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Please note: As part of the Fairchild Semiconductor integration, some of the Fairchild orderable part numbers

June 1993
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74LVX138
Low Voltage 1-of-8 Decoder/Demultiplexer

General Description

The LVX138 is a high-speed 1-of-8 decoder/demultiplexer. This device is ideally suited for high-speed bipolar memory chip select address decoding. The multiple input enables allow parallel expansion to a 1-of-24 decoder using just three LVX138 devices or a 1-of-32 decoder using four LVX138 5.7i-.2((usi)e8)-16(TJ /F4 1 Tf -1.1553 -1.5001 TD 0 Tc 0 Tw ( )Tj /F3 1 Tf 1.1553 0 TD -0.003 Tc 0.4319 Tw [(Gua)-16(r)2.4(a)-16(n)1.2(tee)-16(d)1.2(si)-

Functional Description

The LVX138 high-speed 1-of-8 decoder/demultiplexer accepts three binary weighted inputs (A_0, A_1, A_2) and, when enabled, provides eight mutually exclusive active-LOW outputs ($\overline{O}_0$–$\overline{O}_7$). The LVX138 features three Enable inputs, two active-LOW ($\overline{E}_1$, $\overline{E}_2$) and one active-HIGH (E_3). All outputs will be HIGH unless $\overline{E}_1$ and $\overline{E}_2$ are LOW and E_3 is HIGH.

The LVX138 can be used as an 8-output demultiplexer by

AC Electrical Characteristics

Symbol	Parameter	V_{CC} (V)	$T_A = +25°C$			$T_A = -40°C$ to $+85°C$		Units	CL (pF)
			Min	Typ	Max	Min	Max		
t_{PLH}	Propagation	2.7		7.1	13.8	1.0	16.5	ns	15
t_{PHL}	Delay Time			9.6	17.3	1.0	20.0		50
	A_n to $\overline{O}_n$	3.3 ± 0.3		5.5	8.8	1.0	10.5		15
				8.0	12.3	1.0	14.0		50

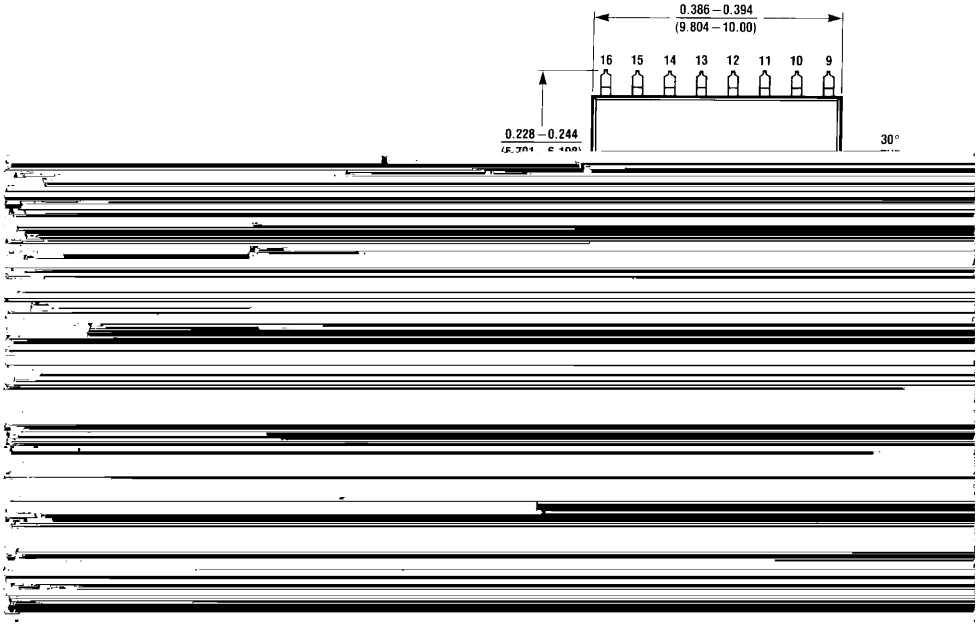
t55 049.977imm3552w 049.97 86254 TDe(i27()17f6N(55 049.975 4.799.)5i)-0.4(t)-11.e2.2(n)-22(c)10..1 53.17fh.2m5 4(863no004 Tc (ns)Tj 7.98 2.5 TD (15)Tj -58.96)6 63rb15t14.0 503552w Tf 11 /F2

Note 4: Parameter guaranteed by design. $t_{OSLH} = |t_{PLHm} - t_{PLHn}|$, $t_{OSHL} = |t_{PHLm} - t_{PHLn}|$

Capacitance

Note 5: C_{PD} is defined as the value of the internal equivalent capacitance which is calculated from the operating current consumption without load. Average operating current can be obtained by the equation: $C_{PD} \times V_{CC} \times I_{IN} + I_{CC}$

Physical Dimensions inches (millimeters) unless otherwise noted



16-Lead Small Outline Integrated Circuit (SOIC), JEDEC MS-012, 0.150" Narrow
Package Number M16A

Physical Dimensions inches (millimeters) unless otherwise noted (Continued)

16-Lead Small Outline Package (SOP), EIAJ TYPE II, 5.3mm Wide