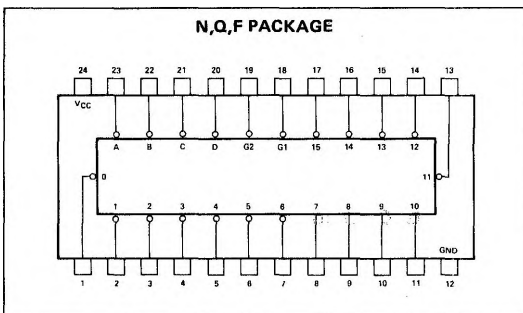


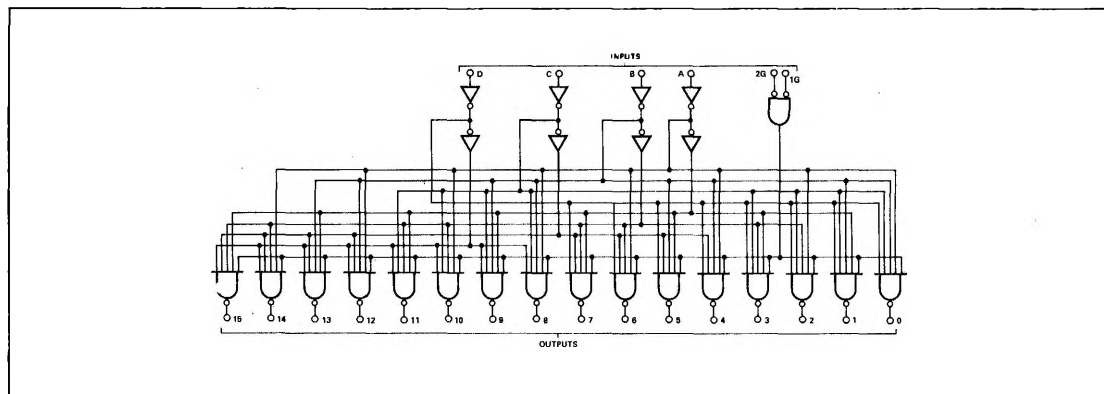
DESCRIPTION

The 54/74154 decodes 4 binary-coded inputs to one of 16 mutually exclusive outputs when each of the two strobe inputs are low. The demultiplexing function is achieved by using the 4 input lines for output addressing and data from one strobe input while the other strobe input is held low.

PIN CONFIGURATIONS



LOGIC DIAGRAM



TRUTH TABLE

[illegible]

H = High, L = Low, X = Irrelevant

RECOMMENDED OPERATING CONDITIONS

	S54154			N74154			UNIT
	MIN	NOM	MAX	MIN	NOM	MAX	
Supply Voltage V_{CC}	4.5	5	5.5	4.75	5	5.25	V
Normalized Fan-Out from each Output, N:							
Low logic level			10			10	
High logic level			20			20	
Operating Free-Air Temperature Range	-55	25	125	0	25	70	°C

ELECTRICAL CHARACTERISTICS (over recommended operating free-air temperature range unless otherwise noted)

PARAMETER		TEST CONDITIONS*		MIN	TYP**	MAX	UNIT
V_{IH}	High-level input voltage			2			V
V_{IL}	Low-level input voltage					0.8	V
V_{OH}	High-level output voltage	$V_{CC} = \text{MIN}, V_{IH} = 2V,$ $V_{IL} = 0.8V, I_{OH} = -800 \mu A$		2.4			V
V_{OL}	Low-level output voltage	$V_{CC} = \text{MIN}, V_{IH} = 2V,$ $V_{IL} = 0.8V, I_{OL} = 16mA$				0.4	V
I_{IH}	High-level input current (each input)	$V_{CC} = \text{MAX}, V_I = 2.4V$				40	A
I_{IL}	Low-level input current (each input)	$V_{CC} = \text{MAX}, V_I = 5.5V$				1	mA
I_{OS}	Short-circuit output current†	$V_{CC} = \text{MAX}$				-1.6	mA
I_{CC}	Supply current	$V_{CC} = \text{MAX}$					
			S54154	-20		-55	mA
			N74154	-18		-57	mA
			S54154		34	49	mA
			N74154		34	56	mA

SWITCHING CHARACTERISTICS, $V_{CC} = 5V, T_A = 25^\circ C, N = 10$

PARAMETER		TEST CONDITIONS		MIN	TYP	MAX	UNIT
t_{PLH}	Propagation delay time, low-to-high-level output, from A, B, C, or D inputs through 3 levels of logic				24	36	ns
t_{PHL}	Propagation delay time, high-to-low-level output, from A, B, C, or D inputs through 3 levels of logic	$C_L = 15pF,$	$R_L = 400\Omega$		22	33	ns
t_{PLH}	Propagation delay time, low-to-high-level output, from either strobe input				20	30	ns
t_{PHL}	Propagation delay time, high-to-low-level output, from either strobe input				18	27	ns

* For conditions shown as MIN or MAX, use the appropriate value specified under recommended operating conditions for the applicable circuit type.

** All typical values are at $V_{CC} = 5V, T_A = 25^\circ C$.

† Not more than one output should be shorted at a time.