



DISCRETE POWER AND SIGNAL TECHNOLOGIES

ULTRA FAST DIODE

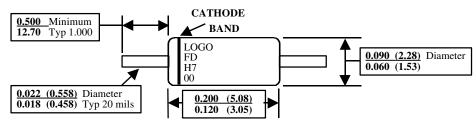
Information Only Data Sheet

FINAL REVERSE CURRENT & FORWARD VOLTAGE LIMITS MIGHT BE INCREASED SLIGHTLY

Absolute Maximum Ratings (note 1) TA = 25°C unless otherwise noted

Parameter	Value	Units
Storage Temperature	-65 to +200	oC
Maximum Junction Temperature	-65 to +175	OO
Total Power Dissipation at 25 ⁰ C	250	mW
Derate above 25 ⁰ C	1.67	mW/ ^o C
Working Inverse Voltage	20	V
DC Forward Current	150	mA

Note 1: These ratings are limiting values above which the serviceability of any semiconductor device may be impaired



Electrical Characteristics TA = 25°C unless otherwise noted

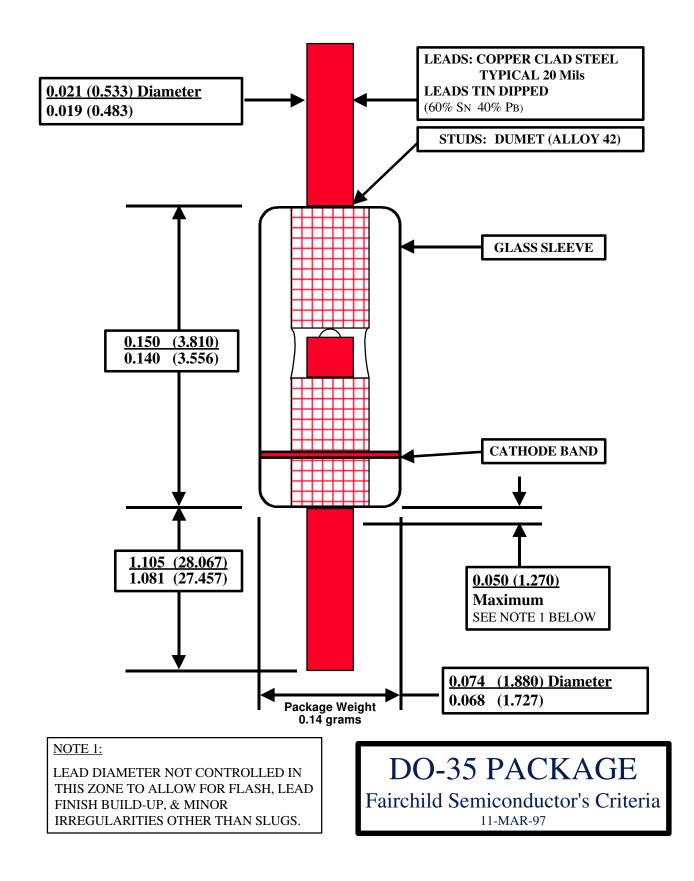
SYM	CHARACTERISTICS	MIN	МАХ	UNITS	TEST CONDITIONS
B _V	Breakdown Voltage	30		V	I _R = 5.0 uA
I _R	Reverse Leakage		50 50	nA uA	$V_{\rm R} = 20 V$ $V_{\rm R} = 20 V T_{\rm A} = 150^{\rm O}{\rm C}$
V _F	Forward Voltage	420 520 640 760 810 0.89	500 610 740 900 990 1.25	mV mV mV mV V	$\begin{array}{rcl} I_{\rm F} &=& 10 \ {\rm uA} \\ I_{\rm F} &=& 100 \ {\rm uA} \\ I_{\rm F} &=& 1.0 \ {\rm mA} \\ I_{\rm F} &=& 10 \ {\rm mA} \\ I_{\rm F} &=& 20 \ {\rm mA} \\ I_{\rm F} &=& 50 \ {\rm mA} \end{array}$
T _{RR}	Reverse Recovery Time		900	ps	$I_F = I_R = 10 \text{ mA } I_{RR} = 1.0 \text{ mA}$ $R_{Loop} = 100 \text{ Ohm}$
C _T	Diode Capacitance		1.5	pF	$V_{R} = 0 V, f = 1.0 MHz$



SEMICONDUCTOR IM

STANDARD DIGITAL MARKING CRITERIA

MAXIMUM CHARACTERS PER LINE: 3 MAXIMUM NUMBER OF LINES: 4 LOGO AND CHARACTERS M & W COUNT AS 2 CHARACTERS EACH





DISCRETE POWER AND SIGNAL TECHNOLOGIES

FD700

Ultra Fast Diode Diode

Absolute Maximum Ratings (note 1) TA = 25°C unless otherwise noted

Parameter	Value	Units
Storage Temperature	-65 to +200	°C
Maximum Junction Temperature	-65 to +175	OO
Total Power Dissipation at 25 ^o C	250	mW
Derate above 25 ^o C	1.67	mW/ ^o C
Working Inverse Voltage	20	V
DC Forward Current	150	mA

Note 1: These ratings are limiting values above which the serviceability of any semiconductor device may be impaired

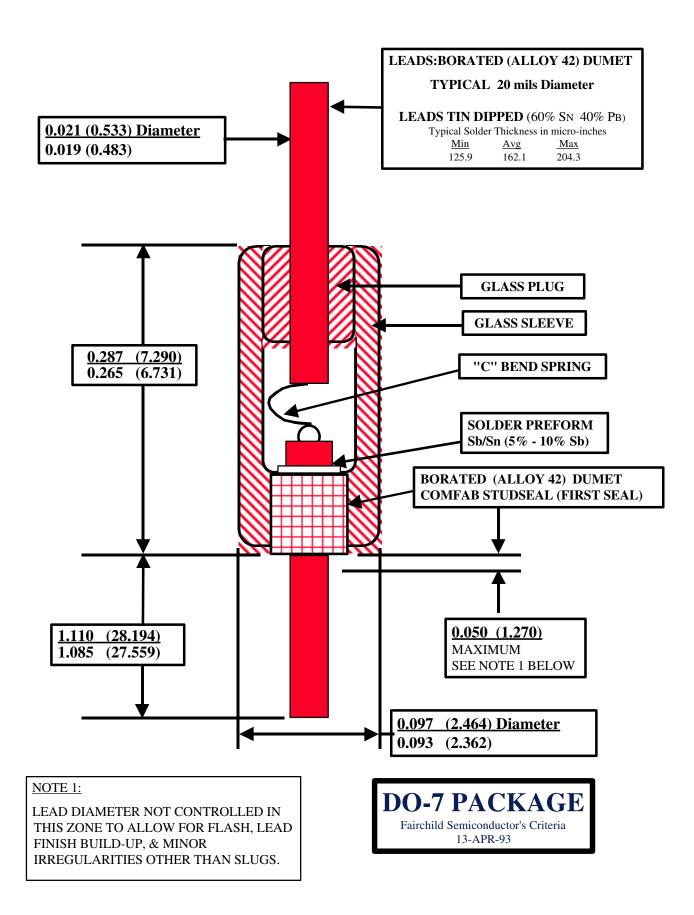


Electrical Characteristics TA = 25°C unless otherwise noted

SYM	CHARACTERISTICS	MIN	МАХ	UNITS	TEST CONDITIONS
B _V	Breakdown Voltage	30		V	I _R = 5.0 uA
I _R	Reverse Leakage		50 50	nA uA	$V_{R} = 20 V$ $V_{R} = 20 V T_{A} = 150^{\circ}C$
V _F	Forward Voltage	420 520 640 760 810 0.89	500 610 740 880 950 1.10	mV mV mV mV V	$\begin{array}{rcl} I_{F} &=& 10 \text{ uA} \\ I_{F} &=& 100 \text{ uA} \\ I_{F} &=& 1.0 \text{ mA} \\ I_{F} &=& 10 \text{ mA} \\ I_{F} &=& 20 \text{ mA} \\ I_{F} &=& 50 \text{ mA} \end{array}$
T _{RR}	Reverse Recovery Time		700	ps	$I_F = I_R = 10 \text{ mA } I_{RR} = 1.0 \text{ mA}$ $R_{Loop} = 100 \text{ Ohm}$
C _T	Diode Capacitance		1.0	pF	V _R = 0 V, f = 1.0 MHz







TRADEMARKS

The following are registered and unregistered trademarks Fairchild Semiconductor owns or is authorized to use and is not intended to be an exhaustive list of all such trademarks.

ACEx™ Bottomless™ CoolEET™ *CROSSVOLT*™ DenseTrench™ DOME™ **EcoSPARK™** E²CMOS[™] EnSigna™ FACT™ FACT Quiet Series[™]

FAST[®] FASTr™ FRFET™ GlobalOptoisolator™ GTO™ HiSeC™ **ISOPLANAR™** LittleFET™ MicroFET™ MICROWIRE™ OPTOLOGIC™

OPTOPLANAR™ PACMAN™ POP™ Power247[™] PowerTrench[®] QFET™ QS™ QT Optoelectronics[™] Quiet Series™ SILENT SWITCHER[®] SMART START™

STAR*POWER™ Stealth™ SuperSOT[™]-3 SuperSOT[™]-6 SuperSOT[™]-8 SyncFET™ TinyLogic™ TruTranslation™ UHC™ UltraFET® VCX™

STAR*POWER is used under license

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.

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:

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, or (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 significant injury to the user.

2. A critical component is 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

Product Status	Definition
Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
First Production	This datasheet contains preliminary data, and supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
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.
	Formative or In Design First Production Full Production

Rev. H3