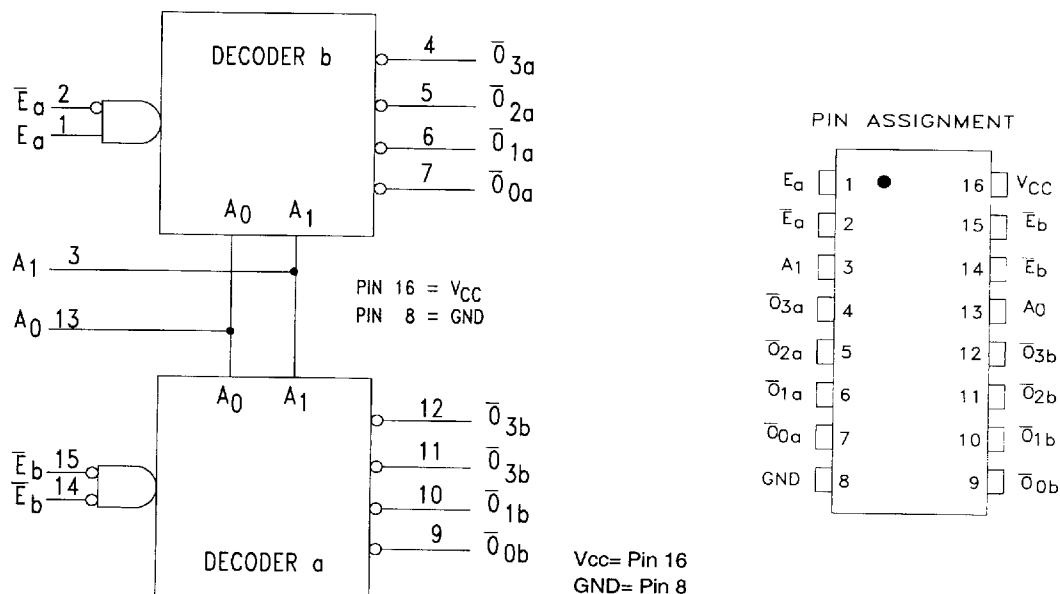
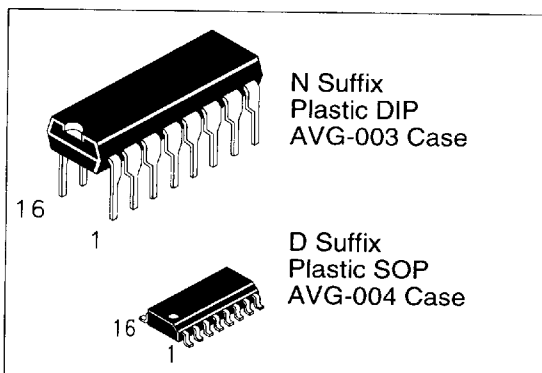


Dual 1 of 4 Decoder/ Demultiplexer

The LS155 is a high speed Dual one-of-four decoder/demultiplexer. This device has two decoders with common two-bit Address inputs and separate gated Enable inputs. Decoder "a" has an Enable gate with one active HIGH and one active LOW input. Decoder "b" has two active LOW Enable inputs. If the Enable functions are satisfied, one output of each decoder will be LOW as selected by the address inputs.

- 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

DV74LS155 DV74ALS155



TRUTH TABLE

Address		Enable "a"		Output "a"				Enable "b"		Output "b"			
A ₀	A ₁	E _a	E _a	O ₀	O ₁	O ₂	O ₃	E _b	E _b	O ₀	O ₁	O ₂	O ₃
X	X	L	X	H	H	H	H	H	X	H	H	H	H
X	X	X	H	H	H	H	H	X	H	H	H	H	H
L	L	H	L	L	H	H	H	L	L	L	H	H	H
H	L	H	L	H	L	H	H	L	L	H	L	H	H
L	H	H	L	H	H	L	H	L	L	H	H	L	H
H	H	H	L	H	H	H	L	L	L	H	H	H	L

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	LS155	ALS155	Unit
V _{CC}	Supply Voltage	7.0	7.0	V
V _{IN}	Input Voltage	-0.5 to +7.0	-0.5 to +7.0	V
T _{STG}	Storage Temperature Range	-65 to +150	-65 to +150	°C

GUARANTEED OPERATING CONDITIONS

Symbol	Parameter	LS155		ALS155		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 _{OL}	Low Level Output Current		8.0		8.0	mA
I _{OH}	High Level Output Current		-0.4		-0.4	mA
T _A	Ambient Temperature Range	-10 to +70		-10 to +70		°C

DC ELECTRICAL CHARACTERISTICS over full operating conditions

Symbol	Parameter	Conditions	LS155			ALS155			Unit
			Min	Typ	Max	Min	Typ	Max	
V _{IK}	Input Clamp Voltage	V _{CC} = min, I _{IN} = -18 mA		-0.65	-1.5			15	V
V _{OH}	High Level Output Voltage	V _{CC} =min, I _{OH} =Max	V _{CC} -2	3.5		V _{CC} -2	3.5		V
V _{OL}	Low Level Output Voltage	V _{CC} =min; I _{OL} =4.0mA		0.25	0.4		0.25	18	V
		V _{CC} =min; I _{OL} =8.0 mA		0.35	0.5		0.35	0.5	V
I _{IH}	High Level Input Current	V _{CC} =max, V _{IN} =2.7V			20			20	μA
	High Level Input Current	V _{CC} =max, V _{IN} = 7.0V			0.1			0.1	mA
I _{IL}	Low Level Input Current	V _{CC} =max, V _{IN} =0.4V			-0.4			-0.4	mA
I _{OS}	Short Circuit Current	V _{CC} =max, V _O =2.25V	-20		-110	-30		-112	mA
I _{CC}	Supply Current	V _{CC} =max			10		5.0	9.0	mA

SWITCHING CHARACTERISTICS over full operating conditions

Symbol	Parameter	LS155		ALS155		Unit
		Min	Max	Min	Max	
t _{PLH}	Propagation Delay, E _a or E _b to Output		15		10	ns
t _{PHL}			30		18	
t _{PLH}	Propagation Delay, Address to Output		26		15	ns
t _{PHL}			30		20	

SWITCHING WAVEFORMS