FAIRCHILD SEMICONDUCTOR TM

MMBD4448

DISCRETE POWER AND SIGNAL TECHNOLOGIES

General Description:

The high breakdown voltage, fast switching speed and high forward conductance of this diode packaged in a SOT-23 Surface Mount package makes it desirable also as a general purpose diode.

Features:

- 350 milliwatt Power Dissipation package.
- High Breakdown Voltage, Fast Switching Speed.
- Typical capacitance less than 1.5 picofarad.

Ordering:

- 7 inch reel (178 mm); 8 mm Tape; 3,000 units per reel.

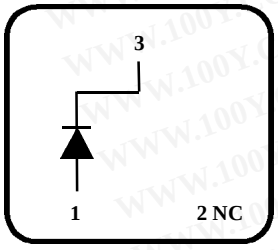
High Conductance Fast Diode

Absolute Maximum Ratings* TA = 25°C unless otherwise noted

Sym	Parameter	Value	Units
T_{stg}	Storage Temperature	-55 to +150	°C
T_J	Operating Junction Temperature	-55 to +150	°C
P_D	Total Power Dissipation at T_A = 25°C	350	W
	Linear Derating Factor from T_A = 25°C	2.8	mW/°C
R_{OJA}	Thermal Resistance Junction-to-Ambient	357	°C/W
W_{iv}	Working Inverse Voltage	75	V
I_O	Average Rectified Current	200	mA
I_F	DC Forward Current (IF)	600	mA
i_f	Recurrent Peak Forward Current (IF)	700	mA
$i_{F(surge)}$	Peak Forward Surge Current (IFSM) Pulse Width = 1.0 second	1.0	Amp
	Pulse Width = 1.0 microsecond	2.0	Amp

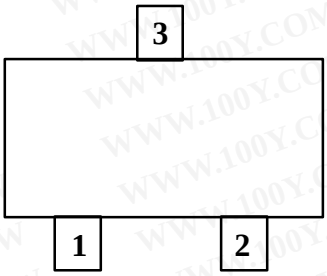
*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired

CONNECTION DIAGRAMS



PACKAGE
TO-236AB (Low)

Top Mark: RAB



Electrical Characteristics TA = 25°C unless otherwise noted

SYM	CHARACTERISTICS	MIN	MAX	UNITS	TEST CONDITIONS
B_V	Breakdown Voltage	100		V	I_R = 100 uA
	75			V	I_R = 5.0 uA
I_R	Reverse Leakage		25	nA	V_R = 20 V
			50	uA	V_R = 20 V T_A = 150 Deg C
			5.0	uA	V_R = 75 V
V_F	Forward Voltage	620	720	mV	I_F = 5 mA
			1.0	V	I_F = 100 mA
C_T	Capacitance		2.0	pF	V_R = 0.0 V, f = 1.0 MHz
T_{RR}	Reverse Recovery Time		4.0	ns	I_F = 10 mA I_R = 10 mA I_{RR} = 1.0 Ma, R_L = 100 ohms
V_{FM}	Peak Forward Recovery Voltage		2.5	V	I_F = 50 mA Pk Square Wave

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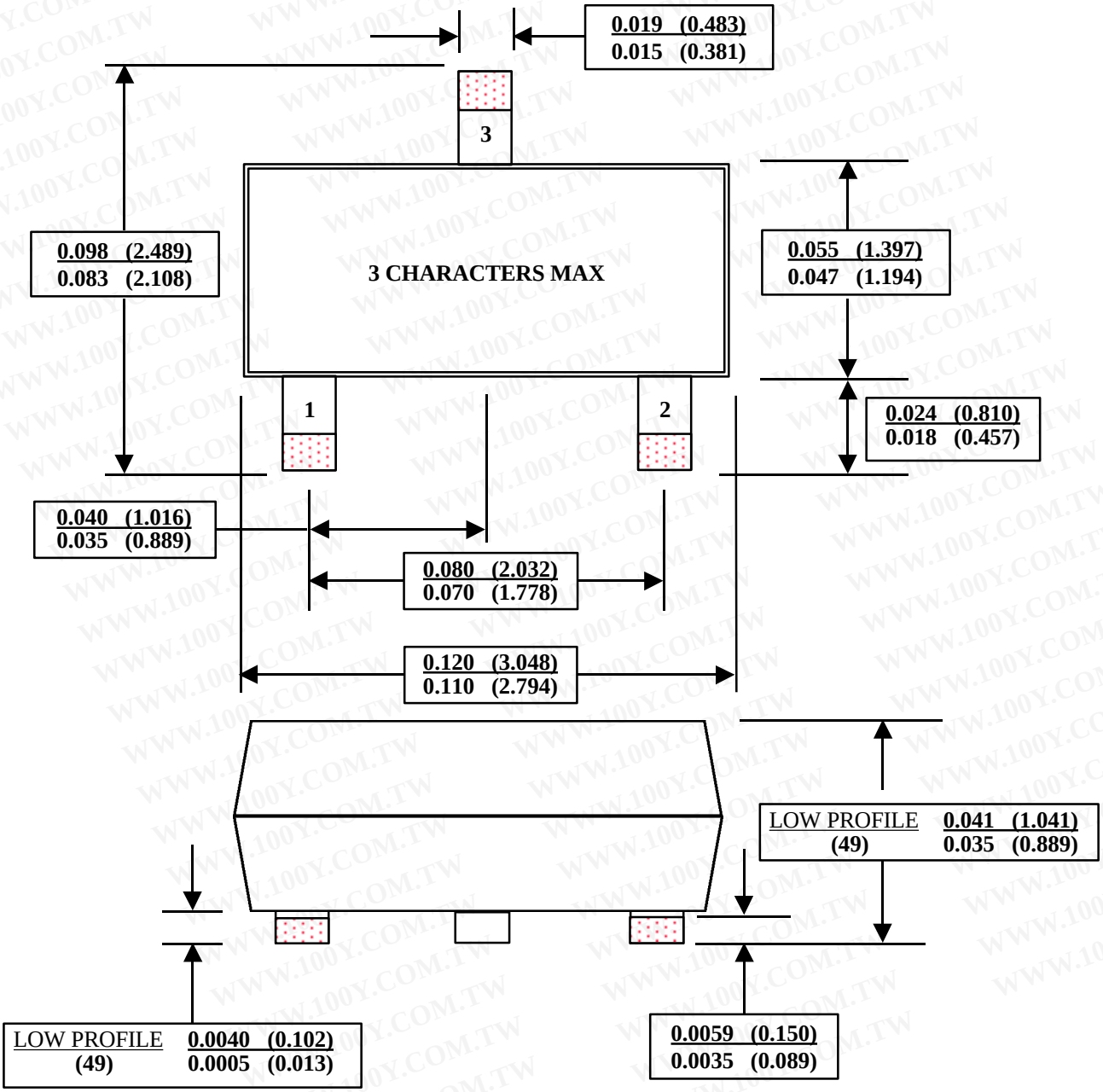
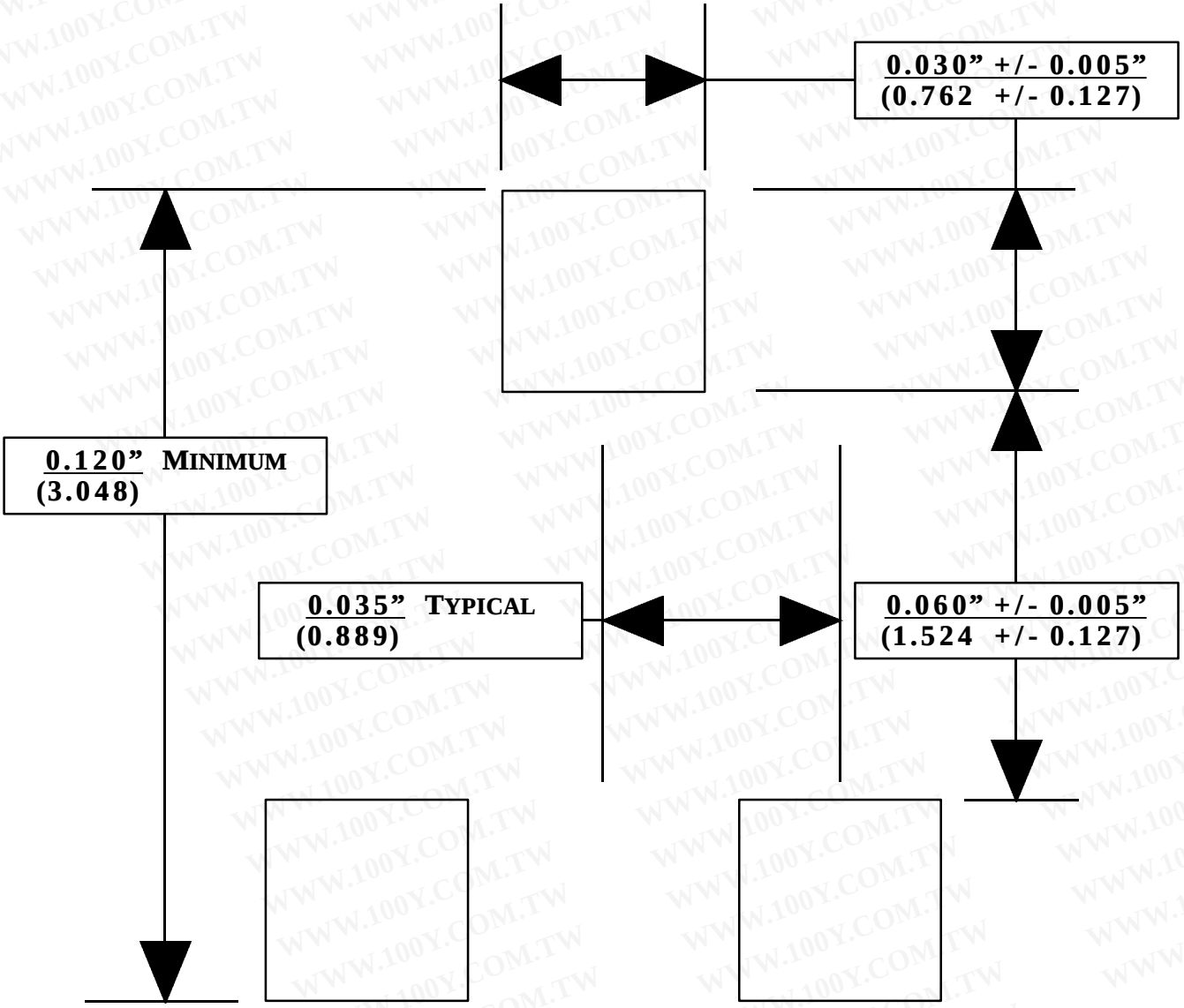


SOT-23

Diode (pinout)

TO-236AB (LOW PROFILE)

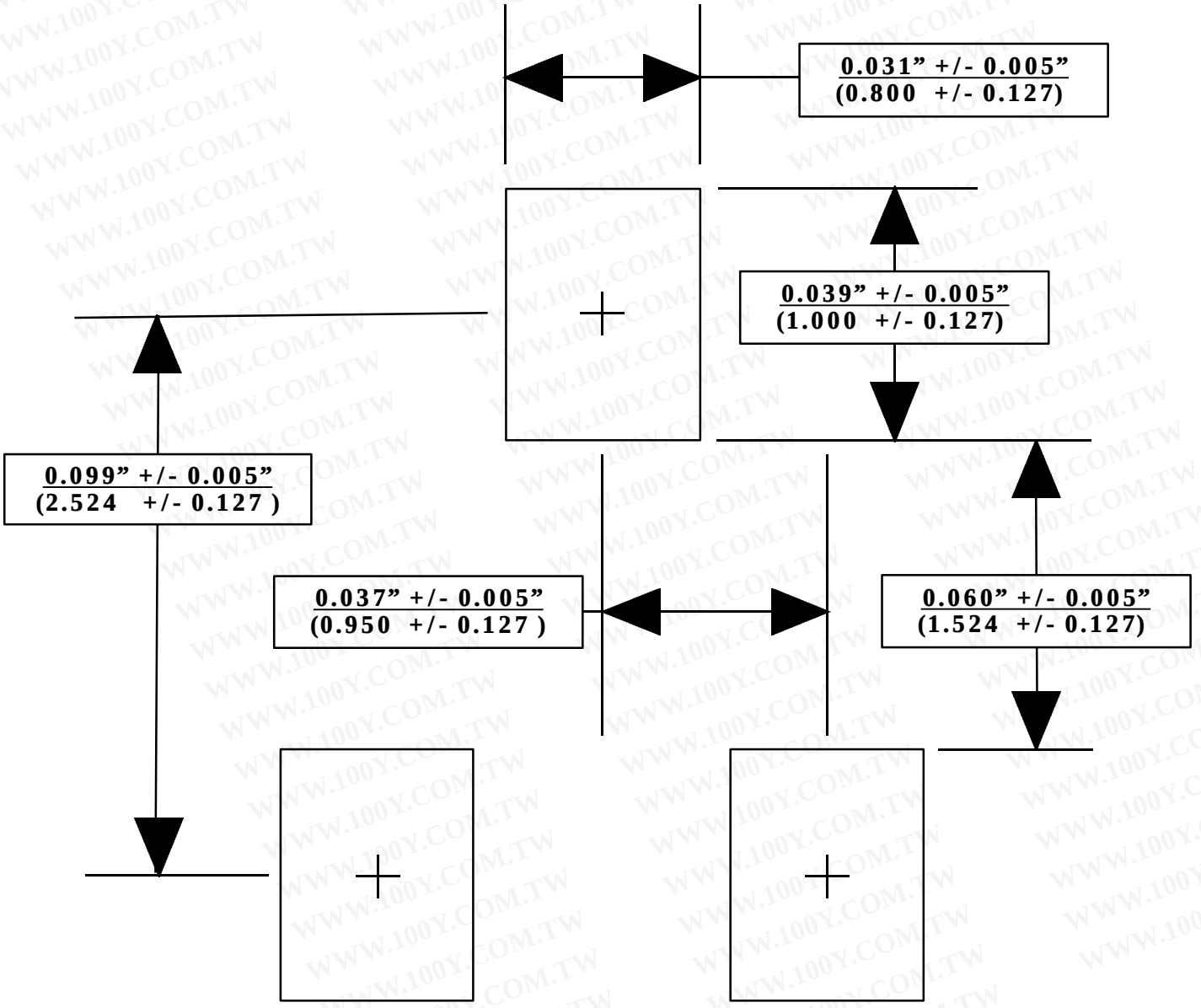
22-August-1994



RECOMMENDED SOLDER PADS FOR SOT-23

FAIRCHILD SEMICONDUCTOR™

DISCRETE POWER AND SIGNAL TECHNOLOGIES



RECOMMENDED SOLDER PADS FOR U.S. & European SOT-23 & Japanese SC-59

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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

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, 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.
No Identification Needed	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.
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