Current	$V_{CC} = \max, V_{IN} = 0.4 \text{ V}$ DATA E, S			-0.4 -0.8			-0.1 0.2	mA
I_{OS}	Short Circuit Current	$V_{CC} = \max, V_O = 2.25 \text{ V}$	-20		-110	-30		-112	mA

SWITCHING CHARACTERISTICS over full operating conditions

Symbol	Parameter	LS157 $C_L = 15 \text{ pF}$		ALS157 $C_L = 50 \text{ pF}$ $R_L = 500 \Omega$		Unit
		Min	Max	Min	Max	
t_{PLH}	Turn Off Delay, Data to Output Low to High Level Output		14	4	10	ns
t_{PHL}	Turn On Delay, Data to Output High to Low Level Output		14	2.	10	ns
t_{PLH}	Turn Off Delay, Enable to Output Low to High Level Output		20	7	15	ns
t_{PHL}	Turn On Delay, Enable to Output High to Low Level Output		21	4	15	ns
t_{PLH}	Turn Off Delay, Select to Output Low to High Level Output		23	7	16	ns
t_{PHL}	Turn On Delay, Select to Output High to Low Level Output		27	4	18	ns

