



Is Now Part of



**ON Semiconductor®**

To learn more about ON Semiconductor, please visit our website at  
[www.onsemi.com](http://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](http://www.onsemi.com). Please email any questions regarding the system integration to [Fairchild\\_questions@onsemi.com](mailto:Fairchild_questions@onsemi.com).

ON Semiconductor and the ON Semiconductor logo are trademarks of Semiconductor Components Industries, LLC dba ON Semiconductor or its subsidiaries in the United States and/or other countries. ON Semiconductor owns the rights to a number of patents, trademarks, copyrights, trade secrets, and other intellectual property. A listing of ON Semiconductor's product/patent coverage may be accessed at [www.onsemi.com/site/pdf/Patent-Marking.pdf](http://www.onsemi.com/site/pdf/Patent-Marking.pdf). ON Semiconductor reserves the right to make changes without further notice to any products herein. ON Semiconductor makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does ON Semiconductor assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. Buyer is responsible for its products and applications using ON Semiconductor products, including compliance with all laws, regulations and safety requirements or standards, regardless of any support or applications information provided by ON Semiconductor. "Typical" parameters which may be provided in ON Semiconductor data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. ON Semiconductor does not convey any license under its patent rights nor the rights of others. ON Semiconductor products are not designed, intended, or authorized for use as a critical component in life support systems or any FDA Class 3 medical devices or medical devices with a same or similar classification in a foreign jurisdiction or any devices intended for implantation in the human body. Should Buyer purchase or use ON Semiconductor products for any such unintended or unauthorized application, Buyer shall indemnify and hold ON Semiconductor and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that ON Semiconductor was negligent regarding the design or manufacture of the part. ON Semiconductor is an Equal Opportunity/Affirmative Action Employer. This literature is subject to all applicable copyright laws and is not for resale in any manner.

## 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 high speed crosspoint switch, 2:1 multiplexer, 1:2 demultiplexer or 1:2 signal splitter. The inputs can directly interface with LVDS and LVPECL levels.

### Features

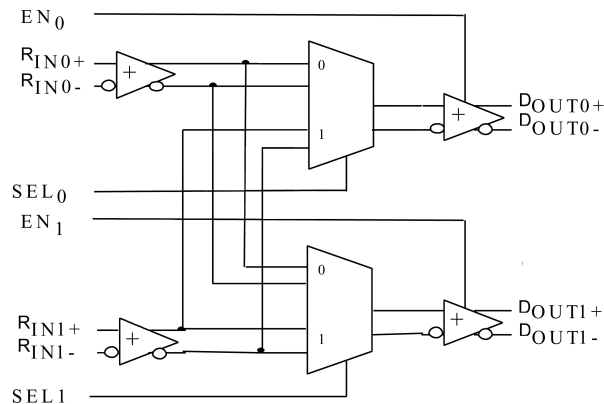
- Low jitter, 800 Mbps full differential data path
- Worst case jitter of 190ps  
with PRBS =  $2^{23} - 1$  data pattern at 800 Mbps
- Rail-to-rail common mode range is 0.5V to 3.25V
- Worst case power dissipation is less than 126 mW
- Open-circuit fail safe protection
- Fast switch time of 1.1 ns typical
- 35 ps typical pin channel to channel skew
- 3.3V power supply operation
- Non-blocking switch
- LVDS receiver inputs accept LVPECL signals directly
- 7.5 kV HBM ESD protection
- 16-lead SOIC package and TSSOP package
- Inter-operates with TIA/EIA 644-1995 specification
- See the Fairchild Interface Solutions web page for cross reference information:  
[www.fairchildsemi.com/products/interface/lvds.html](http://www.fairchildsemi.com/products/interface/lvds.html)

### Ordering Code:

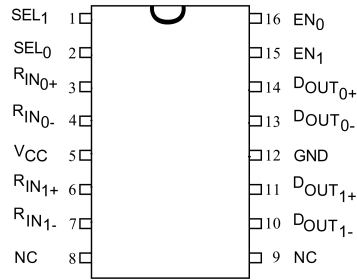
Order Number	Package Number	Package Description
FIN1022M	M16A	16-Lead Small Outline Integrated Circuit (SOIC), JEDEC MS-012, 0.150" Narrow
FIN1022MTC	MTC16	16-Lead Thin Shrink Small Outline Package (TSSOP), JEDEC MO-153, 4.4mm Wide

Devices also available in Tape and Reel. Specify by appending suffix letter "X" to the ordering code.

### Logic Symbol



### Connection Diagram



### Pin Descriptions

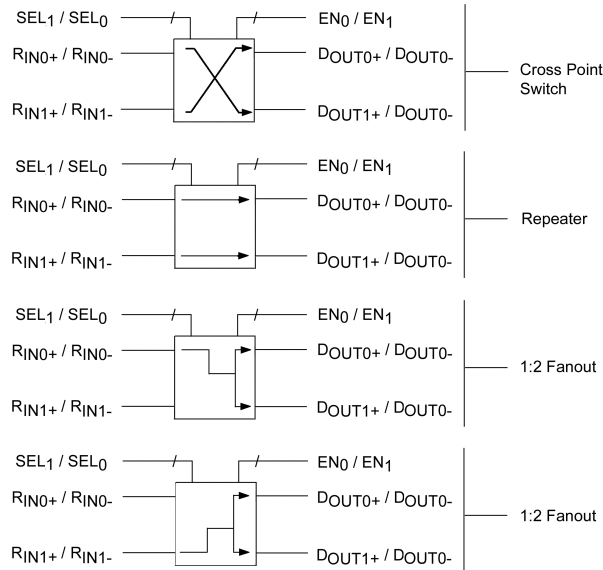
Pin Name	Description
R <sub>IN0+</sub> , R <sub>IN1+</sub>	LVDS non-inverting data inputs
R <sub>IN0-</sub> , R <sub>IN1-</sub>	LVDS inverting data inputs
D <sub>OUT0+</sub> , D <sub>OUT1+</sub>	LVDS non-inverting data outputs
D <sub>OUT0-</sub> , D <sub>OUT1-</sub>	LVDS inverting data outputs
EN <sub>0</sub>	LVTTTL input for enabling D <sub>OUT0+</sub> /D <sub>OUT0-</sub>
EN <sub>1</sub>	LVTTTL input for enabling D <sub>OUT1+</sub> /D <sub>OUT1-</sub>
SEL <sub>0</sub>	LVTTTL input for selecting R <sub>IN0+</sub> /R <sub>IN0-</sub> or R <sub>IN1+</sub> /R <sub>IN1-</sub> for output D <sub>OUT0+</sub> /D <sub>OUT0-</sub>
SEL <sub>1</sub>	LVTTTL input for selecting R <sub>IN0+</sub> /R <sub>IN0-</sub> or R <sub>IN1+</sub> /R <sub>IN1-</sub> for output D <sub>OUT1+</sub> /D <sub>OUT1-</sub>
V <sub>CC</sub>	Power Supply
GND	Ground

### Function Table

Inputs				Outputs				Mode
SEL <sub>0</sub>	SEL <sub>1</sub>	EN <sub>0</sub>	EN <sub>1</sub>	D <sub>OUT0+</sub>	D <sub>OUT0-</sub>	D <sub>OUT1+</sub>	D <sub>OUT1-</sub>	
L/O	L/O	H	H	R <sub>IN0+</sub>	R <sub>IN0-</sub>	R <sub>IN0+</sub>	R <sub>IN0-</sub>	1:2 Splitter
L/O	H	H	H	R <sub>IN0+</sub>	R <sub>IN0-</sub>	R <sub>IN1+</sub>	R <sub>IN1-</sub>	Repeater
H	L/O	H	H	R <sub>IN1+</sub>	R <sub>IN1-</sub>	R <sub>IN0+</sub>	R <sub>IN0-</sub>	Switch
H	H	H	H	R <sub>IN1+</sub>	R <sub>IN1-</sub>	R <sub>IN1+</sub>	R <sub>IN1-</sub>	1:2 Splitter
X	L/O	L/O	H	Z	Z	R <sub>IN0+</sub>	R <sub>IN0-</sub>	D <sub>OUT0</sub> Disabled
X	H	L/O	H	Z	Z	R <sub>IN1+</sub>	R <sub>IN1-</sub>	D <sub>OUT0</sub> Disabled
L/O	X	H	L/O	R <sub>IN0+</sub>	R <sub>IN0-</sub>	Z	Z	D <sub>OUT1</sub> Disabled
H	X	H	L/O	R <sub>IN1+</sub>	R <sub>IN1-</sub>	Z	Z	D <sub>OUT1</sub> Disabled
X	X	L/O	L/O	Z	Z	Z	Z	D <sub>OUT0</sub> and D <sub>OUT1</sub> Disabled

O = OPEN L/O = LOW or OPEN H = HIGH Logic Level L = LOW Logic Level X = Don't Care Z = High Impedance

### Function Diagrams



**Absolute Maximum Ratings**(Note 1)

Supply Voltage ( $V_{CC}$ )	-0.3V to +4.6V
DC Input Voltage ( $V_{IN}$ )	-0.3V to +4.6V
DC Output Voltage ( $V_{OUT}$ )	-0.3V to +4.6V
Driver Short Circuit Current ( $I_{OSD}$ )	Continuous
Storage Temperature Range ( $T_{STG}$ )	-65°C to +150°C
Max Junction Temperature ( $T_J$ )	150°C
Lead Temperature ( $T_L$ ) (Soldering, 10 seconds)	260°C

**Recommended Operating Conditions**

Supply Voltage ( $V_{CC}$ )	3.0V to 3.6V
Input Voltage ( $V_{IN}$ )	0 to $V_{CC}$
Operating Temperature ( $T_A$ )	-40°C to +85°C
Electrostatic Discharge (HBM 1.5 k $\Omega$ , 100 pF)	>7500V
Electrostatic Discharge (MM 0 $\Omega$ , 100 pF)	>300V

**Note 1:** The "Absolute Maximum Ratings": are those values beyond which damage to the device may occur. The databook specifications should be met, without exception, to ensure that the system design is reliable over its power supply, temperature and output/input loading variables. Fairchild does not recommend operation of circuits outside databook specification.

**DC Electrical Characteristics**

Over supply voltage and operating temperature ranges, unless otherwise specified (Note 2)

Symbol	Parameter	Test Conditions	Min	Typ (Note 3)	Max	Units
<b>LVDS Differential Driver Characteristics</b>						
$V_{OD}$	Output Differential Voltage	$R_L = 75 \Omega$ , See Figure 3	270	365	475	mV
		$R_L = 75 \Omega$ , See Figure 3 $T_A = 25^\circ\text{C}$ and $V_{CC} = 3.3\text{V}$	285	365	440	
$\Delta V_{OD}$	$V_{OD}$ Magnitude Change from Differential LOW-to-HIGH	$R_L = 75 \Omega$ , See Figure 3			35	mV
$V_{OS}$	Offset Voltage	See Figure 3	1.0	1.2	1.45	V
$\Delta V_{OS}$	Offset Magnitude Change from Differential LOW-to-HIGH	See Figure 3			35	mV
$I_{OZD}$	Disabled Output Leakage Current	$V_{OUT} = 3.6\text{V}$ or GND, Driver Disabled			$\pm 10$	$\mu\text{A}$
$I_{OFF}$	Power-Off Current	$V_{CC} = 0\text{V}$ , $V_{IN}$ or $V_{OUT} = 3.6\text{V}$ or 0V			$\pm 20$	$\mu\text{A}$
$I_{OS}$	Short Circuit Output Current	$V_{OUT} = 0\text{V}$ , Driver Enabled			-10	mA
		$V_{OUTx+} = 0\text{V}$ , $V_{OUTx-} = 0\text{V}$ , Driver Enabled			-10	
<b>LVDS Differential Receiver Characteristics</b>						
$V_{TH}$	Differential Input Threshold HIGH	$V_{IC} = 0.05\text{V}$ or 1.2V or 3.25V $V_{CC} = 3.3\text{V}$			100	mV
$V_{TL}$	Differential Input Threshold LOW		-100			
$V_{IC}$	Input Common Mode Voltage		0.05		3.25	V
$I_{IND}$	Input Current (Differential Inputs)	$V_{IN} = \text{GND}$			$\pm 20$	$\mu\text{A}$
		$V_{IN} = V_{CC}$			$\pm 20$	
<b>LVTTL Control Characteristics</b>						
$V_{IH}$	Input High Voltage		2			V
$V_{IL}$	Input Low Voltage				0.8	V
$I_{IN}$	Input Current	$V_{IN} = 3.6\text{V}$ or GND			$\pm 20$	$\mu\text{A}$
<b>Device Characteristics</b>						
$V_{IK}$	Input Clamp Voltage	$I_{IK} = -18\text{mA}$	-1.5			V
$I_{PU/PD}$	Output Power-Up/Power-Down High Z Leakage Current	$V_{CC} = 0\text{V}$ to 1.5V			$\pm 10$	$\mu\text{A}$
$C_{IN}$	Input Capacitance			4.5		pF
$C_{OUT}$	Output Capacitance			4.5		pF
$I_{CC}$	Power Supply Current	No Load, All Drivers Enabled			35	mA
		$R_L = 75 \Omega$ , All Drivers Enabled			35	
		$R_L = 75 \Omega$ , All Drivers Enabled			35	

**Note 2:** This part will only function with datasheet specification when a resistive load is applied to the driver outputs.

**Note 3:** All typical values are at  $T_A = 25^\circ\text{C}$  and with  $V_{CC} = 3.3\text{V}$ .

## 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 LOW-to-HIGH	$R_L = 75 \Omega$ , $C_L = 5 \text{ pF}$ , $V_{CC} = 3.3\text{V}$ , $T_A = 25^\circ\text{C}$ See Figure 4 and Figure 5	0.7		1.6	ns
			1.0	1.2	1.3	
$t_{PHLD}$	Differential Output Propagation Delay HIGH-to-LOW	$R_L = 75 \Omega$ , $C_L = 5 \text{ pF}$ , $V_{CC} = 3.3\text{V}$ , $T_A = 25^\circ\text{C}$ See Figure 4 and Figure 5	0.7		1.6	ns
			1.0	1.2	1.3	
$t_{TLHD}$	Differential Output Rise Time (20% to 80%)	$R_L = 75 \Omega$ , $C_L = 5 \text{ pF}$ , $V_{CC} = 3.3\text{V}$ , $T_A = 25^\circ\text{C}$ See Figure 6 and Figure 7	290		580	ps
$t_{THLD}$	Differential Output Fall Time (80% to 20%)		290		580	ps
$t_{PLH}$	Selection Propagation Delay LOW-to-HIGH ( $SEL_n$ to $OUT_n$ )	$R_L = 75 \Omega$ , $C_L = 5 \text{ pF}$ , $V_{CC} = 3.3\text{V}$ , $T_A = 25^\circ\text{C}$ See Figure 6 and Figure 7	0.6		1.5	ns
			0.9	1.1	1.2	
$t_{PHL}$	Selection Propagation Delay HIGH-to-LOW ( $SEL_n$ to $OUT_n$ )	$R_L = 75 \Omega$ , $C_L = 5 \text{ pF}$ , $V_{CC} = 3.3\text{V}$ , $T_A = 25^\circ\text{C}$ See Figure 6 and Figure 7	0.6		1.5	ns
			0.9	1.1	1.2	
$t_{ZHD}$	Differential Output Enable Time from Z-to-HIGH	$R_L = 75 \Omega$ , $C_L = 5 \text{ pF}$ See Figure 8 and Figure 9			3.5	ns
$t_{ZLD}$	Differential Output Enable Time from Z-to-LOW				3.5	ns
$t_{HZD}$	Differential Output Disable Time from HIGH-to-Z				3.5	ns
$t_{LZD}$	Differential Output Disable Time from LOW-to-Z				3.5	ns
$t_{SET}$	Input ( $IN_{n+}/IN_{n-}$ ) Setup Time to $SEL_n$	See Figure 10	0.5	0.3		ns
$t_{HOLD}$	Input ( $IN_{n+}/IN_{n-}$ ) Hold Time to $SEL_n$	See Figure 10	0.5	0.3		ns
$t_{JIT}$	Output Peak-to-Peak Jitter	$2^{23} - 1$ PRBS Sequence at 800 Mbps			190	ps
		50% Duty Cycle at 800 Mbps		20	35	ps
$f_{TOG}$	Maximum Toggle Frequency	$R_L = 75 \Omega$ , $C_L = 5 \text{ pF}$ , See Figure 4	800	900		Mbps
$t_{SKEW}$	Within Device Channel-to-Channel Skew			35	80	ps
	Pulse Skew ( $t_{PLHD} - t_{PHLD}$ )			0	225	ps
	Part-to-Part Skew (Note 5)			100	500	ps

**Note 4:** All typical values are at  $T_A = 25^\circ\text{C}$  and with  $V_{CC} = 3.3\text{V}$ .

**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

- When the true and complement LVDS outputs (having a  $75\Omega$  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  $\Delta V_{OD}$  are still maintained (see Figure 1).
- When the true and complement LVDS outputs (having a  $5\text{ pF}$  capacitor attached between outputs) are connected with  $37.5\Omega$  resistors each to common point, then the common point does not vary by more than  $150\text{ mV}$  under all process, temperature and voltage conditions when the outputs switch either from LOW-to-HIGH or from HIGH-to-LOW (see Figure 2).
- Pull-down resistors are required on Enable ( $EN_0$  and  $EN_1$ ) and select ( $SEL_0$  and  $SEL_1$ ) inputs.
- Fail safe protection on the outputs that draw less than  $20\text{ }\mu\text{A}$  of current (worst case) on the LVDS inputs. In this condition, if the input is in fail safe selected to  $OUT_{0+}/OUT_{0-}$  (say) and the outputs are Enabled then  $OUT_{0+} = \text{HIGH}$  and  $OUT_{0-} = \text{LOW}$ . This prevents noise from being amplified when the connection is broken.
- In the disabled state the outputs can go beyond  $V_{CC}$  but there should be no appreciable leakage (see  $I_{OZD}$  and  $I_{OFF}$  specifications)

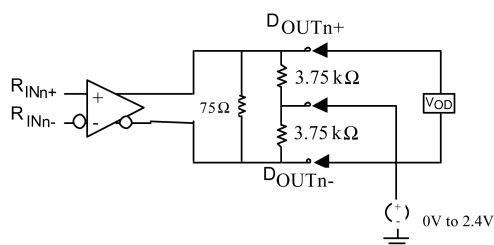


FIGURE 1. Common Mode Supply Test Circuit

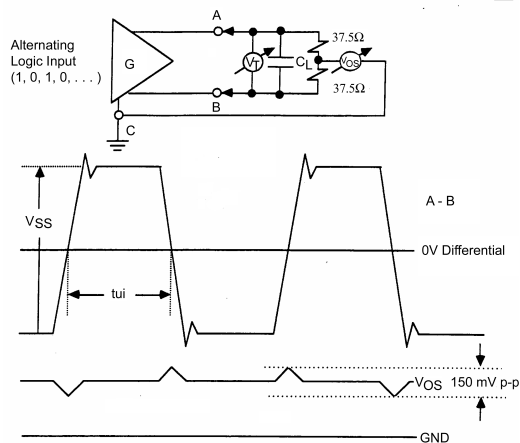
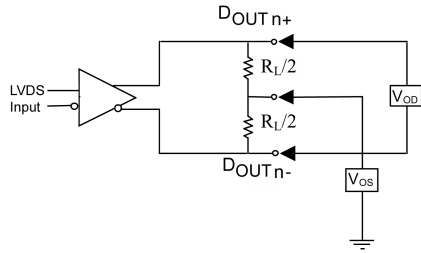
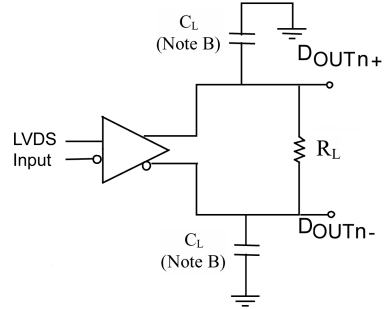


FIGURE 2. Dynamic  $V_{OS}$  Test Circuit and Waveforms

**Required Specifications** (Continued)

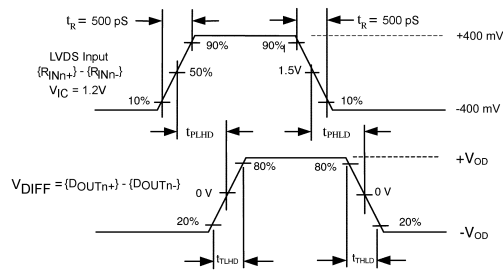


**FIGURE 3. LVDS Driver DC Test Circuit**

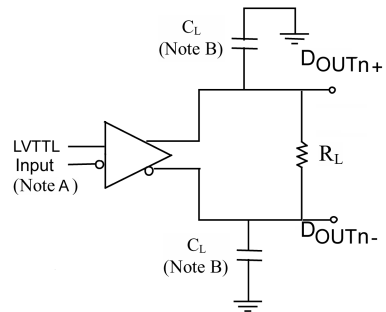


Note A: All input pulses have frequency = 50 MHz,  $t_r$  or  $t_f = 500$  ps  
 Note B:  $C_L$  includes all probe and jig capacitances

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

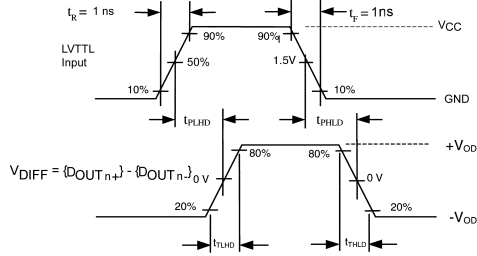


**FIGURE 5. LVDS Input to LVDS Output AC Waveforms**

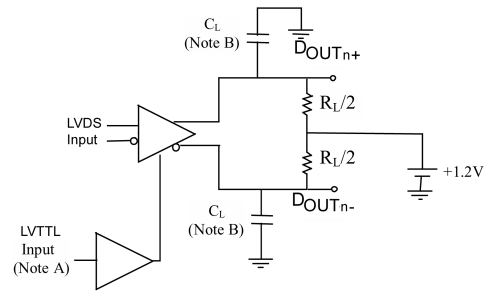


**FIGURE 6. LVTTTL Input to LVDS Driver Propagation Delay and Transition Time Test Circuit**

**Required Specifications** (Continued)

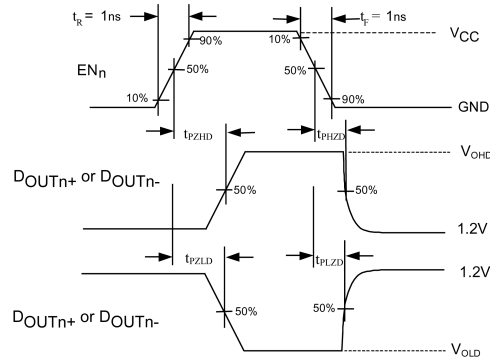


**FIGURE 7. LVTTTL Input to LVDS Output AC Waveforms**



Note A: All input pulses have frequency = 10MHz,  $t_R$  or  $t_F <= 1$  ns.  
 Note B:  $C_L$  includes all probe and jig capacitances.

**FIGURE 8. Differential Driver Enable and Disable Test Circuits**



**FIGURE 9. Enable and Disable AC Waveforms**



Required Specifications (Continued)

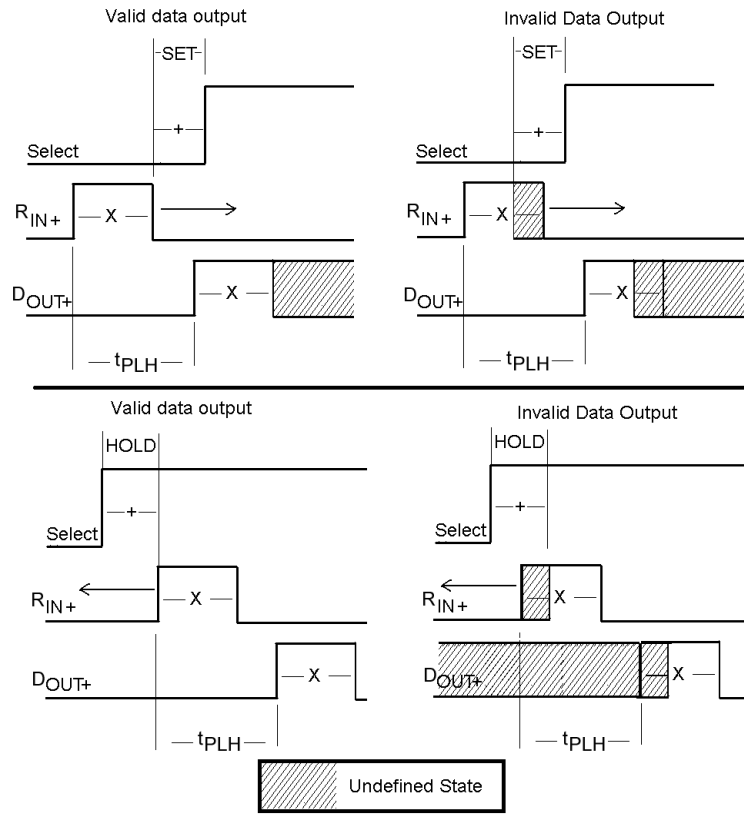
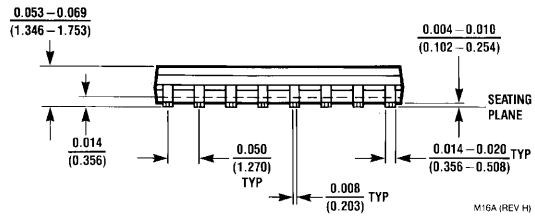
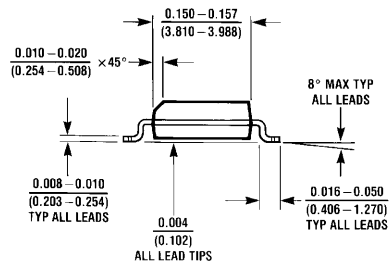
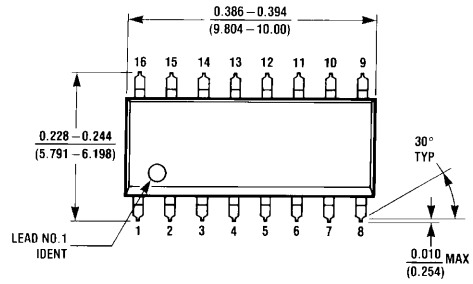


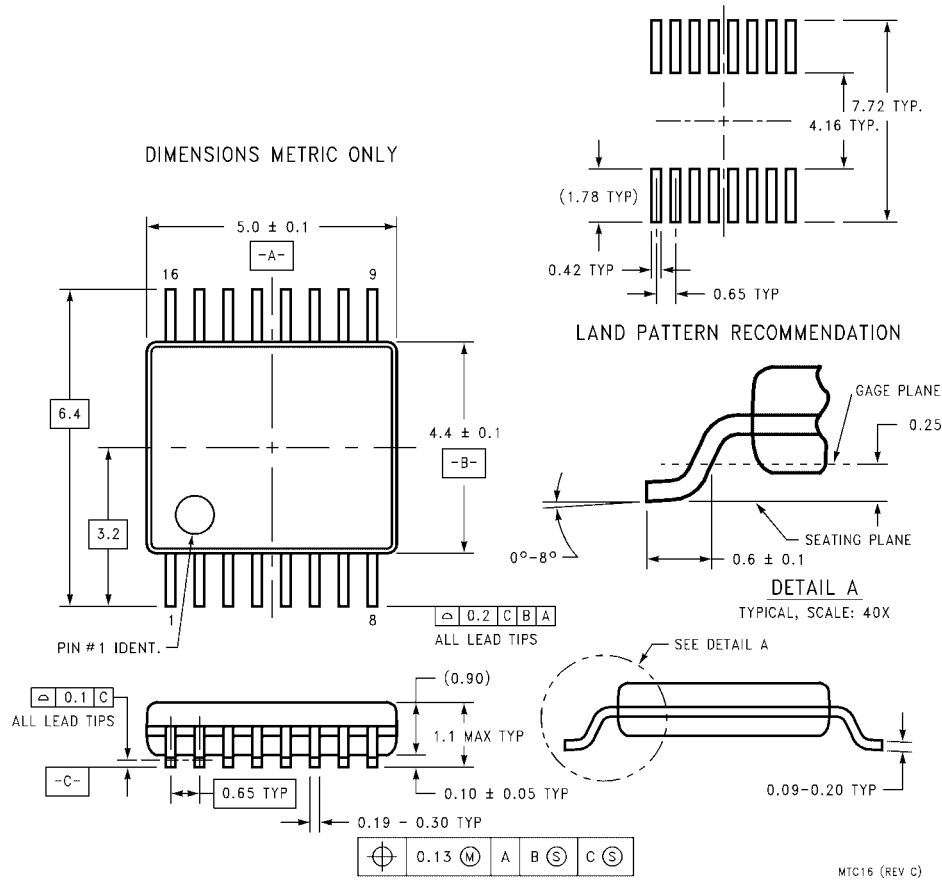
FIGURE 10. Set-up and Hold Time Specification

**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 Thin Shrink Small Outline Package (TSSOP), JEDEC MO-153, 4.4mm Wide  
Package Number MTC16**

Fairchild does not assume any responsibility for use of any circuitry described, no circuit patent licenses are implied and Fairchild reserves the right at any time without notice to change said circuitry and specifications.

**LIFE SUPPORT POLICY**

FAIRCHILD'S PRODUCTS ARE NOT AUTHORIZED FOR USE AS CRITICAL COMPONENTS IN LIFE SUPPORT DEVICES OR SYSTEMS WITHOUT THE EXPRESS WRITTEN APPROVAL OF THE PRESIDENT OF FAIRCHILD SEMICONDUCTOR CORPORATION. As used herein:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, and (c) whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in a significant injury to the user.
2. A critical component in any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

[www.fairchildsemi.com](http://www.fairchildsemi.com)

ON Semiconductor and  are trademarks of Semiconductor Components Industries, LLC dba ON Semiconductor or its subsidiaries in the United States and/or other countries. ON Semiconductor owns the rights to a number of patents, trademarks, copyrights, trade secrets, and other intellectual property. A listing of ON Semiconductor's product/patent coverage may be accessed at [www.onsemi.com/site/pdf/Patent-Marking.pdf](http://www.onsemi.com/site/pdf/Patent-Marking.pdf). ON Semiconductor reserves the right to make changes without further notice to any products herein. ON Semiconductor makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does ON Semiconductor assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. Buyer is responsible for its products and applications using ON Semiconductor products, including compliance with all laws, regulations and safety requirements or standards, regardless of any support or applications information provided by ON Semiconductor. "Typical" parameters which may be provided in ON Semiconductor data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. ON Semiconductor does not convey any license under its patent rights nor the rights of others. ON Semiconductor products are not designed, intended, or authorized for use as a critical component in life support systems or any FDA Class 3 medical devices or medical devices with a same or similar classification in a foreign jurisdiction or any devices intended for implantation in the human body. Should Buyer purchase or use ON Semiconductor products for any such unintended or unauthorized application, Buyer shall indemnify and hold ON Semiconductor and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that ON Semiconductor was negligent regarding the design or manufacture of the part. ON Semiconductor is an Equal Opportunity/Affirmative Action Employer. This literature is subject to all applicable copyright laws and is not for resale in any manner.

## PUBLICATION ORDERING INFORMATION

### LITERATURE FULFILLMENT:

Literature Distribution Center for ON Semiconductor  
19521 E. 32nd Pkwy, Aurora, Colorado 80011 USA  
**Phone:** 303-675-2175 or 800-344-3860 Toll Free USA/Canada  
**Fax:** 303-675-2176 or 800-344-3867 Toll Free USA/Canada  
**Email:** [orderlit@onsemi.com](mailto:orderlit@onsemi.com)

**N. American Technical Support:** 800-282-9855 Toll Free  
USA/Canada  
**Europe, Middle East and Africa Technical Support:**  
Phone: 421 33 790 2910  
**Japan Customer Focus Center**  
Phone: 81-3-5817-1050

**ON Semiconductor Website:** [www.onsemi.com](http://www.onsemi.com)  
**Order Literature:** <http://www.onsemi.com/orderlit>  
For additional information, please contact your local  
Sales Representative

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[ON Semiconductor:](#)

[FIN1022MTC](#) [FIN1022MTCX](#) [FIN1022M](#)

Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «JONHON», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «FORSTAR».



## JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели,  
кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



Телефон: 8 (812) 309-75-97 (многоканальный)

Факс: 8 (812) 320-03-32

Электронная почта: [ocean@oceanchips.ru](mailto:ocean@oceanchips.ru)

Web: <http://oceanchips.ru/>

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, д. 2, корп. 4, лит. А