



3.3 V LVDS 1-Bit, High-Speed Differential Driver

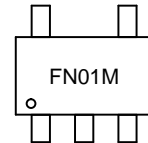
FIN1001



SOT-23, 5 Lead
CASE 527AH

Description: 3.3V LVDS Driver, 1-bit, 100-Mbps, 5-Lead SOT-23 Package

MARKING DIAGRAMS



FN01 = Specific Device Code
M = Assembly Operation
Month

ORDERING INFORMATION

See detailed ordering and shipping information on page 6 of this data sheet.

5	DIN	LVTTTL Data Input
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FUNCTION TABLE

Inputs	Outputs	
D _{IN}	D _{OUT+}	D _{OUT-}
LOW	LOW	HIGH
HIGH	HIGH	LOW

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ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Min.	Max.	Unit	
V_{CC}	Supply Voltage	-0.5	4.6	V	
D_{IN}	DC Input Voltage	-0.5	6.0	V	
D_{OUT}	DC Output Voltage	-0.5	4.6	V	
I_{OSD}	Driver Short Circuit Current	Continuous			
I_O	Output Current	-	16	mA	
T_{STG}	Storage Temperature Range	-65	+150	°C	
T_J	Maximum Junction Temperature	-	+150	°C	
T_L	Lead Temperature, Soldering, 10 Seconds	-	+260	°C	
ESD	Electrostatic Discharge	Human Body Model	-	7500	V
		Machine Model	-	400	V

Stresses

AC ELECTRICAL CHARACTERISTICS

All min and max values are guaranteed at $T_A = -40$ to $+85^\circ\text{C}$.

All typical values are at $T_A = 25^\circ\text{C}$ and with $V_{CC} = 3.3$ V, unless otherwise specified.

$R_L = 100 \Omega$, $C_L = 5$ pF. See Figure 2 and Figure 3.

Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
t_{PLHD}	Propagation Delay	LOW to HIGH	0.50	0.98	1.50	ns
t_{PHLD}	Propagation Delay	HIGH to LOW	0.50	0.93	1.50	ns
t_{TLHD}	Differential Output Rise Time	20% to 80%	0.4	0.5	1.0	ns
t_{THLD}	Output Fall Time	80% to 20%	0.4	0.5	1.0	ns
$t_{SK(p)}$	Pulse Skew	$ t_{PLH} - t_{PHL} $	-	0.05	0.5	ns
$t_{SK(PP)}$	Part-to-Part Skew (Note 2)		-	-	1.0	ns

2. $t_{SK(PP)}$ is the magnitude of the difference in propagation delay times between any specified terminals of two devices switching in the same direction (either LOW-to-HIGH or HIGH-to-LOW) when both devices operate with the same supply voltage, same temperature, and have identical test circuits

TEST DIAGRAMS

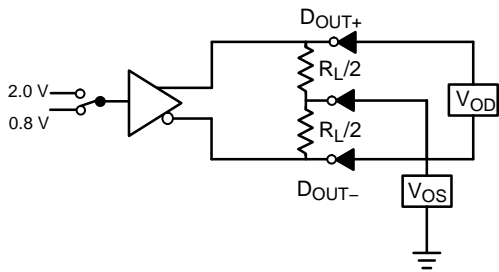
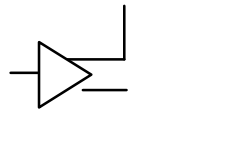


Figure 1. Differential Driver DC Test Circuit



Note A: All input pulses have frequency = 10 Mhz, t_R or $t_F = 2$ ns

Note B: C_L includes all probe and fixture capacitances

Figure 2. Differential Driver Propagation Delay and Transition Time Test Circuit

TYPICAL PERFORMANCE CHARACTERISTICS

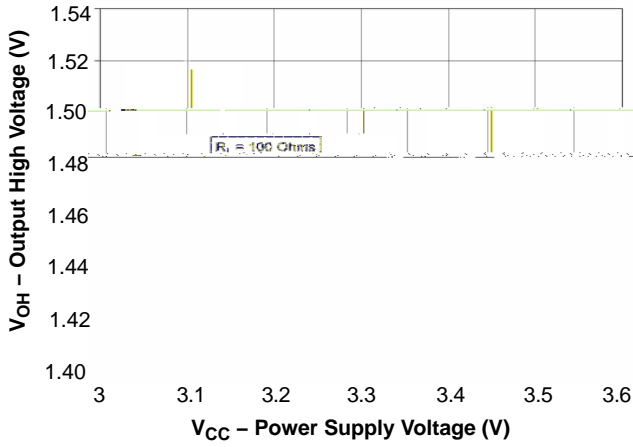


Figure 4. Output High Voltage vs. Power Supply Voltage

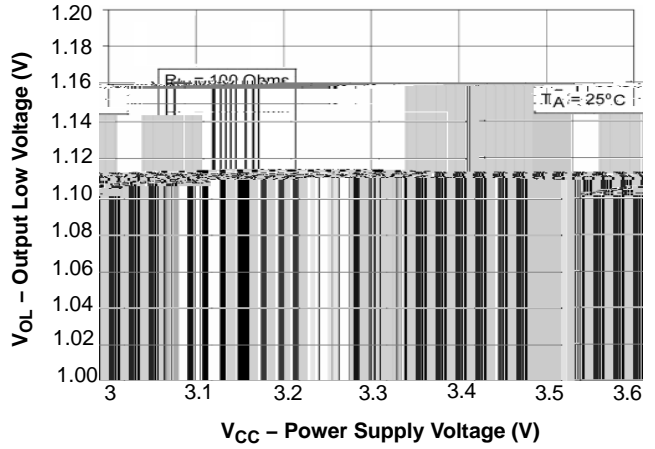


Figure 5. Output Low Voltage vs. Power Supply Voltage

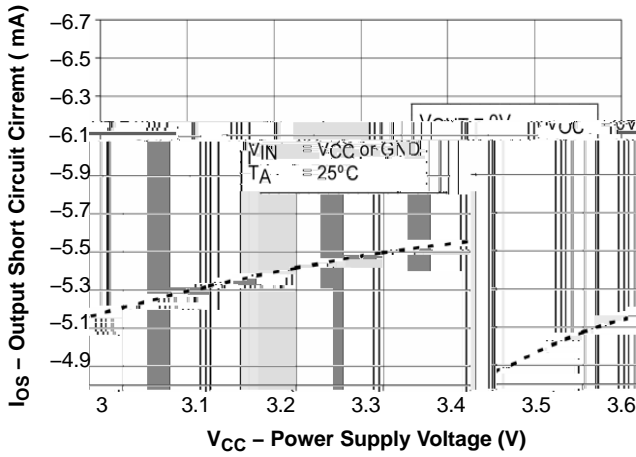


Figure 6. Output Short Circuit Current vs. Power Supply Voltage

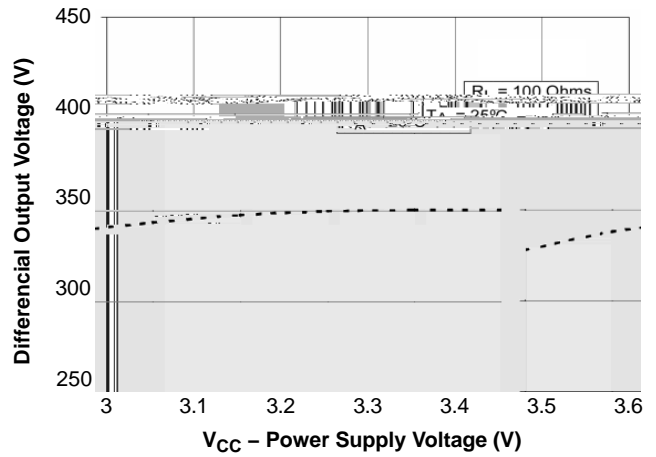


Figure 7. Differential Output Voltage vs. Power Supply Voltage

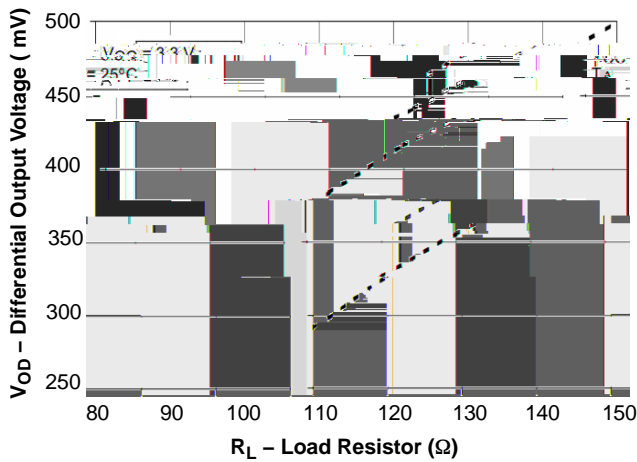


Figure 8. Differential Output Voltage vs. Load Resistor

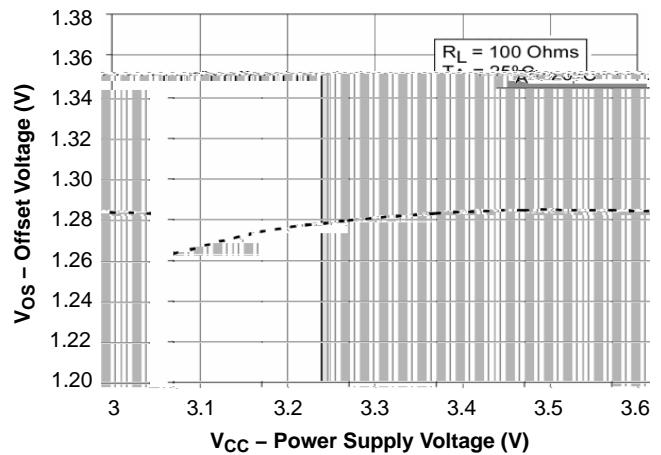
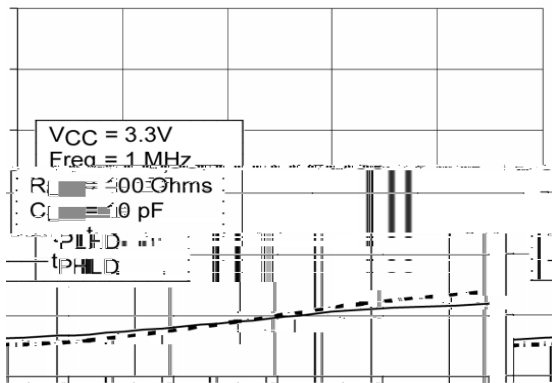


Figure 9. Offset Voltage vs. Power Supply Voltage

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TYPICAL PERFORMANCE CHARACTERISTICS



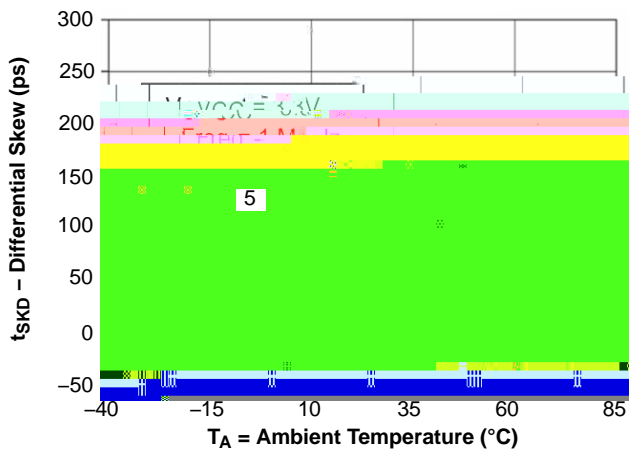


Figure 16. Differential Pulse Skew ($t_{PKLH} - t_{PKLH}$) vs. Ambient Temperature

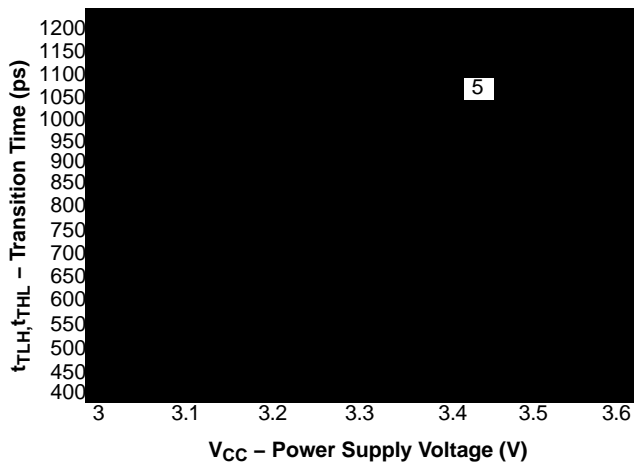


Figure 17. Transition Time vs. Power Supply Voltage

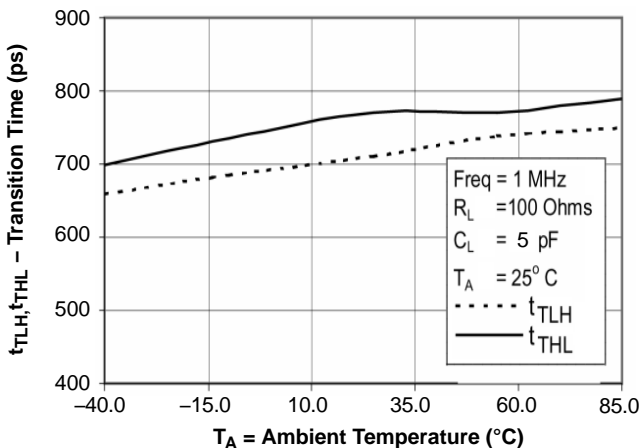


Figure 18. Transition Time vs. Ambient Temperature



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