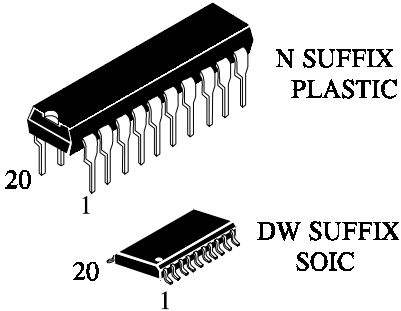


IN74ALS240A

**OCTAL BUFFER / DRIVER
WITH 3-STATE OUTPUTS**

This octal buffer/driver is designed specially to improve both the performance and density of 3-state memory address drivers, clock drivers and bus-oriented receivers and transmitters. When this device is used with the 'ALS241, 'AS241A, 'ALS244 and AS244A, the circuit designer has a choice of selected combinations of inverting and noninverting outputs, symmetrical active-low output-enable (OE) inputs and complementary OE and OE inputs. This device features high fan-out and improved fan-in.

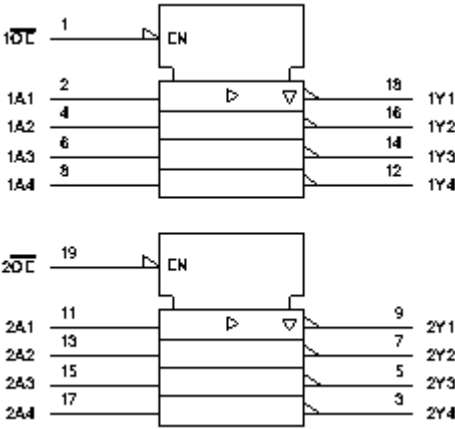
The IN74ALS240A is characterized for operation from 0°C to 70°C.



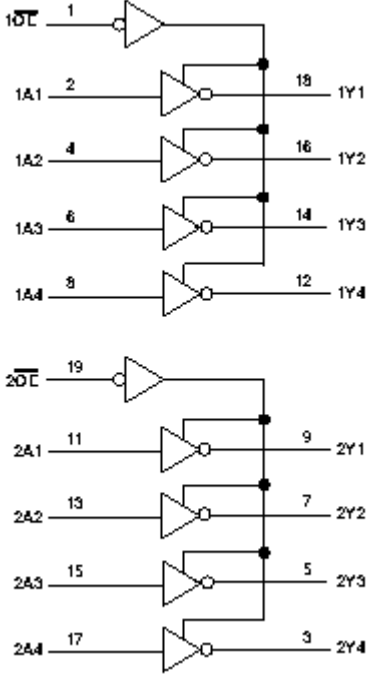
ORDERING INFORMATION

IN74LS240AN Plastic
IN74ALS240AD SOIC
T_A = 0° to 70° C for all packages

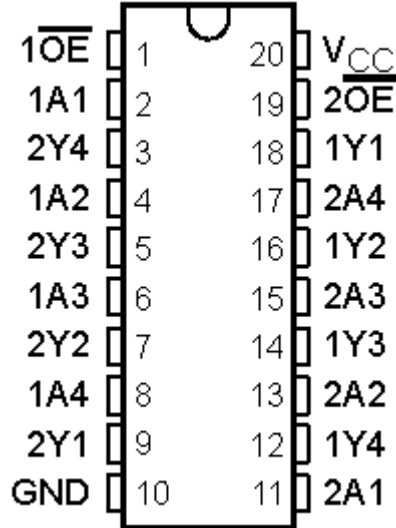
Logic Symbol



Logic Diagram (Positive Logic)



PIN ASSIGNMENT



FUNCTION TABLE

INPUTS		OUTPUT
OE	A	Y
L	H	L
L	L	H
H	X	Z

ABSOLUTE MAXIMUM RATINGS

OVER OPERATING FREE-AIR TEMPERATURE RANGE

Supply voltage, V_{CC}	7 V
Input voltage, V_I	7 V
Voltage applied to a disabled 3-state output	5.5V
Operating free-air temperature range, T_A	0°C to 70°C.
Storage temperature range	-65°C to 150°C

RECOMMENDED OPERATING CONDITIONS

		MIN	NOM	MAX	UNIT
V_{CC}	Supply voltage	4.5	5	5.5	V
V_{IH}	High-level input voltage	2			V
V_{IL}	Low-level input voltage			0.8	V
I_{OH}	High-level output current			-15	mA
I_{OL}	Low-level output current			24	mA
T_A	Operating free-air temperature	0		70	°C

ELECTRICAL CHARACTERISTICS OVER RECOMMENDED OPERATING FREE-AIR TEMPERATURE RANGE

Parameter	Test Conditions		MIN	TYP**	MAX	UNIT
V _{IK}	V _{CC} = 4.5V	I _I = -18mA			-1.2	V
V _{OH}	V _{CC} = 4.5V to 5.5V	I _{OH} = -0.4mA	V _{CC} -2			V
	V _{CC} = 4.5V	I _{OH} = -3mA	2.4	3.2		V
		I _{OH} = -15mA	2			
V _{OL}	V _{CC} = 4.5V	I _{OL} = 12 mA		0.25	0.4	V
		I _{OL} = 24 mA		0.35	0.5	
		I _{OL} = 48 mA*		0.35	0.5	
I _{OZH}	V _{CC} = 5.5V	V _O = 2.7V			20	μA
I _{OZL}	V _{CC} = 5.5V	V _O = 0.4V			-20	μA
I _I	V _{CC} = 5.5V	V _I = 7V			0.1	mA
I _{IH}	V _{CC} = 5.5V	V _I = 2.7V			20	μA
I _{IL}	V _{CC} = 5.5V	V _I = 0.4V			-0.1	mA
I _{O***}	V _{CC} = 5.5V	V _O = 2.25V	-30		-112	mA
I _{CC}	V _{CC} = 5.5V	Output high		4	11	mA
		Outputs low		13	23	
		Outputs disabled		14	25	

*- Applies only to the -1 version and only if V_{CC} is between 4.75V and 5.25V

** - All typical values are at V_{CC}=5V, T_A=25°C

*** - The output conditions have been chosen to produce a current that closely approximates one half of the true short-circuit output current, I_{OS}

SWITCHING CHARACTERISTICS

Parameter	From (input)	To (output)	V _{CC} = 4.5 V to 5.5 V C _L = 50 pF R ₁ = 500 Ω R ₂ = 500 Ω T _A = MIN to MAX*		UNIT
			MIN	MAX	
t _{PLH}		Y	2	9	ns
t _{PHL}			2	9	
t _{PZH}		Y	5	13	ns
t _{PZL}			5	18	
t _{PHZ}	OE	Y	2	10	ns
t _{PLZ}			3	12	

*- For conditions shown as MIN and MAX, use the appropriate value specified under recommended operating conditions