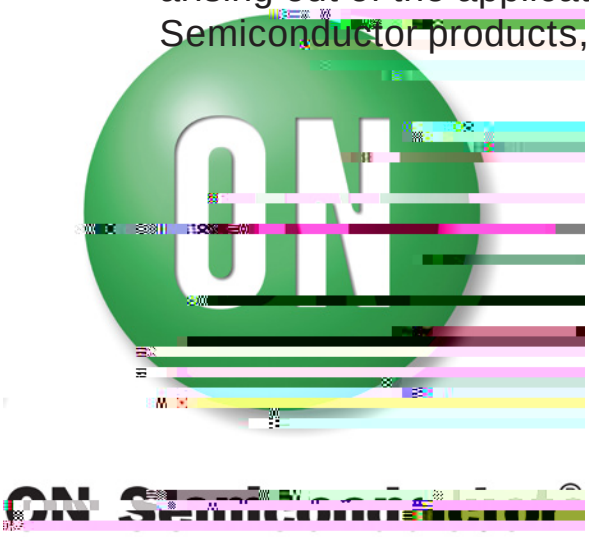
Is Now Part of

to make changes without further notice to any products
arising out of the application or use of any product or ci
Semiconductor products, including compliance with all l



To learn more about ON Semiconductor, please visit our website at
www.onsemi.com

Please note: As part of the Fairchild Semiconductor integration, some of the Fairchild orderable part numbers will need to change in order to meet ON Semiconductor's system requirements. Since the ON Semiconductor product management systems do not have the ability to manage part nomenclature that utilizes an underscore (_), the underscore (_) in the Fairchild part numbers will be changed to a dash (-). This document may contain device numbers with an underscore (_). Please check the ON Semiconductor website to verify the updated device numbers. The most current and up-to-date ordering information can be found at www.onsemi.com. Please email any questions regarding the system integration to Fairchild_questions@onsemi.com.

FAIRCHILD

SEMICONDUCTOR®

Connection Diagram

Logic Symbols

IEEE/IEC

Pin Description

Pin Names	Description
$\overline{OE}$	Output Enable Input
T/$\overline{R}$	Transmit/Receive Input
A_0ÐA$_7$	Side A Inputs or 3-STATE Outputs
B_0ÐB$_7$	Side B Inputs or 3-STATE Outputs

Truth Table

H = HIGH Voltage Level
L = LOW Voltage Level
X = Immaterial

DC Electrical Characteristics

Symbol	Parameter	V_{CC} (V)	Conditions	T_A = Đ40¡C to +85¡C		Units
				Min.	Max.	
V_{IK}	Input Clamp Diode Voltage	2.7	I_I = Đ18mA		Đ1.2	V
V_{IH}	Input HIGH Voltage	2.7Đ3.6	V_O 0.1V or	2.0		V
V_{IL}	Input LOW Voltage	2.7Đ3.6	V_O V_{CC} Đ 0.1V		0.8	
V_{OH}	Output HIGH Voltage	2.7Đ3.6	I_{OH} = Đ100µA	V_{CC} Đ 0.2		V
		2.7	I_{OH} = Đ 8mA	2.4		
		3.0	I_{OH} = Đ32mA	2.0		
V_{OL}	Output LOW Voltage	2.7	I_{OL} = 100µA		0.2	V
			I_{OL} = 24mA		0.5	
		3.0	I_{OL} = 16mA		0.4	
			I_{OL} = 32mA		0.5	
			I_{OL} = 64mA		0.55	
$I_{I(HOLD)}$[2]	Bushold Input Minimum Drive	3.0	V_I = 0.8V	75		µA
			V_I = 2.0V	Đ75		
$I_{I(OD)}$[2]	Bushold Input Over-Drive, Current to Change State	3.0	[3]	500		µA
			[4]	Đ500		
I_I	Input Current	3.6	V_I = 5.5V		10	µA
	Control Pins	3.6	V_I = 0V or V_{CC}		±1	
	Data Pins	3.6	V_I = 0V		Đ5	
			V_I = V_{CC}		1	
I_{OFF}	Power Off Leakage Current	0	0V V_I or V_O 5.5V		±100	µA
$I_{PU/PD}$	Power Up/Down, 3-STATE Current	0Đ1.5V	V_O = 0.5V to V_{CC}, V_I = GND to V_{CC}		±100	µA
I_{OZL}	3-STATE Output Leakage Current	3.6	V_O = 0.5V		Đ5	µA
I_{OZL}[2]	3-STATE Output Leakage Current	3.6	V_O = 0.0V		Đ5	µA
I_{OZH}	3-STATE Output Leakage Current	3.6	V_O = 3.0V		5	µA
I_{OZH}[2]	3-STATE Output Leakage Current	3.6	V_O = 3.6V		5	µA
I_{OZH}+	3-STATE Output Leakage Current	3.6	V_{CC} < V_O 5.5V		10	µA
I_{CCH}	Power Supply Current	3.6	Outputs HIGH		0.19	mA
I_{CCL}	Power Supply Current	3.6	Outputs LOW		5	mA
I_{CCZ}	Power Supply Current	3.6	Outputs Disabled		0.19	mA
I_{CCZ}+	Power Supply Current	3.6	V_{CC} V_O 5.5V, Outputs Disabled		0.19	mA
I_{CC}	Increase in Power Supply Current[5]	3.6	One Input at V_{CC} Đ 0.6V, Other Inputs at V_{CC} or GND		0.2	mA

Notes:

2. Applies to Bushold versions only (LVTH245).
3. An external driver must source at least the specified current to switch from LOW-to-HIGH.
4. An external driver must sink at least the specified current to switch from HIGH-to-LOW.
5. This is the increase in supply current for each input that is at the specified voltage level rather than V_{CC} or GND.

Dynamic Switching Characteristics (6)

Symbol	Parameter	V_{CC} (V)	Conditions C_L = 50 pF, R_L = 500	T_A = 25¡C Min.	Typ.	Max.	Units
V_{OLP}	Quiet Output Maximum Dynamic V_{OL}	3.3	(7)		0.8		V
V_{OLV}	Quiet Output Minimum Dynamic V_{OL}	3.3	(7)		Ð0.8		V

Notes:

6. Characterized in SOIC package. Guaranteed parameter, but not tested.
7. Max number of outputs defined as (n). nÐ1 data inputs are driven 0V to 3V. Output under test held LOW.

AC Electrical Characteristics

Symbol	Parameter	T_A = Ð40¡C to +85¡C, C_L = 50 pF, R_L = 500 V_{CC} = 3.3V ± 0.3V Min.	Max.	V_{CC} = 2.7V Min.	Max.	Units
t_{PLH}	Propagation Delay					

Note:

8. Skew is defined as the absolute value of the difference between the actual propagation delay for any two separate outputs of the same device. The specification applies to any outputs switching in the same direction, either HIGH-to-LOW (t_{OSHL}) or LOW-to-HIGH (t_{OSLH}).

Capacitance (9)

Note:

9. Capacitance is measured at frequency f = 1MHz, per MIL-STD-883, Method 3012.

Physical Dimensions

Figure 1. 20-Lead Small Outline Integrated Circuit (SOIC), JEDEC MS-013, 0.300" Wide

Pac

Physical Dimensions (Continued)

Figure 2. 20-Lead Small Outline Package (SOP), EIAJ TYPE II, 5.3mm Wide

Pac

Physical Dimensions (Continued)

C. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLA

Figure 3. 20-Lead Shrink Small Outline Package (SSOP), JEDEC MO-150, 5.3mm Wide

Package drawings are provided as a service to customers considering Fairchild components. Drawings may change in any manner without notice. Please note the revision and/or date on the drawing and contact a Fairchild Semiconductor representative to verify or obtain the most recent revision. Package speciÞcations do not expand the terms of FairchildÕs worldwide terms and conditions, speciÞcally the warranty therein, which covers Fairchild products.

Always visit Fairchild SemiconductorÕs online packaging area for the most recent package drawings:

http://www.fairchildsemi.com/packaging/

Physical Dimensions (Continued)

Figure 4. 20-Lead Thin Shrink Small Outline Package (TSSOP), JEDEC MO-153, 4.4mm Wide

Package drawings are provided as a service to customers considering Fairchild components. Drawings may change in any manner without notice. Please note the revision and/or date on the drawing and contact a Fairchild Semiconductor representative to verify or obtain the most recent revision. Package speciÞcations do not expand the terms of FairchildÕs worldwide terms and conditions, speciÞcally the warranty therein, which covers Fairchild products.

Always visit Fairchild SemiconductorÕs online packaging area for the most recent package drawings:

http://www.fairchildsemi.com/packaging/

TRADEMARKS

The following includes registered and unregistered trademarks and service marks, owned by Fairchild Semiconductor and/or its global
s