

Is Now Part of



# ON Semiconductor®

# To learn more about ON Semiconductor, please visit our website at <u>www.onsemi.com</u>

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 <a href="www.onsemi.com">www.onsemi.com</a>. Please email any questions regarding the system integration to Fairchild <a href="guestions@onsemi.com">guestions@onsemi.com</a>.

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. 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 EDA 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 officer



January 2008

# 74LVT573, 74LVTH573 Low Voltage Octal Transparent Latch with 3-STATE Outputs

#### **Features**

- Input and output interface capability to systems at 5V V<sub>CC</sub>
- Bushold data inputs eliminate the need for external pull-up resistors to hold unused inputs (74LVTH573), also available without bushold feature (74LVT573)
- Live insertion/extraction permitted
- Power Up/Down high impedance provides glitch-free bus loading
- Outputs source/sink -32mA/+64mA
- Functionally compatible with the 74 series 573
- Latch-up performance exceeds 500mA
- ESD performance:
  - Human-body model > 2000V
  - Machine model > 200V
  - Charged-device model > 1000V

## **General Description**

The LVT573 and LVTH573 consist of eight latches with 3-STATE outputs for bus organized system applications. The latches appear transparent to the data when Latch Enable (LE) is HIGH. When LE is low, the data satisfying the input timing requirements is latched. Data appears on the bus when the Output Enable  $(\overline{OE})$  is LOW. When  $\overline{OE}$  is HIGH, the bus output is in the high impedance state.

The LVTH573 data inputs include bushold, eliminating the need for external pull-up resistors to hold unused inputs.

These octal latches are designed for low-voltage (3.3V)  $V_{CC}$  applications, but with the capability to provide a TTL interface to a 5V environment. The LVT573 and LVTH573 are fabricated with an advanced BiCMOS technology to achieve high speed operation similar to 5V ABT while maintaining a low power dissipation.

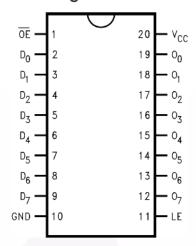
# **Ordering Information**

Order Number	Package Number	Package Description				
74LVT573WM	M20B	20-Lead Small Outline Integrated Circuit (SOIC), JEDEC MS-013, 0.300" Wide				
74LVT573SJ	M20D	20-Lead Small Outline Package (SOP), EIAJ TYPE II, 5.3mm Wide				
74LVT573MSA	MSA20	0-Lead Shrink Small Outline Package (SSOP), JEDEC MO-150, 5.3mm Wide				
74LVT573MTC	MTC20	20-Lead Thin Shrink Small Outline Package (TSSOP), JEDEC MO-153, 4.4mm Wide				
74LVTH573WM	M20B	20-Lead Small Outline Integrated Circuit (SOIC), JEDEC MS-013, 0.300" Wide				
74LVTH573SJ	M20D	20-Lead Small Outline Package (SOP), EIAJ TYPE II, 5.3mm Wide				
74LVTH573MSA	MSA20	20-Lead Shrink Small Outline Package (SSOP), JEDEC MO-150, 5.3mm Wide				
74LVTH573MTC	MTC20	20-Lead Thin Shrink Small Outline Package (TSSOP), JEDEC MO-153, 4.4mm Wide				

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

All packages are lead free per JEDEC: J-STD-020B standard.

## **Connection Diagram**



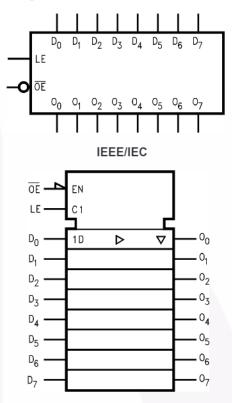
# **Pin Description**

Pin Names	Description
D <sub>0</sub> –D <sub>7</sub>	Data Inputs
LE	Latch Enable Input
ŌĒ	Output Enable Input
O <sub>0</sub> –O <sub>7</sub>	3-STATE Latch Outputs

# **Functional Description**

The LVT573 and LVTH573 contain eight D-type latches with 3-STATE standard outputs. When the Latch Enable (LE) input is HIGH, data on the  $D_n$  inputs enters the latches. In this condition the latches are transparent, i.e., a latch output will change state each time its D-type input changes. When LE is LOW, the latches store the information that was present on the D-type inputs a setup time preceding the HIGH-to-LOW transition of LE. The 3-STATE standard outputs are controlled by the Output Enable  $(\overline{OE})$  input. When  $\overline{OE}$  is LOW, the standard outputs are in the 2-state mode. When  $\overline{OE}$  is HIGH, the standard outputs are in the high impedance mode but this does not interfere with entering new data into the latches.

# **Logic Symbols**



# **Truth Table**

	Outputs		
LE	ŌĒ	D <sub>n</sub>	On
X	Н	X	Z
Н	L	L	L
Н	L	Н	Н
L	L	X	O <sub>0</sub>

H = HIGH Voltage Level

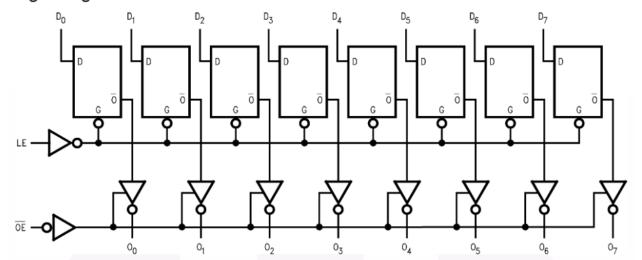
L = LOW Voltage Level

Z = High Impedance

X = Immaterial

O<sub>0</sub> = Previous O<sub>0</sub> before HIGH to LOW transition of Latch Enable

# Logic Diagram



Please note that this diagram is provided only for the understanding of logic operations and should not be used to estimate propagation delays.

# **Absolute Maximum Ratings**

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only.

Symbol	Parameter	Rating		
V <sub>CC</sub>	Supply Voltage	-0.5V to +4.6V		
VI	DC Input Voltage	-0.5V to +7.0V		
V <sub>O</sub>	DC Output Voltage			
	Output in 3-STATE	-0.5V to +7.0V		
	Output in HIGH or LOW State <sup>(1)</sup>	-0.5V to +7.0V		
I <sub>IK</sub>	DC Input Diode Current, V <sub>I</sub> < GND —5			
I <sub>OK</sub>	DC Output Diode Current, V <sub>O</sub> < GND —50			
Io	DC Output Current, V <sub>O</sub> > V <sub>CC</sub>			
	Output at HIGH State	64mA		
	Output at LOW State	128mA		
I <sub>CC</sub>	DC Supply Current per Supply Pin	±64mA		
I <sub>GND</sub>	DC Ground Current per Ground Pin ±128m			
T <sub>STG</sub>	Storage Temperature	–65°C to +150°C		

#### Note:

1. IO Absolute Maximum Rating must be observed.

# **Recommended Operating Conditions**

The Recommended Operating Conditions table defines the conditions for actual device operation. Recommended operating conditions are specified to ensure optimal performance to the datasheet specifications. Fairchild does not recommend exceeding them or designing to absolute maximum ratings.

Symbol	Parameter	Min	Max	Units
V <sub>CC</sub>	Supply Voltage	2.7	3.6	V
VI	Input Voltage	0	5.5	V
I <sub>OH</sub>	HIGH-Level Output Current		-32	mA
I <sub>OL</sub>	LOW-Level Output Current		64	mA
T <sub>A</sub>	Free-Air Operating Temperature	-40	85	°C
Δt / ΔV	Input Edge Rate, V <sub>IN</sub> = 0.8V–2.0V, V <sub>CC</sub> = 3.0V	0	10	ns/V

## **DC Electrical Characteristics**

					T A = -4	40°C to +	85°C		
Symbol	Paran	neter	V <sub>CC</sub> (V)	Conditions	Min.	Typ. <sup>(2)</sup>	Max.	Units	
V <sub>IK</sub>	Input Clamp Di	ode Voltage	2.7	I <sub>I</sub> = -18mA			-1.2	V	
V <sub>IH</sub>	Input HIGH Voltage		2.7–3.6	$V_O \le 0.1V$ or	2.0			V	
V <sub>IL</sub>	Input LOW Voltage		2.7–3.6	$V_{O} \ge V_{CC} - 0.1V$			0.8	V	
V <sub>OH</sub>	Output HIGH V	oltage/	2.7–3.6	$I_{OH} = -100 \mu A$	V <sub>CC</sub> -0.2			V	
			2.7	$I_{OH} = -8mA$	2.4			1	
			3.0	$I_{OH} = -32mA$	2.0			1	
V <sub>OL</sub>	Output LOW Vo	oltage	2.7	I <sub>OL</sub> = 100μA			0.2	V	
				I <sub>OL</sub> = 24mA			0.5	1	
			3.0	I <sub>OL</sub> = 16mA			0.4	1	
				I <sub>OL</sub> = 32mA			0.5	1	
				I <sub>OL</sub> = 64mA			0.55	1	
I(HOLD) <sup>(3)</sup>	Bushold Input I	Minimum	3.0	V <sub>I</sub> = 0.8V	75			μA	
	Drive			V <sub>I</sub> = 2.0V	-75				
I <sub>I(OD)</sub> (3)	Bushold Input	Over-Drive	3.0	(4)	500			μA	
Current to Cha	nge State		(5)	-500			1		
I <sub>I</sub>	Input Current		3.6	V <sub>I</sub> = 5.5V			10	μA	
		Control Pins	3.6	$V_I = 0V \text{ or } V_{CC}$			±1		
		Data Pins	3.6	$V_I = 0V$			-5		
				$V_I = V_{CC}$			1		
I <sub>OFF</sub>	Power Off Leak	kage Current	0	$0V \le V_I \text{ or } V_O \le 5.5V$			±100	μA	
I <sub>PU/PD</sub>	Power up/dowr Output Current		0–1.5	$V_O = 0.5V$ to 3.0V, $V_I = GND$ or $V_{CC}$			±100	μA	
I <sub>OZL</sub>	3-STATE Output Current	ut Leakage	3.6	V <sub>O</sub> = 0.5V			-5	μA	
I <sub>OZH</sub>	3-STATE Outpu Current	ut Leakage	3.6	V <sub>O</sub> = 3.0V			5	μА	
I <sub>OZH</sub> +	3-STATE Output Leakage Current		3.6	$V_{CC} < V_O \le 5.5V$			10	μА	
I <sub>CCH</sub>	Power Supply Current		3.6	Outputs HIGH			0.19	mA	
I <sub>CCL</sub>	Power Supply Current		3.6	Outputs LOW			5	mA	
I <sub>CCZ</sub>	Power Supply Current		3.6	Outputs Disabled			0.19	mA	
I <sub>CCZ</sub> +	Power Supply Current		3.6	V <sub>CC</sub> ≤ V <sub>O</sub> ≤ 5.5V, Outputs Disabled			0.19	mA	
$\Delta I_{CC}$	Increase in Pov Current <sup>(6)</sup>	wer Supply	3.6	One Input at V <sub>CC</sub> – 0.6V, Other Inputs at V <sub>CC</sub> or GND			0.2	mA	

#### Notes:

- 2. All typical values are at  $V_{CC}$  = 3.3V,  $T_A$  = 25°C.
- 3. Applies to bushold versions only (74LVTH573).
- 4. An external driver must source at least the specified current to switch from LOW-to-HIGH.
- 5. An external driver must sink at least the specified current to switch from HIGH-to-LOW.
- 6. 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<sup>(7)</sup>

			Conditions	1	T <sub>A</sub> = 25°	С	
Symbol	Parameter	V <sub>CC</sub> (V)	$C_L = 50 pF, R_L = 500 \Omega$	Min.	Тур.	Max.	Units
V <sub>OLP</sub>	Quiet Output Maximum Dynamic V <sub>OL</sub>	3.3	(8)		0.8		V
V <sub>OLV</sub>	Quiet Output Minimum Dynamic V <sub>OL</sub>	3.3	(8)		-0.8		V

#### Notes:

- 7. Characterized in SOIC package. Guaranteed parameter, but not tested.
- 8. Max number of outputs defined as (n). n-1 data inputs are driven 0V to 3V. Output under test held LOW.

## **AC Electrical Characteristics**

				–40°C to + 50pF, R <sub>L</sub> =			
		V <sub>cc</sub>	= 3.3V ±	0.3V	V <sub>CC</sub> =	= 2.7V	
Symbol	Parameter	Min.	Typ. <sup>(9)</sup>	Max.	Min.	Max.	Units
t <sub>PHL</sub>	Propagation Delay, D <sub>n</sub> to O <sub>n</sub>	1.5		4.4	1.5	4.9	ns
t <sub>PLH</sub>		1.5		4.1	1.5	4.7	1
t <sub>PHL</sub>	Propagation Delay, LE to O <sub>n</sub>	1.9		4.4	1.9	4.9	ns
t <sub>PLH</sub>		1.9		4.4	1.9	5.0	
t <sub>PZL</sub>	Output Enable Time	1.5		5.1	1.5	6.6	ns
t <sub>PZH</sub>		1.5		5.1	1.5	5.9	
t <sub>PLZ</sub>	Output Disable Time	2.0		4.6	2.0	4.9	ns
t <sub>PHZ</sub>		2.0		4.9	2.0	5.5	
t <sub>S</sub>	Setup Time, D <sub>n</sub> to LE	0.7			0.6		ns
t <sub>H</sub>	Hold Time, D <sub>n</sub> to LE	1.5			1.7		ns
t <sub>W</sub>	LE Pulse Width	3.0			3.0		ns
t <sub>OSHL</sub> , t <sub>OSLH</sub>	Output to Output Skew <sup>(10)</sup>			1.0		1.0	ns

#### Notes:

- 9. All typical values are at  $V_{CC} = 3.3V$ ,  $T_A = 25$ °C.
- 10. 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<sub>OSHL</sub>) or LOW-to-HIGH (t<sub>OSLH</sub>).

# Capacitance<sup>(11)</sup>

Symbol	Parameter	Parameter Conditions		Units
C <sub>IN</sub>	Input Capacitance	$V_{CC}$ = Open, $V_I$ = 0V or $V_{CC}$	4	pF
C <sub>OUT</sub>	Output Capacitance	$V_{CC} = 3.0V$ , $V_{O} = 0V$ or $V_{CC}$	6	pF

#### Note:

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

# **Physical Dimensions** 13.00 12.60 11.43 В 9.50 10.65 7.60 10.00 7.40 0.51 PIN ONE INDICATOR ⊕ 0.25 M C B A LAND PATTERN RECOMMENDATION 2.65 MAX SEE DETAIL A 0.33 0.20 △ 0.10 C 0.30 0.10 SEATING PLANE NOTES: UNLESS OTHERWISE SPECIFIED (R0.10) A) THIS PACKAGE CONFORMS TO JEDEC GAGE PLANE MS-013, VARIATION AC, ISSUE E (R0.10) B) ALL DIMENSIONS ARE IN MILLIMETERS. 0.25 C) DIMENSIONS DO NOT INCLUDE MOLD FLASH OR BURRS. D) CONFORMS TO ASME Y14.5M-1994 SEATING PLANE E) LANDPATTERN STANDARD: SOIC127P1030X265-20L F) DRAWING FILENAME: MKT-M20BREV3 DETAIL A

Figure 1. 20-Lead Small Outline Integrated Circuit (SOIC), JEDEC MS-013, 0.300" 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 specifications do not expand the terms of Fairchild's worldwide terms and conditions, specifically the warranty therein, which covers Fairchild products.

Always visit Fairchild Semiconductor's online packaging area for the most recent package drawings: http://www.fairchildsemi.com/packaging/

## Physical Dimensions (Continued) 12.6±0.10 0.40 TYP -A-20 11 20 12 5.01 TYP 5.3±0.10 9.27 TYP 7.8 -B-10 3.9 (2.13)△ 0.2 C B A ALL LEAD TIPS 10 PIN #1 IDENT. 0.6 TYP 1.27 TYP LAND PATTERN RECOMMENDATION ALL LEAD TIPS SEE DETAIL A 0.1 C 2.1 MAX. 1.8±0.1 -C-0.15±0.05 0.15 - 0.250.35-0.51 1.27 TYP ♦ 0.12 M C A 7° TYP DIMENSIONS ARE IN MILLIMETERS

- NOTES:
  A. CONFORMS TO EIAJ EDR-7320 REGISTRATION, ESTABLISHED IN DECEMBER, 1998.
  B. DIMENSIONS ARE IN MILLIMETERS.
  C. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH, AND TIE BAR EXTRUSIONS.

GAGE PLANE 0.25 0°-8° 0.60±0.15 SEATING PLANE 1.25 DETAIL A

M20DREVC

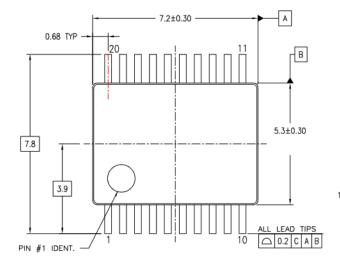
Figure 2. 20-Lead Small Outline Package (SOP), EIAJ TYPE II, 5.3mm Wide

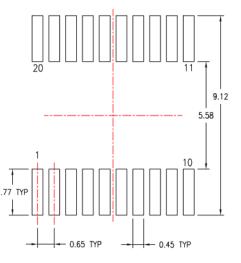
Package drawings are provided as a service to customers considering Fairchild components. Drawings may change in any manner without notice. Please note the revision and/or date on the drawing and contact a Fairchild Semiconductor representative to verify or obtain the most recent revision. Package specifications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

Always visit Fairchild Semiconductor's online packaging area for the most recent package drawings:

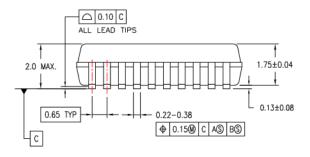
http://www.fairchildsemi.com/packaging/

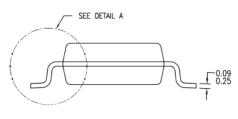
# Physical Dimensions (Continued)





LAND PATTERN RECOMMENDATIONS

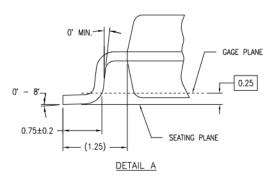




### DIMENSIONS ARE IN MILLIMETERS

#### NOTES:

- A. CONFORMS TO JEDEC REGISTRATION MO-150, VARIATION AE, DATE 1/94.
- B. DIMENSIONS ARE IN MILLIMETERS.
- C. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH, AND TIE BAR EXTRUSIONS.
- D. DIMENSIONS AND TOLERANCES PER ASME Y14.5M 1994.



MSA20REVB

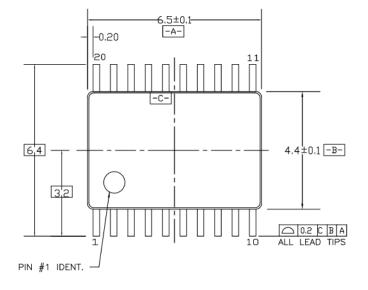
Figure 3. 20-Lead Shrink Small Outline Package (SSOP), JEDEC MO-150, 5.3mm Wide

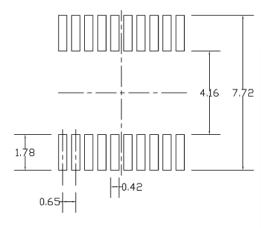
Package drawings are provided as a service to customers considering Fairchild components. Drawings may change in any manner without notice. Please note the revision and/or date on the drawing and contact a Fairchild Semiconductor representative to verify or obtain the most recent revision. Package specifications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

Always visit Fairchild Semiconductor's online packaging area for the most recent package drawings:

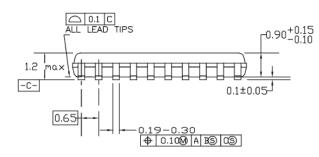
http://www.fairchildsemi.com/packaging/

# Physical Dimensions (Continued)





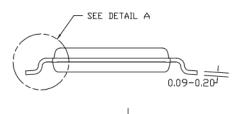
LAND PATTERN RECOMMENDATION

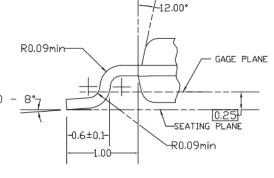




#### NOTES:

- A. CONFORMS TO JEDEC REGISTRATION MD-153, VARIATION AC, REF NOTE 6, DATE 7/93.
- B. DIMENSIONS ARE IN MILLIMETERS.
- C. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLDS FLASH, AND TIE BAR EXTRUSIONS.
- D. DIMENSIONS AND TOLERANCES PER ANSI Y14.5M, 1982.





DETAIL A

#### MTC20REVD1

## 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 specifications do not expand the terms of Fairchild's worldwide terms and conditions, specifically the warranty therein, which covers Fairchild products.

Always visit Fairchild Semiconductor's 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 subsidiaries, and is not intended to be an exhaustive list of all such trademarks.

ACEx<sup>™</sup>
Build it Now<sup>™</sup>
CorePLUS<sup>™</sup>
CROSSVOLT<sup>™</sup>
CTL<sup>™</sup>

Current Transfer Logic™ EcoSPARK<sup>®</sup> EZSWITCH™ \*

**E**Z™ **F**®

Fairchild<sup>®</sup>
Fairchild Semiconductor<sup>®</sup>
FACT Quiet Series™

FACT<sup>®</sup>
FAST<sup>®</sup>
FastvCore<sup>™</sup>
FlashWriter<sup>®</sup>

FPS™ FRFET<sup>®</sup>

Global Power Resource<sup>™</sup>

Green FPS™

Green FPS™e-Series™ GTO™

i-Lo™ IntelliMAX™ ISOPLANAR™ MegaBuck™

MegaBuck™ MICROCOUPLER™ MicroFET™

MicroPak™ MillerDrive™ Motion-SPM™ OPTOLOGIC<sup>®</sup> OPTOPLANAR<sup>®</sup> PDP-SPM™ Power220® POWEREDGE® Power-SPM™ PowerTrench®

Programmable Active Droop™

QFET<sup>®</sup> QS™

QT Optoelectronics™
Quiet Series™
RapidConfigure™
SMART START™
SPM®
STEALTH™
SuperFET™
SuperFET™

SuperFET™
SuperSOT™3
SuperSOT™6
SuperSOT™8

SupreMOS™ SyncFET™ System® GENERAL

The Power Franchise®

Pinner TinyBoost™
TinyBoost™
TinyBoost™
TinyLogic®
TINYOPTO™
TinyPower™
TinyPWM™
TinyWire™
µSerDes™
UHC®

Ultra FRFET™ UniFET™ VCX™

#### DISCLAIMER

FAIRCHILD SEMICONDUCTOR RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION, OR DESIGN. FAIRCHILD DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN; NEITHER DOES IT CONVEY ANY LICENSE UNDER ITS PATENT RIGHTS, NOR THE RIGHTS OF OTHERS. THESE SPECIFICATIONS DO NOT EXPAND THE TERMS OF FAIRCHILD'S WORLDWIDE TERMS AND CONDITIONS, SPECIFICALLY THE WARRANTY THEREIN, WHICH COVERS THESE PRODUCTS.

#### 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 FAIRCHILD SEMICONDUCTOR CORPORATION.

#### As used herein:

- 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 of the user.
- 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.

#### PRODUCT STATUS DEFINITIONS

#### **Definition of Terms**

Datasheet Identification	Product Status	Definition
Advance Information	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
Preliminary	First Production	This datasheet contains preliminary data; supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve design.
No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve the design.
Obsolete	Not In Production	This datasheet contains specifications on a product that has been discontinued by Fairchild Semiconductor. The datasheet is printed for reference information only.

Rev. I33

<sup>\*</sup> EZSWITCH™ and FlashWriter® are trademarks of System General Corporation, used under license by Fairchild Semiconductor.

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 <a href="https://www.onsemi.com/site/pdt/Patent=Marking.pdf">www.onsemi.com/site/pdt/Patent=Marking.pdf</a>. ON Semiconductor reserves the right to make changes without further notice to any products herein. ON Semiconductor and 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 liffs 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 ho

#### 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 USA/Canada Europe, Middle East and Africa Technical Support: Phone: 421 33 790 2910 Japan Customer Focus Center Phone: 81-3-5817-1050

N. American Technical Support: 800-282-9855 Toll Free

ON Semiconductor Website: www.onsemi.com

Order Literature: http://www.onsemi.com/orderlit

For additional information, please contact your local Sales Representative