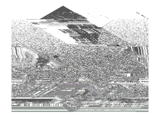
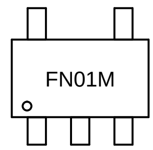
3.3 V LVDS 1-Bit, High-Speed Differential Driver

FIN1001



SOT−23, 5 Lead
CASE 527AH

MARKING DIAGRAMS



FN01 = Specific Device Code
M = Assembly Operation Month

Description LVDS Driver Output ~ùVA%w&YuI û€ T2HeQ 9Ã "pÐÀ ð

ORDERING INFORMATION

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

5	D_{IN}	LVTTL Data Input

FUNCTION TABLE

Inputs	Outputs	
D_{IN}	D_{OUT+}	D_{OUT-}
LOW	LOW	HIGH
HIGH	HIGH	LOW

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°C.
All typical values are at T_A = 25°C and with V_{CC} = 3.3 V, unless otherwise specified.
R_L = 100 Ω, 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

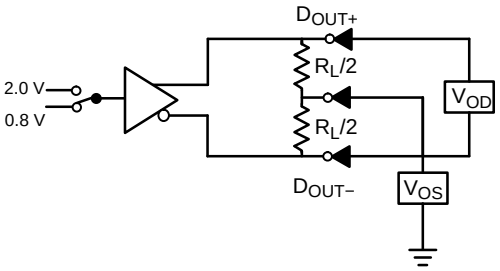
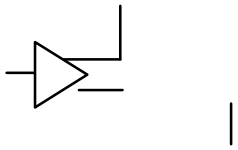


Figure 1. Differential Driver DC Test Circuit



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

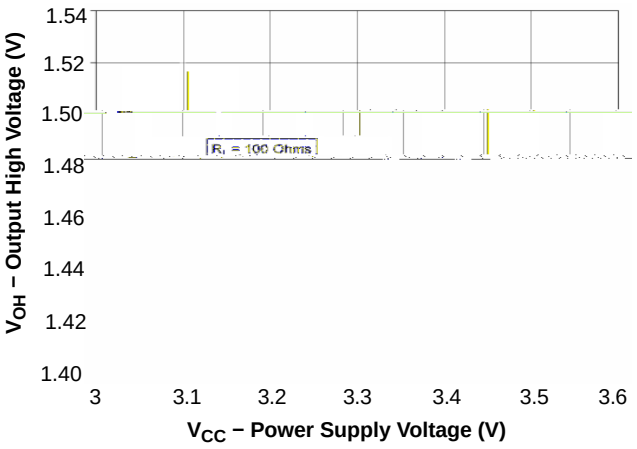


Figure 4. Output High Voltage vs. Power Supply Voltage

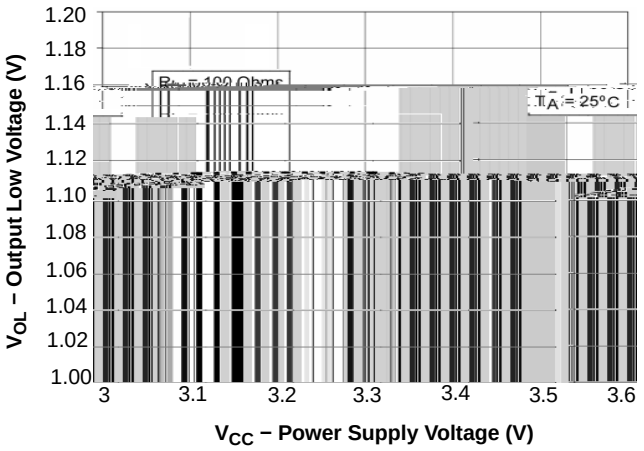


Figure 5. Output Low Voltage vs. Power Supply Voltage

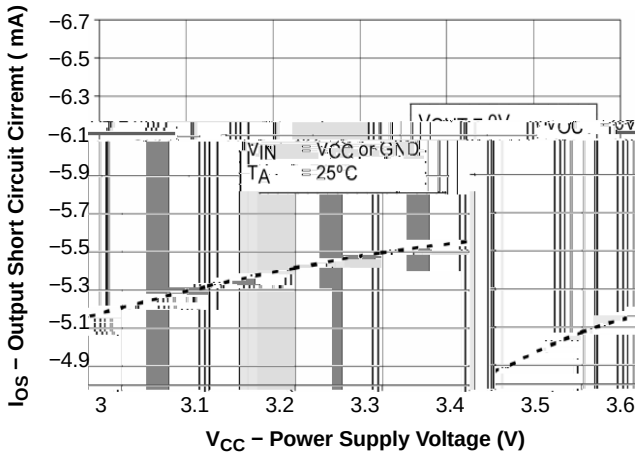


Figure 6. Output Short Circuit Current vs. Power Supply Voltage

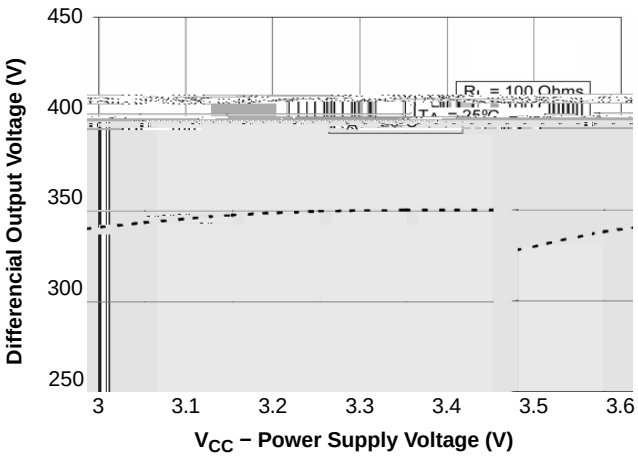


Figure 7. Differential Output Voltage vs. Power Supply Voltage

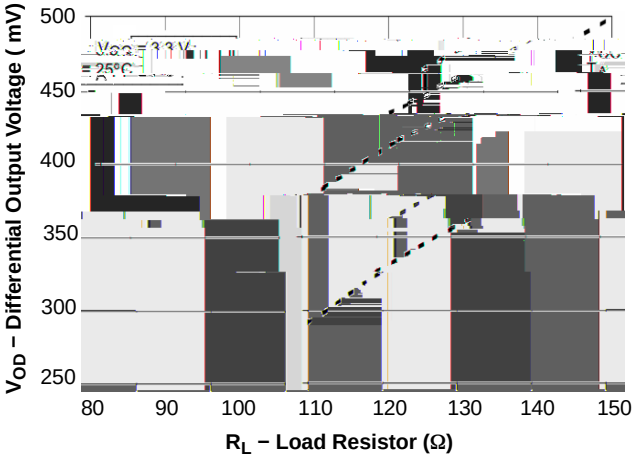


Figure 8. Differential Output Voltage vs. Load Resistor

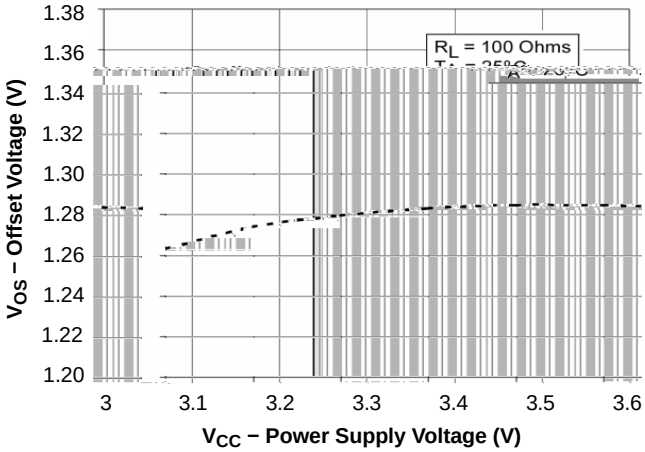
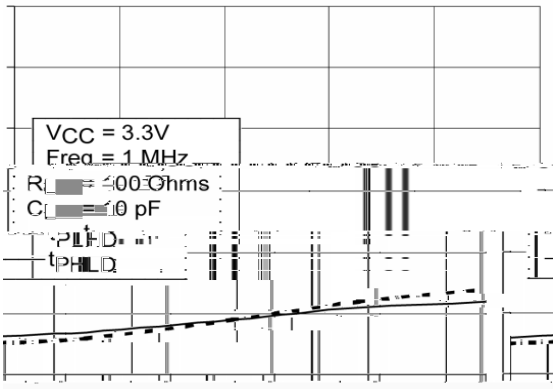


Figure 9. Offset Voltage vs. Power Supply Voltage

TYPICAL PERFORMANCE CHARACTERISTICS



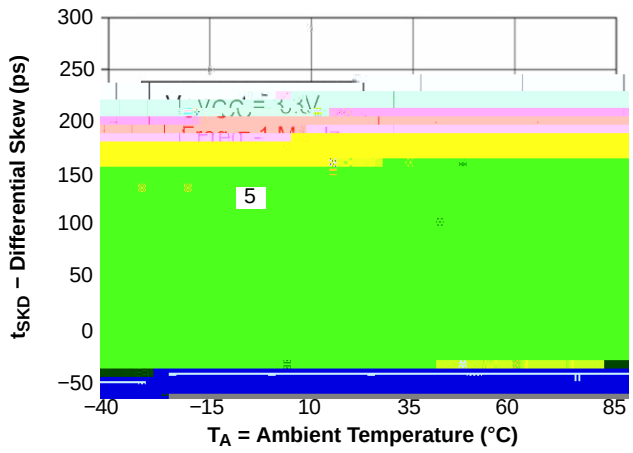


Figure 16. Differential Pulse Skew ($t_{PLH} - t_{PHL}$) vs. Ambient Temperature

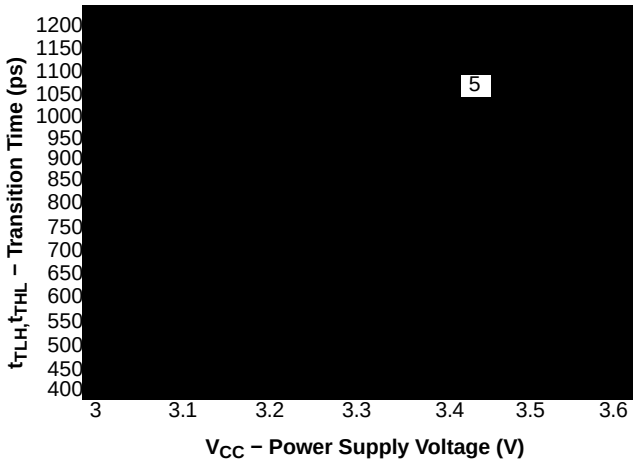


Figure 17. Transition Time vs. Power Supply Voltage

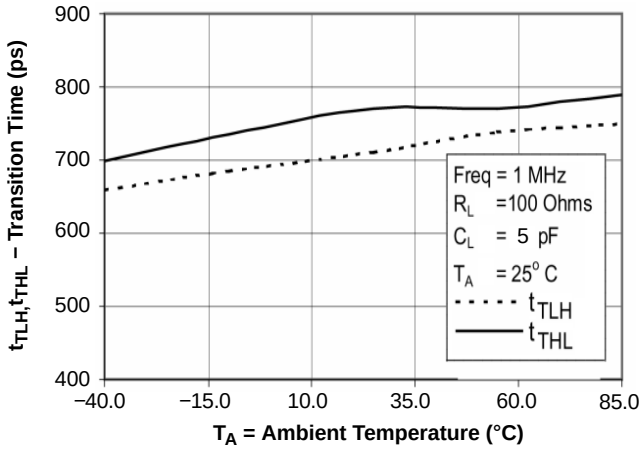


Figure 18. Transition Time vs. Ambient Temperature

CASE 527AH
ISSUE A

DATE 09 JUN 2021