

November 2013

# FDD6N50 / FDU6N50 N-Channel UniFET<sup>TM</sup> MOSFET 500 V, 6 A, 900 mΩ

### Features

- $R_{DS(on)}$  = 900 m $\Omega$  (Max.) @  $V_{GS}$  = 10 V,  $I_D$  = 3 A
- Low Gate Charge (Typ. 12.8 nC)
- Low C<sub>rss</sub> (Typ. 9 pF)
- 100% Avalanche Tested
- Improved dv/dt Capability

## Applications

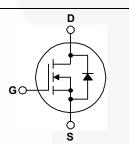
- LCD/LED/PDP TV
- Lighting
- Uninterruptible Power Supply
- AC-DC Power Supply

## Description

I-PAK

UniFET<sup>TM</sup> MOSFET is Fairchild Semiconductor's high voltage MOSFET family based on planar stripe and DMOS technology. This MOSFET is tailored to reduce on-state resistance, and to provide better switching performance and higher avalanche energy strength. This device family is suitable for switching power converter applications such as power factor correction (PFC), flat panel display (FPD) TV power, ATX and electronic lamp ballasts.





### Absolute Maximum Ratings T<sub>C</sub> = 25°C unless otherwise noted.

Symbol		Parameter		FDD6N50TM / FDD6N50TM_WS / FDU6N50TU	Unit
V <sub>DSS</sub>	Drain-Source Voltage			500	V
I <sub>D</sub>	Drain Current	- Continuous (T <sub>C</sub> = 25°C) - Continuous (T <sub>C</sub> = 100°C)		6 3.8	A A
I <sub>DM</sub>	Drain Current	- Pulsed	(Note 1)	24	А
V <sub>GSS</sub>	Gate-Source voltage		±30	V	
E <sub>AS</sub>	Single Pulsed Avalanche Energy (Note 2)		(Note 2)	270	mJ
I <sub>AR</sub>	Avalanche Current		(Note 1)	6	A
E <sub>AR</sub>	Repetitive Avalanche Energy (Note		(Note 1)	8.9	mJ
dv/dt	Peak Diode Recovery dv/dt (Note 3)		(Note 3)	4.5	V/ns
P <sub>D</sub>	Power Dissipation	(T <sub>C</sub> = 25°C) - Derate Above 25°C		89 0.71	W W/°C
T <sub>J,</sub> T <sub>STG</sub>	Operating and Storage Temperature Range		-55 to +150	°C	
TL	Maximum Lead Temperature for Soldering, 1/8" from Case for 5 Seconds		or	300	°C

## **Thermal Characteristics**

Symbol	Parameter	FDD6N50TM / FDD6N50TM_WS / FDU6N50TU	Unit
$R_{ extsf{ heta}JC}$	Thermal Resistance, Junction-to-Case, Max.	1.4	°C/W
$R_{\thetaJA}$	Thermal Resistance, Junction-to-Ambient, Max.	83	0/10

## Package Marking and Ordering Information

Part Number	Top Mark	Package	Packing Method	Reel Size	Tape Width	Quantity
FDD6N50TM	FDD6N50	DPAK	Tape and Reel	330 mm	16 mm	2500 units
FDD6N50TM_WS	FDD6N50S	DPAK	Tape and Reel	330 mm	16 mm	2500 units
FDU6N50TU	FDU6N50	IPAK	Tube	N/A	N/A	75 units

## **Electrical Characteristics** $T_C = 25^{\circ}C$ unless otherwise noted.

Symbol	Parameter	Conditions	Min.	Тур.	Мах	Unit
Off Charac	teristics					
BV <sub>DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> = 0 V, I <sub>D</sub> = 250 μA				V
$\Delta BV_{DSS}$ / $\Delta T_{J}$	Breakdown Voltage Temperature Coefficient	$I_D$ = 250 µA, Referenced to 25°C		0.5		V/°C
I <sub>DSS</sub>	Zero Gate Voltage Drain Current	$V_{DS} = 500 \text{ V}, V_{GS} = 0 \text{ V}$ $V_{DS} = 400 \text{ V}, T_{C} = 125^{\circ}\text{C}$			1 10	μΑ μΑ
I <sub>GSSF</sub>	Gate-Body Leakage Current, Forward	V <sub>GS</sub> = 30 V, V <sub>DS</sub> = 0 V			100	nA
I <sub>GSSR</sub>	Gate-Body Leakage Current, Reverse	V <sub>GS</sub> = -30 V, V <sub>DS</sub> = 0 V			-100	nA
On Charac	teristics					
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = 250 μA	3.0		5.0	V
R <sub>DS(on)</sub>	Static Drain-Source On-Resistance	V <sub>GS</sub> = 10 V, I <sub>D</sub> = 3 A		0.76	0.9	Ω
9 <sub>FS</sub>	Forward Transconductance	V <sub>DS</sub> = 40 V, I <sub>D</sub> = 3 A		2.5		S
Dynamic C	Characteristics					
C <sub>iss</sub>	Input Capacitance	$V_{DS}$ = 25 V, $V_{GS}$ = 0 V,		720	940	pF
C <sub>oss</sub>	Output Capacitance	f = 1.0 MHz		95	190	pF
C <sub>rss</sub>	Reverse Transfer Capacitance			9	13.5	pF
Switching	Characteristics				-	
t <sub>d(on)</sub>	Turn-On Delay Time	V <sub>DD</sub> = 250 V, I <sub>D</sub> = 6 A,		6	20	ns
t <sub>r</sub>	Turn-On Rise Time	$V_{GS}$ = 10 V, $R_G$ = 25 $\Omega$		55	120	ns
t <sub>d(off)</sub>	Turn-Off Delay Time			25	60	ns
t <sub>f</sub>	Turn-Off Fall Time	(Note 4)		35	80	ns
Qg	Total Gate Charge	V <sub>DS</sub> = 400 V, I <sub>D</sub> = 6 A,		12.8	16.6	nC
Q <sub>gs</sub>	Gate-Source Charge	V <sub>GS</sub> = 10 V		3.7		nC
Q <sub>gd</sub>	Gate-Drain Charge	(Note 4)		5.8		nC
Drain-Sou	rce Diode Characteristics and Maximur	n Ratings		1		
I <sub>S</sub> Maximum Continuous Drain-Source Diode Forward Current					6	Α
I <sub>SM</sub>	Maximum Pulsed Drain-Source Diode Forward Current				24	Α
V <sub>SD</sub>	Drain-Source Diode Forward Voltage	V <sub>GS</sub> = 0 V, I <sub>S</sub> = 6 A			1.4	V
t <sub>rr</sub>	Reverse Recovery Time	V <sub>GS</sub> = 0 V, I <sub>S</sub> = 6 A,		275		ns
Q <sub>rr</sub>	Reverse Recovery Charge	dI <sub>F</sub> /dt =100 A/µs		1.7		μC

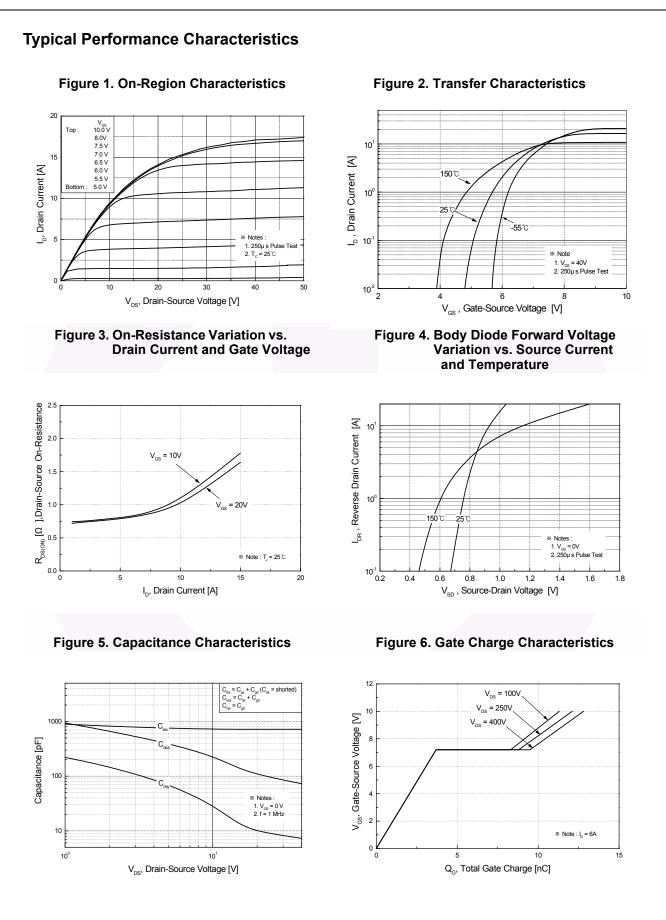
#### Notes:

1. Repetitive rating: pulse-width limited by maximum junction temperature.

2.  $I_{AS}$  = 6 A,  $V_{DD}$  = 50 V, L=13.5 mH,  $R_{G}$  = 25  $\Omega,$  starting  $T_{J}$  = 25°C.

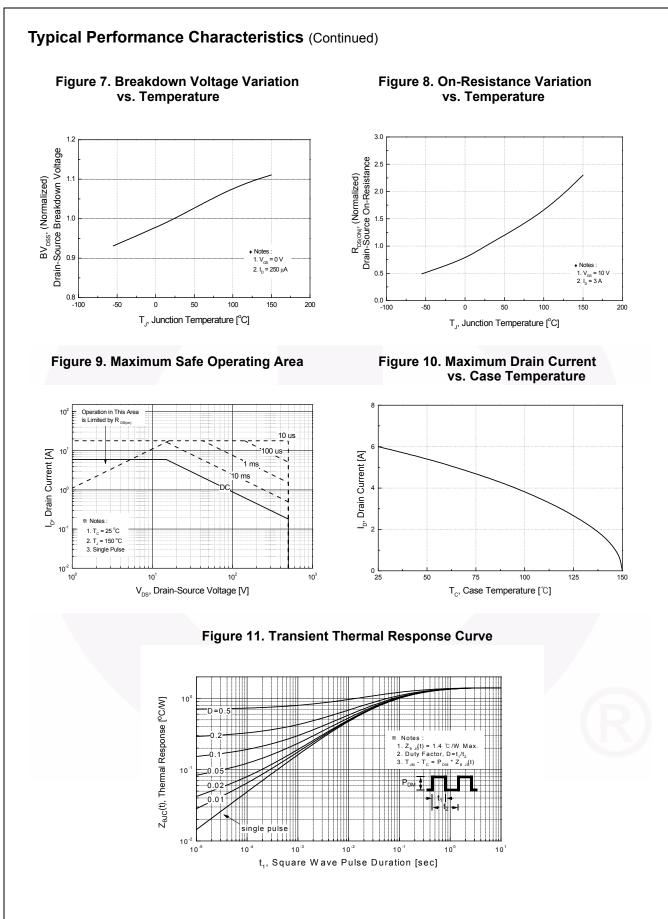
3. I\_{SD}  $\leq$  6 A, di/dt  $\leq$  200 A/µs, V\_{DD}  $\leq$  BV\_{DSS}, starting T\_J = 25°C.

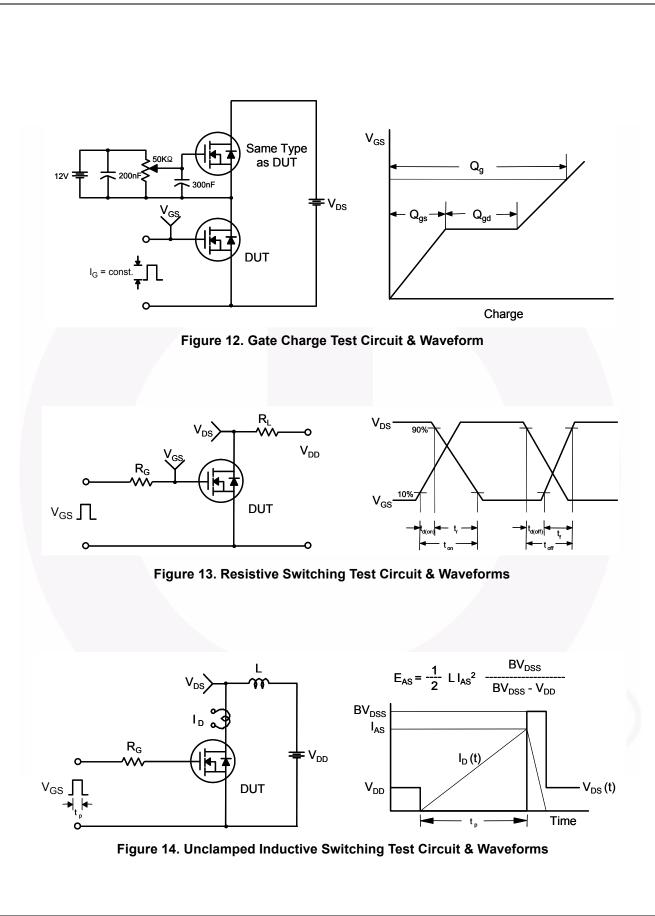
 $\label{eq:second} \textbf{4}. \ \textbf{Essentially independent of operating temperature typical characteristics}.$ 



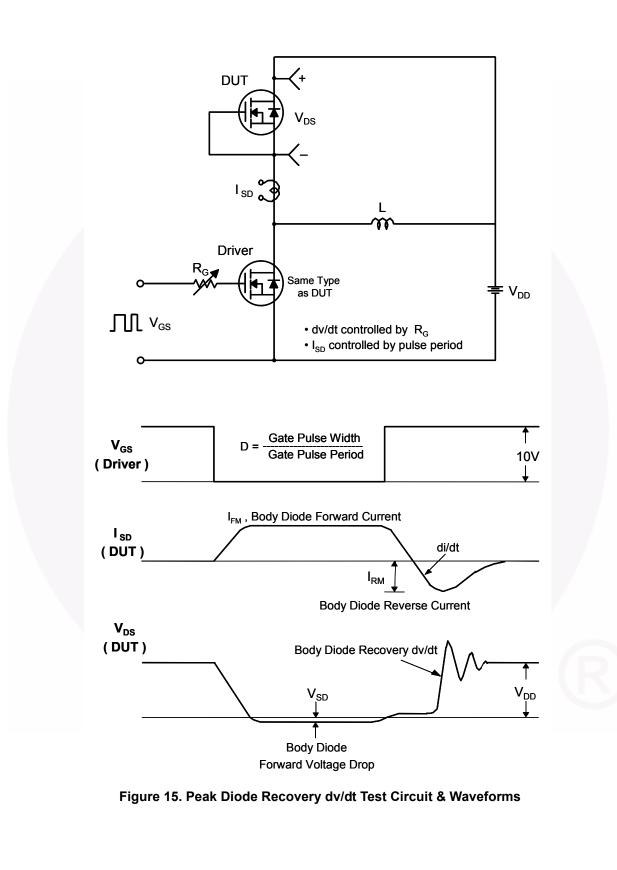
©2006 Fairchild Semiconductor Corporation FDD6N50 / FDU6N50 Rev. C1

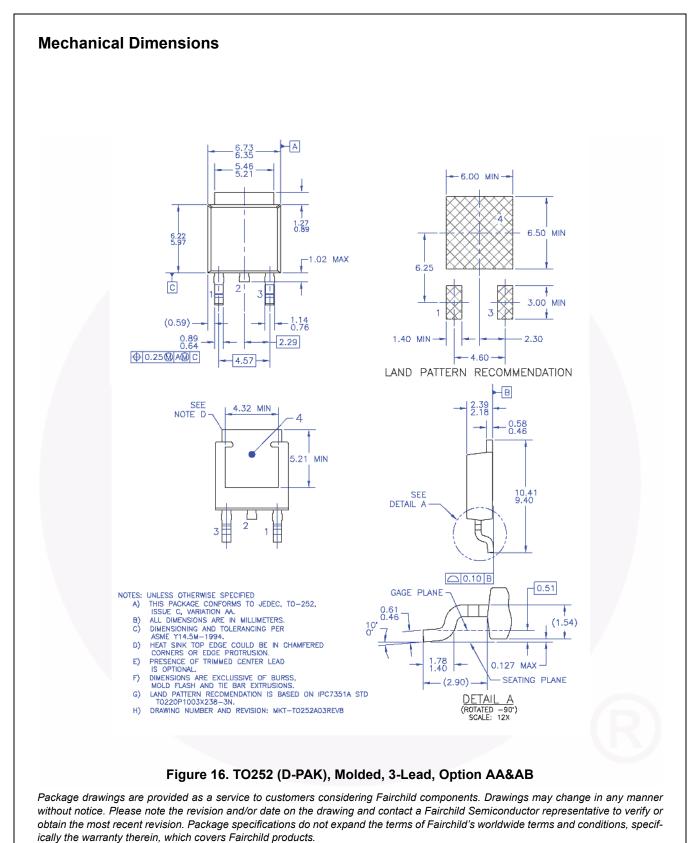
www.fairchildsemi.com





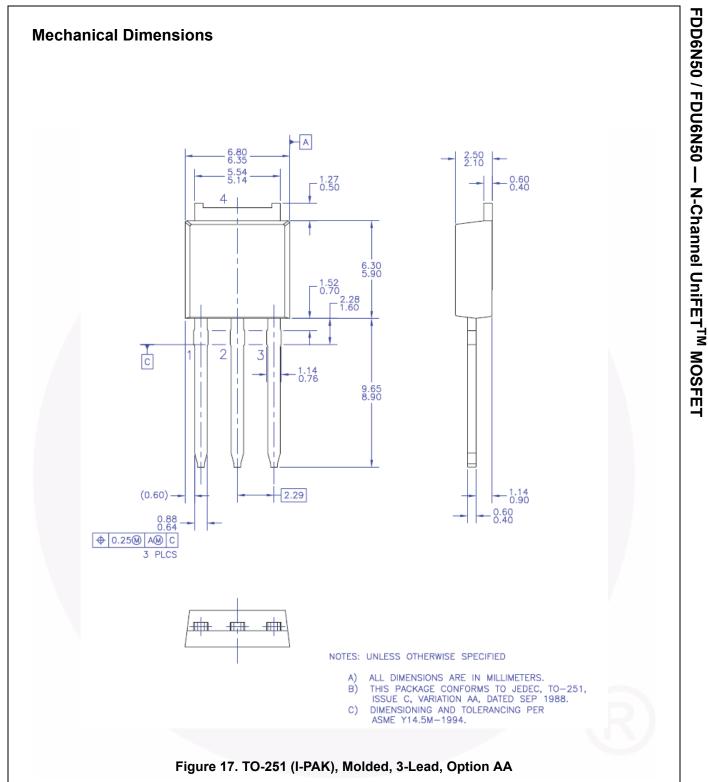
FDD6N50 / FDU6N50 — N-Channel UniFET<sup>TM</sup> MOSFET





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

http://www.fairchildsemi.com/package/packageDetails.html?id=PN\_TT252-003



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/package/packageDetails.html?id=PN\_TT251-003



SEMICONDUCTOR

#### 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

ESBC <sup>™</sup> MICROCOUPLER <sup>™</sup> Smartivitax <sup>™</sup> TRUECURREI   MicroFET <sup>™</sup> SMART START <sup>™</sup> Variable   Fairchild <sup>®</sup> MicroPak <sup>™</sup> Solutions for Your Success <sup>™</sup> µSerDes <sup>™</sup> Fairchild <sup>®</sup> MicroPak <sup>™</sup> Solutions for Your Success <sup>™</sup> µSerDes <sup>™</sup> Fairchild Semiconductor <sup>®</sup> MillerDrive <sup>™</sup> STEALTH <sup>™</sup> UHC <sup>®</sup> FACT Quiet Series <sup>™</sup> MotionMax <sup>™</sup> SuperFET <sup>®</sup> UHC <sup>®</sup> FACT <sup>®</sup> OptoHiT <sup>™</sup> SuperSOT <sup>™</sup> -3 Ultra FRFET <sup>™</sup> Fast <sup>®</sup> OptoLOGIC <sup>®</sup> SuperSOT <sup>™</sup> -6 VCX <sup>™</sup> FerTPench <sup>™</sup> OPTOLOGIC <sup>®</sup> SuperMOS <sup>®</sup> VisualMax <sup>™</sup>	intended to be an exhaustive list of	all such trauchlains.		
BitSiC™Global Power ResourceSMPowerTrench®GreenFidge™Build it Now™Green FPS™PowerXS™TinyBost®CorePUUS™Green FPS™ e-Series™QFET®TinyBost®CorePOWER™Green FPS™ e-Series™QS™TinyLacic™CROSSVOLT™Gmax™QS™TinyLacic™CTL™GTO™Quiet Series™TinyLogic®Current Transfer Logic™IntelliMAX™RapidConfigure™TinyPower™Dual Cool™Marking Small Speakers Sound LouderTinyBost®TinyPWM™EcoSPARK®and Better™Saving our world, 1mW/W/kW at a time™TrinsGiC™EfficentMax™MegaBuck™SmartMax™TrinsCiC™ESBC™MicroPET™SMART START™JerDes™MicroPak™MicroPak™Solutions for Your Success™JerDes™Fairchild®MicroPak™SuperSOT™-6UHC®Fairchild®MicroPak2™SuperSOT™-6UHC®FACT®OptoHiT™SuperSOT™-6VisualMax™FastvCore™OPTOLOGIC®SuperSOT™-6VisualMax™FETBench™OPTOLOGIC®SuperSOT™-6VisualMax™FETBench™OPTOPLANAR®SuperSOT™-6VisualMax™FertmOPTOPLANAR®SuperSOT™-6VisualMax™FunctionOPTOPLANAR®SuperSOT™-6VisualMax™FunctionOPTOPLANAR®SuperSOT™-6VisualMax™FunctionOPTOPLANAR®SuperSOT™-8VisualMax™FunctionOPTOPLANAR®SuperSOT™-6VisualMax™	AccuPower™	F-PFS™_		Sync-Lock™
billoit Now™ GreenBridge™ Power Resource™ Power STM TinyBoost®   CorePLUS™ Green FPS™ Programmable Active Droop™ TinyBoost®   CorePOWER™ Green FPS™ e-Series™ QFET® TinyLogie®   Current Transfer Logic™ IntelliMAX™ RapidConfigure™ TinyPower™   Dual Cool™ Marking Small Speakers Sound Louder IninyCalc™ TinyPower™   ESBC™ MicroPak™ SmartMax™ SignalWise™ TinyPower™   Fairchild® MicroPak™ Solutions for Your Success™ WiserDes™   Fairchild® MicroPak™ SuperSOT™-3 UHtra FREET™   Fairchild® MicroPak™ SuperSOT™-3 UHtra FREET™   FACT® OptoHiT™ SuperSOT™-8 Uhtra FREET™   FastvCore™ OptoHiT™ SuperSOT™-8 Uhtra FREET™   Feirent™ OptoHiT™ SuperSOT™-8 Uhtra FREET™   FastvCore™ OptoHiT™ SuperSOT™-8 Uhtra FREET™   Feirent™ OptoHiT™ SuperSOT™-8 VotagePlus™	AX-CAP <sup>®</sup> *	FRFET®		SYSTEM ®*
Build it Now Im Green FPS™ Programmable Active Droop™ TinyBoost®   CorePUUET™ Green FPS™ e-Series™ QFET® TinyCalc™   COROSSVOLT™ Grax™ QS™ TinyCalc™   CTL™ GTO™ Quiet Series™ TinyCalc™   Current Transfer Logic™ IntelliMAX™ RapidConfigure™ TinyPower™   Dual Cool™ Marking Small Speakers Sound Louder TinyBout% TinyPower™   EcoSPARK® and Better™ Saving our world, 1mW/W/kW at a time™ TriFault Detect   EfficentMax™ MegaBuck™ SignalWise™ TriFault Detect   FiseC™ MicroPET™ SMART START™ TriEaut Detect   Fairchild® MicroPak™ SuperSOT™-3 UHC®   Fairchild® MicroPak™ SuperSOT™-6 UHC®   Fairchild Semiconductor® MillerDrive™ SuperSOT™-6 VCX™   FAST® OptoHiT™ SuperSOT™-6 VisualMax™   FastvCore™ OPTOLOGIC® SuperSOT™-8 VisualMax™   FETBench™ OPTOLOGIC® SuperSOT™-8 VisualMax™	BitSiC™			
CorePOWER™ Green FPS™ e-Series™ QFET® TinyBuck®   CROSSVOLT™ Gmax™ QS™ TinyCalc™   CTL™ GTO™ Quiet Series™ TinyLogic®   Current Transfer Logic™ IntelliMAX™ RapidConfigure™ TinyPower™   Dual Cool™ Marking Small Speakers Sound Louder TinyBuck® TinyPower™   EcoSPARK® and Better™ Saving our world, 1mW/W/kW at a time™ TirsmSiC™   EfficentMax™ MegaBuck™ SignalWise™ Trinsalic Transfer M   ESBC™ MicroPET™ SMART START™ TriFault Detect   Fairchild® MicroPak™ Solutions for Your Success™ JSerDes™   Fairchild® MicroPak™ SuperSOT™-3 Ultra FRFET™   FACT® OptoHiT™ SuperSOT™-6 UHC®   FastvCore™ OPTOLOGIC® SuperSOT™-6 VisualMax™   FETBench™ OPTOLOGIC® SuperSOT™-8 VisualMax™				TinyBoost®
CHORDWICHT Great Great Great TinyCalc™   CROSSVOLT™ GTO™ Quiet Series™ TinyLogic®   CTL™ GTO™ Quiet Series™ TinyLogic®   Current Transfer Logic™ IntelliMAX™ RapidConfigure™ TinyPower™   DEUXPEED® ISOPLANAR™ Great TinyPower™   Dual Cool™ Marking Small Speakers Sound Louder TinyPower™ TinyPWM™   EcoSPARK® and Better™ Saving our world, 1mW/W/kW at a time™ TinsGTM   EfficentMax™ MegaBuck™ SignalWise™ TranSiC™   ESBC™ MicroPak™ Solutions for Your Success™ Jernest   Fairchild® MicroPak™ SuperFeT® UHC®   Fairchild® MicroPak™ SuperFeT® UHC®   FACT® OptoHiT™ SuperSOT™-6 VisualMax™   FAST® OptoHiT™ SuperSOT™-6 VisualMax™   FetTBench™ OPTOLOGIC® SuperSOT™-6 VisualMax™   FetTBench™ OPTOPLANAR® SuperSOT™-8 VisualMax™   VottagePlus™ SupreMOS® VisualMax™ VottagePlus™				TinyBuck <sup>®</sup>
CTL <sup>™</sup> GTO <sup>™</sup> Quiet Series <sup>™</sup> TinyLogic <sup>®</sup> CUrrent Transfer Logic <sup>™</sup> IntelliMAX <sup>™</sup> RapidConfigure <sup>™</sup> TINYOPTO <sup>™</sup> DEUXPEED <sup>®</sup> ISOPLANAR <sup>™</sup> RapidConfigure <sup>™</sup> TinyPower <sup>™</sup> Dual Cool <sup>™</sup> Marking Small Speakers Sound Louder   Saving our world, 1mW/W/kW at a time <sup>™</sup> TinyPower <sup>™</sup> EcosPARK <sup>®</sup> and Better <sup>™</sup> Saving our world, 1mW/W/kW at a time <sup>™</sup> TriFault Detect     ESBC <sup>™</sup> MICROCOUPLER <sup>™</sup> SmartMax <sup>™</sup> TriFault Detect     F <sup>®</sup> MicroPak <sup>™</sup> Solutions for Your Success <sup>™</sup> µSerDes <sup>™</sup> Fairchild <sup>®</sup> MicroPak <sup>™</sup> SuperFET <sup>®</sup> UHC <sup>®</sup> Fairchild <sup>®</sup> MilerDrive <sup>™</sup> SuperFET <sup>®</sup> UHC <sup>®</sup> FACT <sup>®</sup> mWSaver <sup>®</sup> SuperSOT <sup>™</sup> -3   Ultra FRFET <sup>™</sup> FAST <sup>®</sup> OptoHiT <sup>™</sup> SuperSOT <sup>™-8</sup> Vox <sup>™</sup> Fairchild <sup>™</sup> OPTOLOGIC <sup>®</sup> SuperSOT <sup>™-8</sup> VisualMax <sup>™</sup>				TinyCalc™
Current Transfer Logic <sup>™</sup> IntelliMAX <sup>™</sup> RapidConfigure <sup>™</sup> TinyPower <sup>™</sup> DEUXPEED <sup>®</sup> ISOPLANAR <sup>™</sup> Dual Cool <sup>™</sup> Marking Small Speakers Sound Louder EcoSPARK <sup>®</sup> and Better <sup>™</sup> Saving our world, 1mW/W/kW at a time <sup>™</sup> TinyWire <sup>™</sup> TranSiC <sup>™</sup> EfficentMax <sup>™</sup> MegaBuck <sup>™</sup> SignalWise <sup>™</sup> SignalWise <sup>™</sup> TriFault Detect ESBC <sup>™</sup> MICROCOUPLER <sup>™</sup> SmartMax <sup>™</sup> TriFault Detect MicroPak <sup>™</sup> Solutions for Your Success <sup>™</sup> µSerDes <sup>™</sup> Fairchild <sup>®</sup> MicroPak <sup>™</sup> SuperFET <sup>®</sup> UHC <sup>®</sup> Fairchild Semiconductor <sup>®</sup> MillerDrive <sup>™</sup> SuperFET <sup>®</sup> UHC <sup>®</sup> FACT <sup>®</sup> OptoHiT <sup>™</sup> SuperFET <sup>®</sup> UHC <sup>®</sup> FAST <sup>®</sup> OptoHiT <sup>™</sup> SuperSOT <sup>™</sup> -3 Ultra FREET <sup>™</sup> FastvCore <sup>™</sup> OPTOLOGIC <sup>®</sup> SuperSOT <sup>™</sup> -8 Vox <sup>™</sup> Feirchild <sup>®</sup> VisualMax <sup>™</sup> VottagePlus <sup>™</sup>				
Cultrent Transfer Logic ™ IntelliMAX ™ RapidConfigure ™ TinyPower™   DEUXPEED® ISOPLANAR™ ISOPLANAR™ Saving our world, 1mW/W/kW at a time™ TinyPWM™   EcoSPARK® and Better™ Saving our world, 1mW/W/kW at a time™ TinyWire™ TransiC™   EfficentMax™ MegaBuck™ SignalWise™ SmartMax™ TransiC™   ESBC™ MicroCOUPLER™ SmartMax™ TRUECURREI   Image: Section of the section				TINYOPTOM
DECAPEED® ISOPLANAR™ TinyPWM™   Dual Cool™ Marking Small Speakers Sound Louder Saving our world, 1mW/W/kW at a time™ TinyWire™   EcoSPARK® and Better™ SignalWise™ Saving our world, 1mW/W/kW at a time™ TinSignalWire™   EfficentMax™ MegaBuck™ SignalWise™ SignalWise™ TinSignalWire™   ESBC™ MICROCOUPLER™ SmartMax™ TRUECURREI   Immediate MicroPak™ Solutions for Your Success™ Immediate   Fairchild® MicroPak™ Solutions for Your Success™ Immediate   Fairchild® MicroPak™ SuperFeT® UHC®   FACT® MotionMax™ SuperSOT™-6 UhiFET™   FAST® OptoHiT™ SuperSOT™-6 VisualMax™   FetTBench™ OPTOLOGIC® SuperSOT™-8 VisualMax™   FetTBench™ OPTOPLANAR® SupreMOS® VisualMax™			RapidConfigure™	
Dula Cool <sup>™</sup> Marking Small Speakers Sound Louder Saving our world, 1mW/W/kW at a time <sup>™</sup> TinyWire <sup>™</sup> TranSiC <sup>™</sup> EcoSPARK <sup>®</sup> and Better <sup>™</sup> SignalWise <sup>™</sup> SignalWise <sup>™</sup> TranSiC <sup>™</sup> EfficentIWat <sup>™</sup> MegaBuck <sup>™</sup> SignalWise <sup>™</sup> TriFault Detect   ESBC <sup>™</sup> MICROCOUPLER <sup>™</sup> SmartMax <sup>™</sup> TriFault Detect   Fairchild <sup>®</sup> MicroPak <sup>™</sup> Solutions for Your Success <sup>™</sup> µSerDes <sup>™</sup> Fairchild <sup>®</sup> MicroPak2 <sup>™</sup> SPM <sup>®</sup> Interpret Constraints   Fairchild <sup>®</sup> MotionMax <sup>™</sup> SuperFET <sup>®</sup> UHC <sup>®</sup> FACT <sup>®</sup> mWSaver <sup>®</sup> SuperSOT <sup>™</sup> -3 Ultra FRFET <sup>™</sup> FastvCore <sup>™</sup> OPTOLOGIC <sup>®</sup> SuperSOT <sup>™</sup> -8 VCX <sup>™</sup> FETBench <sup>™</sup> OPTOPLANAR <sup>®</sup> SupreMOS <sup>®</sup> VisualMax <sup>™</sup>				
ECOSPARK <sup>™</sup> and Better <sup>™™</sup> Saving our world, TmVV/V/kV at a time <sup>™™</sup> Transic <sup>™</sup> EfficentMax <sup>™M</sup> MegaBuck <sup>™M</sup> SignalWise <sup>™M</sup> TriFault Detect   ESBC <sup>™M</sup> MICROCOUPLER <sup>™M</sup> SmartMax <sup>™M</sup> TriFault Detect   Image: Second S				
EffEdent/Max I <sup>™</sup> Megabuck <sup>™</sup> Signal/Vise <sup>™</sup> TriFault Detect   ESBC <sup>™</sup> MICROCOUPLER <sup>™</sup> SmartMax <sup>™</sup> TRUECURREI   Image: Second Sec				
MicroFET™ MicroPak™ SMART START™ Solutions for Your Success™ Pairchild® IRDECURREI µSerDes™   Fairchild® MicroPak2™ MicroPak2™ Solutions for Your Success™ PACT@ µSerDes™ MillerDrive™   FACT@ MillerDrive™ MotonMax™ SuperFET® UHC®   FACT@ mWSaver® SuperSOT™-3 Ultra FRFET™ FAST® OptoHiT™   FastvCore™ OPTOLOGIC® SuperSOT™-8 VCX™ VisualMax™   FETBench™ OPTOPLANAR® SupreMOS® VisualMax™				TriFault Detect™
MicroPak™ Solutions for Your Success™ µSerDes™   Fairchild® MicroPak2™ SPM® Image: SerDes™   Fairchild Semiconductor® MillerDrive™ STEALTH™ UHC®   FACT Quiet Series™ MotionMax™ SuperSOT™-3 UHtra FRFET™   FAST® OptoHiT™ SuperSOT™-6 UniFET™   FastvCore™ OPTOLOGIC® SuperSOT™-8 VisualMax™   FETBench™ OPTOPLANAR® SupreMOS® VisualMax™	ESBC "			TRUECURRENT <sup>®</sup> *
Fairchild <sup>®</sup> MicroPak2 <sup>™</sup> SPM <sup>®</sup> SerDes   Fairchild Semiconductor <sup>®</sup> MillerDrive <sup>™</sup> STEALTH <sup>™</sup> UHC <sup>®</sup> FACT Quiet Series <sup>™</sup> MotionMax <sup>™</sup> SuperFET <sup>®</sup> UHC <sup>®</sup> FACT <sup>®</sup> mWSaver <sup>®</sup> SuperSOT <sup>™</sup> -3 Ultra FRFET <sup>™</sup> FAST <sup>®</sup> OptoHiT <sup>™</sup> SuperSOT <sup>™</sup> -6 UniFRT <sup>™</sup> FastvCore <sup>™</sup> OPTOLOGIC <sup>®</sup> SuperSOT <sup>™</sup> -8 VCX <sup>™</sup> FETBench <sup>™</sup> OPTOPLANAR <sup>®</sup> SupreMOS <sup>®</sup> VisualMax <sup>™</sup>	_ <b></b> ®			µSerDes™
Fairchild Steal Steal Steal Steal   Fairchild Semiconductor® MillerDrive™ STEAL Steal   FACT Quiet Series™ MotionMax™ SuperFET® UHC®   FACT® mWSaver® SuperSOT™-3 Ultra FRFET™   FAST® OptoHiT™ SuperSOT™-6 UNIEFT   FastvCore™ OPTOLOGIC® SuperSOT™-8 VCX™   FETBench™ OPTOPLANAR® SupreMOS® VisualMax™   Struct™ Struct™ VoltagePlus™				
FACT Quiet Series™     MotionMax™     SuperFET®     UHC®       FACT Quiet Series™     mWSaver®     SuperSOT™-3     Ultra FRFET™       FAST®     OptoHiT™     SuperSOT™-6     UniFET™       FastvCore™     OPTOLOGIC®     SuperSOT™-8     VCX™       FETBench™     OPTOPLANAR®     SupreMOS®     VisualMax™       SvncFET™     VoltagePlus™     VoltagePlus™	Fairchild			SerDes
FACT Quilet Series ™ Motion Motion OperSOT™-3 Ultra FRFET™   FACT <sup>®</sup> mWSaver <sup>®</sup> SuperSOT™-6 UniFET™   FAST <sup>®</sup> OptoHiT™ SuperSOT™-6 VCX™   FastvCore™ OPTOLOGIC <sup>®</sup> SuperSOT™-8 VCX™   FETBench™ OPTOPLANAR <sup>®</sup> SupreMOS <sup>®</sup> VisualMax™   StoreFT™ StoreFT™ VoltagePlus™				UHC®
FAST®     OptoHiT™     SuperSOT™-6     UniFET™       FastvCore™     OPTOLOGIC®     SuperSOT™-8     VCX™       FETBench™     OPTOPLANAR®     SupreMOS®     VisualMax™       SupreMOS®     SupreFIT™     VoltagePlus™	FACI Quiet Series ™	mW/Saver <sup>®</sup>		Ultra FRFET™
FastvCore™ OPTOLOGIC® SuperSOT™-8 VCx   FETBench™ OPTOPLANAR® SupreMOS® VisualMax™   EDETM SvncFET™ VoltagePlus™	FACI			UniFET™
FETBench™ OPTOPLANAR <sup>®</sup> SupreMOS <sup>®</sup> VisualMax™ EPS™ VoltagePlus™	FASI®			VCX™
SyncFET™ VoltagePlus™				VisualMax™
				VoltagePlus™
	FF0		0,	

\*Trademarks of System General Corporation, used under license by Fairchild Semiconductor.

#### 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 here in:

- Life support devices or systems are devices or systems which, (a) are 1 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.
- 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.

#### ANTI-COUNTERFEITING POLICY

Fairchild Semiconductor Corporation's Anti-Counterfeiting Policy. Fairchild's Anti-Counterfeiting Policy is also stated on our external website, www.Fairchildsemi.com, under Sales Support.

Counterfeiting of semiconductor parts is a growing problem in the industry. All manufactures of semiconductor products are experiencing counterfeiting of their parts. Customers who inadvertently purchase counterfeit parts experience many problems such as loss of brand reputation, substandard performance, failed application, and increased cost of production and manufacturing delays. Fairchild is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. Fairchild strongly encourages customers to purchase Fairchild parts either directly from Fairchild or from Authorized Fairchild Distributors who are listed by country on our web page cited above. Products customers buy either from Fairchild directly or from Authorized Fairchild Distributors are genuine parts, have full traceability, meet Fairchild's quality standards for handing and storage and provide access to Fairchild's full range of up-to-date technical and product information. Fairchild and our Authorized Distributors will stand behind all warranties and will appropriately address and warranty issues that may arise. Fairchild will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources. Fairchild is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.

#### PRODUCT STATUS DEFINITIONS Definition of Terms

Datasheet Identification	Product Status	Definition
Advance Information	Formative / In Design	Datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
Preliminary	First Production	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	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	Datasheet contains specifications on a product that is discontinued by Fairchild Semiconductor. The datasheet is for reference information only.