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September 2001
Revised December 2001

FIN1022

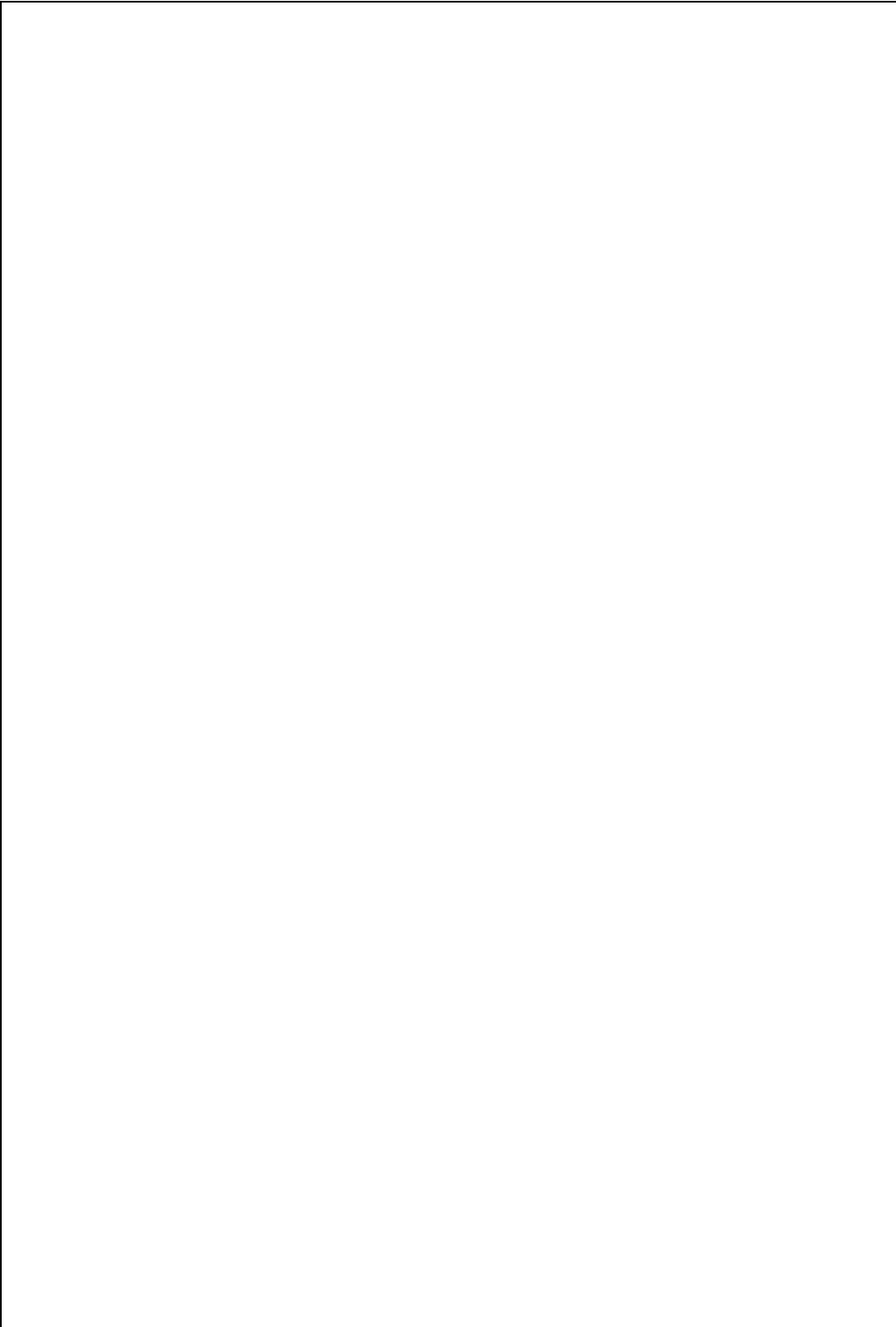
2 X 2 LVDS High Speed Crosspoint Switch

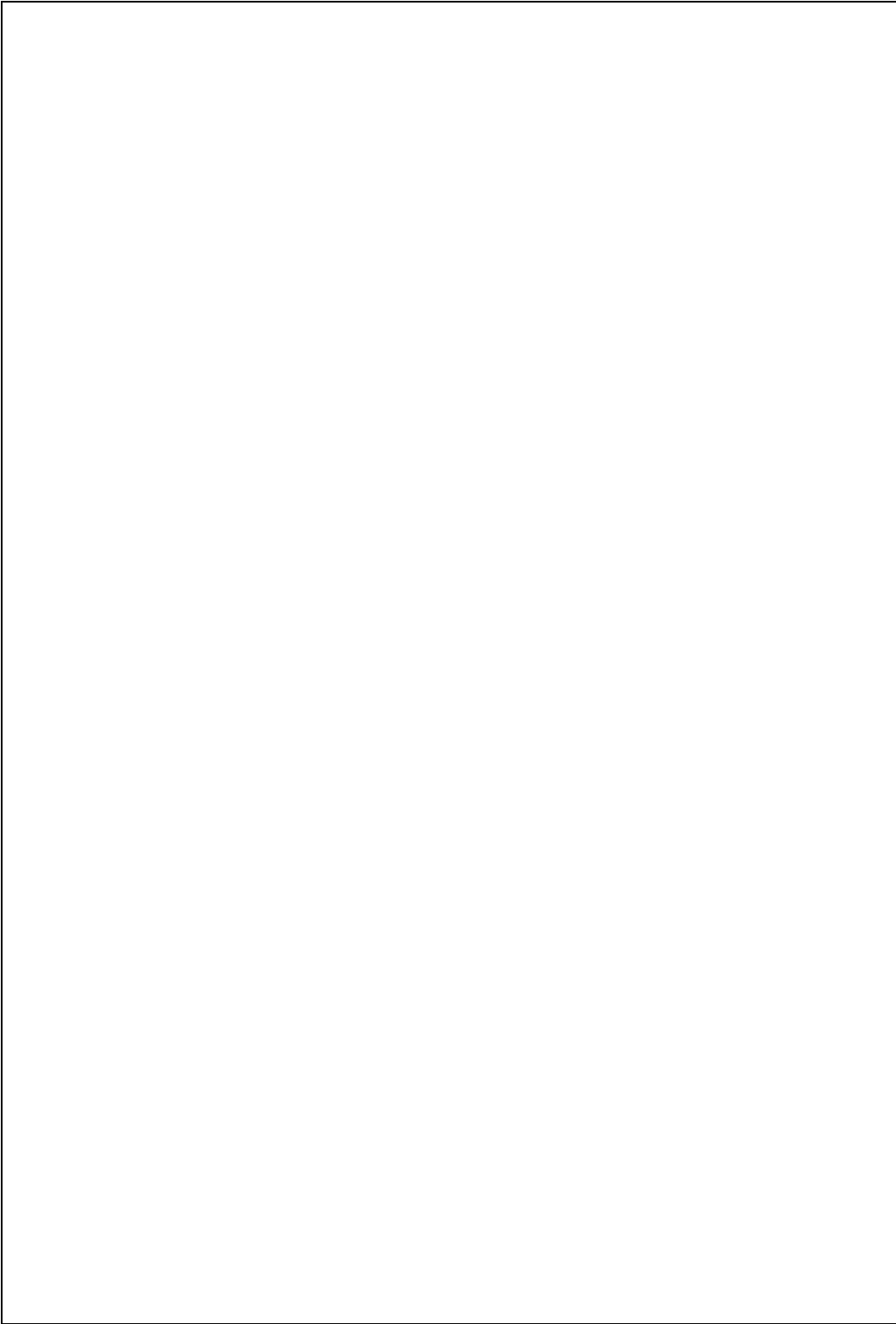
General Description

This non-blocking 2x2 crosspoint switch has a fully differential input to output data path for low noise generation and low pulse width distortion. The device can be used as a

FIN1022 2 X 2 LVDS High Speed Crosspoint Switch

FIN1022





AC Electrical Characteristics

Over supply voltage and operating temperature ranges, unless otherwise specified

Symbol	Parameter	Test Conditions	Min	Typ (Note 4)	Max	Units
t _{PLHD}	Differential Output Propagation Delay		0.7		1.6	ns
	LOW-to-HIGH	R _L = 75 Ω, C _L = 5 pF,	1.0	1.2	1.3	
t _{PHLD}	Differential Output Propagation Delay	V _{CC} = 3.3V, T _A = 25°C	0.7		1.6	ns
	HIGH-to-LOW	See Figure 4 and Figure 5	1.0	1.2	1.3	
t _{TLHD}	Differential Output Rise Time (20% to 80%)		290		580	ps
t _{THLD}	Differential Output Fall Time (80% to 20%)		290		580	ps
t _{PLH}	Selection Propagation Delay		0.6		1.5	ns
	LOW-to-HIGH (SEL _n to OUT _n)	R _L = 75 Ω, C _L = 5 pF,	0.9	1.1	1.2	
t _{PHL}	Selection Propagation Delay	V _{CC} = 3.3V, T _A = 25°C	0.6		1.5	ns
	HIGH-to-LOW (SEL _n to OUT _n)	See Figure 6 and Figure 7	0.9	1.1	1.2	
t _{ZHD}						

Note 4: All typical values are at T_A = 25°C and with V_{CC} = 3.3V.

Note 5: Part-to-part skew is the maximum delay time difference on like edges (LOW-to-HIGH or HIGH-to-LOW) for the same V_{CC} and temperature conditions.

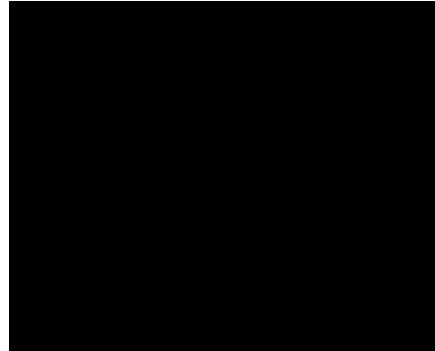
Required Specifications

1. When the true and complement LVDS outputs (having a 75Ω connected between outputs) are connected to $3.75\text{ k}\Omega$ resistors and the common point of those $3.75\text{ k}\Omega$ resistors are connected to a voltage source that sweeps from 0 to 2.4V, the DC V_{OD} and ΔV_{OD} are still maintained (see Figure 1).
2. When the true and complement LVDS outputs (having a 5 pF capacitor attached between outputs) are connected with 37.5Ω resistors each to common point, then the common point does not vary by more than 150 mV under all process, temperature and voltage conditions when the outputs switch either from LOW-to-HIGH or from HIGH-to-LOW (see Figure 2).

Required Specifications (Continued)



FIGURE 3. LVDS Driver DC Test Circuit



Note A: All input pulses have frequency = 50 MHz, t_R or t_F = 500 ps
Note B: C_L includes all probe and jig capacitances

FIGURE 4. LVDS Input to LVDS Driver Propagation Delay and Transition Time Circuit

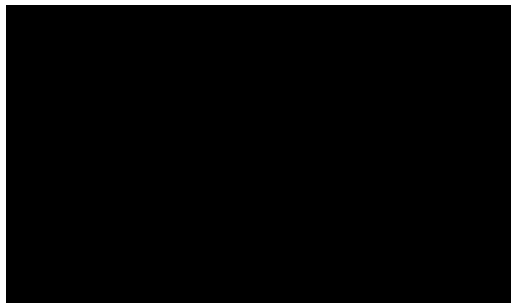
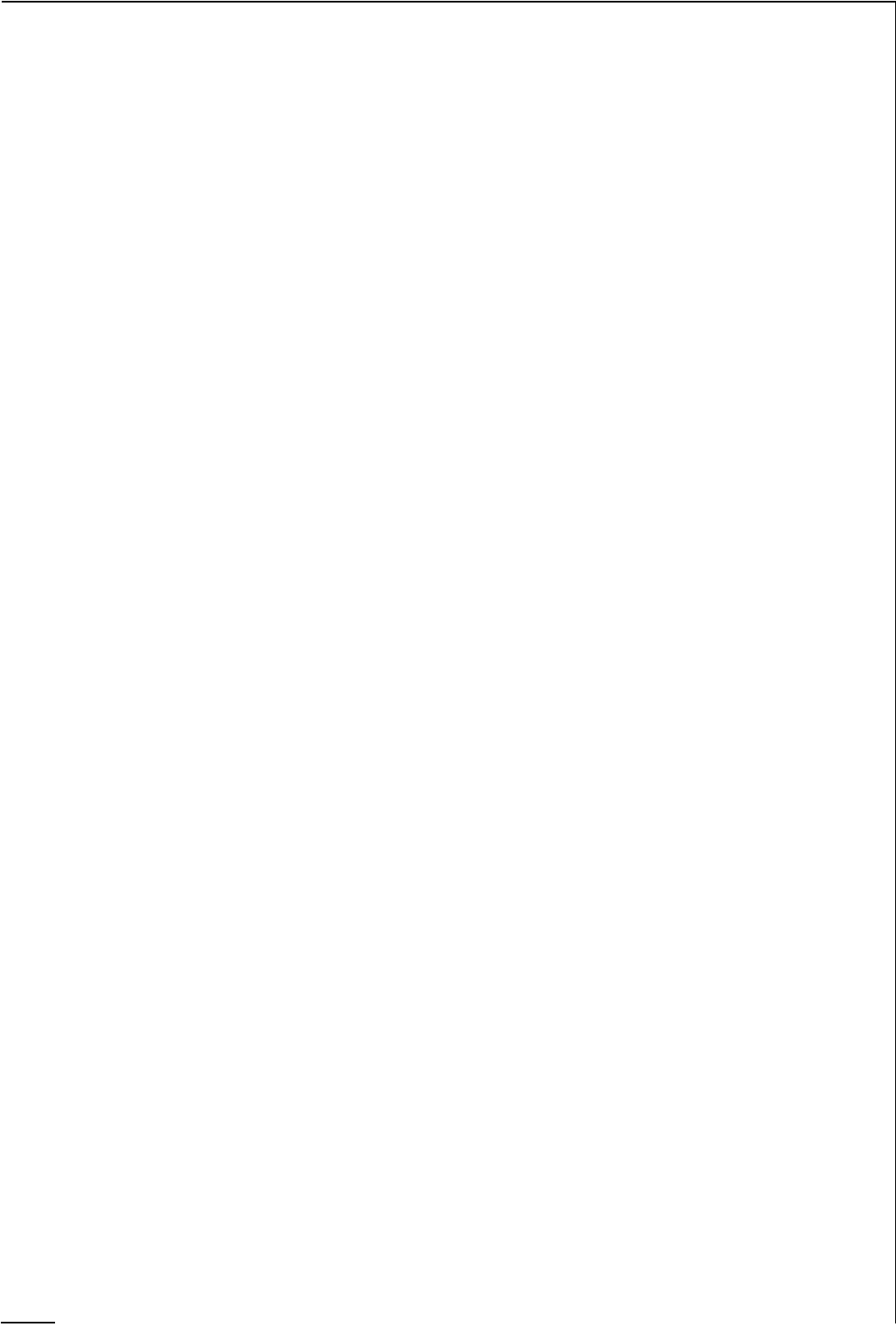


FIGURE 5. LVDS Input to LVDS Output AC Waveforms



FIGURE 6. LVTTTL Input to LVDS Driver Propagation Delay and Transition Time Test Circuit



Required Specifications (Continued)

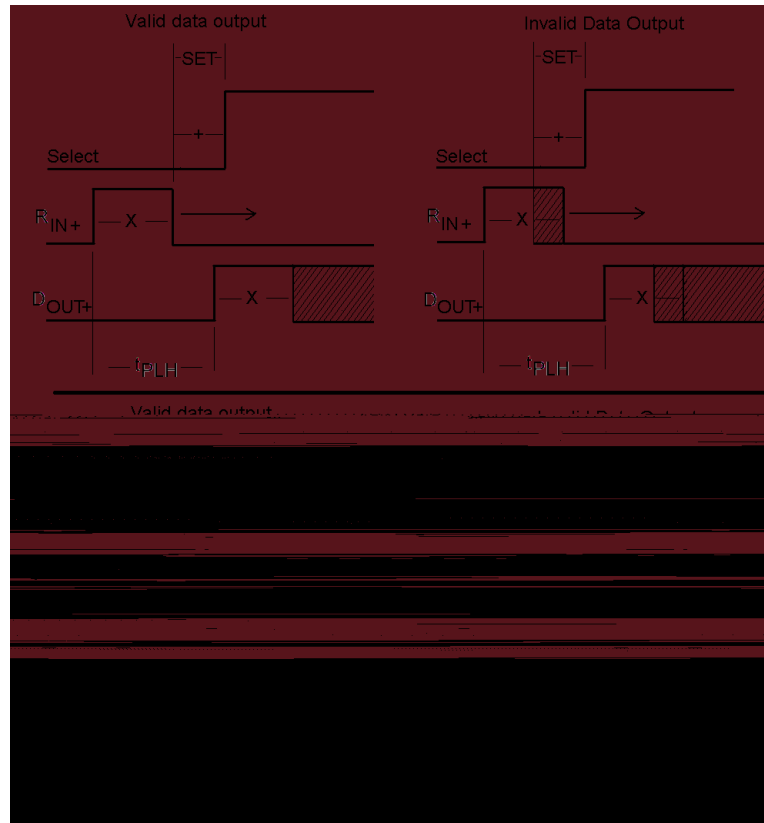


FIGURE 10. Set-up and Hold Time Specification

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