

MMBZ5V6B

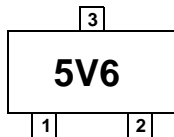
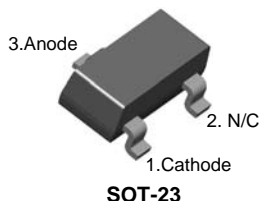
24 Watt Peak Power Zener Transient Voltage Suppressor

Applications

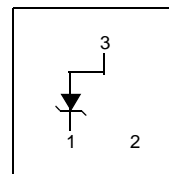
- For use as transient overvoltage protection for voltage and ESD sensitive equipment like laptop computers, HDD, printers, cellular phones, and other applications.

Features

- SOT-23 Zener for ESD Protection
- Pb-free
- Maximum Clamping voltage = 8V @ Peak Pulse Current= 3A
- Working Peak Reverse Voltage = 3V
- HBM = 16KV (Class 3) ESD Rating
- Flammability Rating UL94 V-O



Connection Diagram



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

Symbol	Parameter	Value	Unit
V _{RWM}	Working Peak Reverse Voltage	3.0	V
P _D	Total Power Dissipation at 25°C Derate above 25°C	225 1.8	mW mW/°C
P _{pk}	Peak Power Dissipation @1.0mS	27	W
T _{STG}	Storage Temperature	-55 to +150	°C
T _J	Operating Junction Temperature	+150	°C
R _{θJA}	Thermal Resistance Junction to Ambient, FR-5 Board	550	°C/W

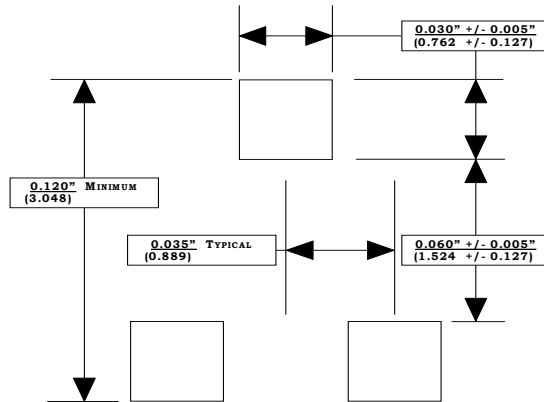
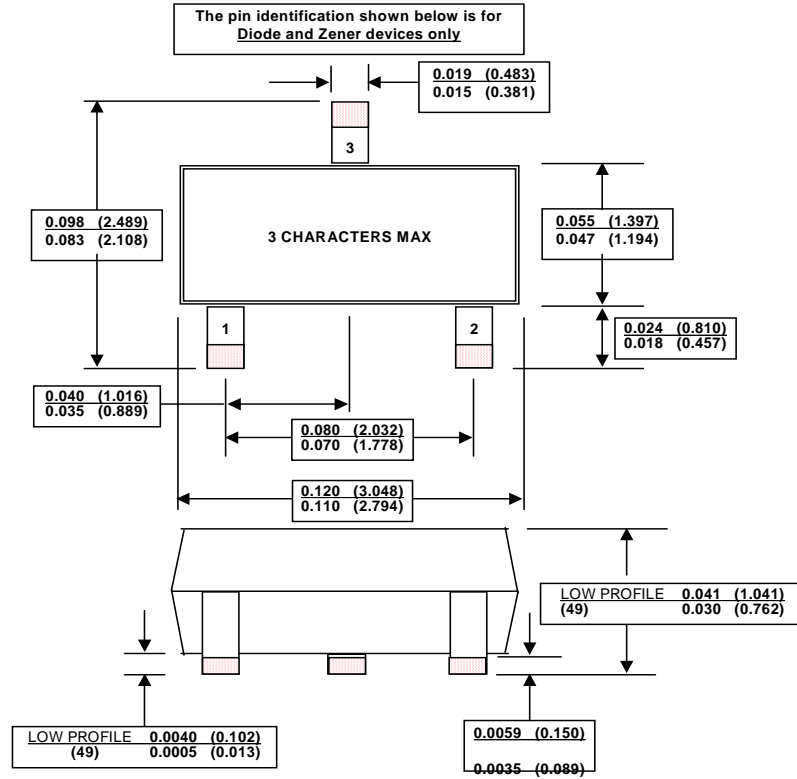
* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

Electrical Characteristics T_C = 25°C unless otherwise noted

Symbol	Parameter	Conditions	Min.	Max.	Units
V _Z	Zener Voltage	I _{ZT} = 20mA _{D.C} I _{ZT} = 20mA _{Pulse} 26mS	5.32 5.31	5.88 5.85	V V
Z _Z	Zener Impedance	I _{ZT} = 20mA		11	Ω
Z _{ZK}	Zener Knee Impedance	I _{ZK} = 250μA		1600	Ω
I _R	Reverse Leakage	V _R = 3V		5	μA
V _F	Forward Voltage	I _F = 10mA		900	mV
V _{CL}	Clamping Voltage	I _{PP} =3A Square wave T _p =300uS		8.0	V

Mechanical Dimensions

SOT-23



RECOMMENDED SOLDER PADS
FOR
SOT-23



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™	GTO™	PowerSaver™	TinyBuck™
Across the board. Around the world.™	HiSeC™	PowerTrench®	TinyLogic®
ActiveArray™	i-Lo™	Programmable Active Droop™	TINYOPTO™
Bottomless™	ImpliedDisconnect™	QFET®	TinyPower™
Build it Now™	IntelliMAX™	QST™	TinyWire™
CoolFET™	ISOPLANAR™	QT Optoelectronics™	TruTranslation™
CROSSVOLT™	MICROCOUPLER™	Quiet Series™	µSerDes™
CTL™	MicroPak™	RapidConfigure™	UHC®
Current Transfer Logic™	MICROWIRE™	RapidConnect™	UniFET™
DOMET™	MSX™	ScalarPump™	VCX™
E ² CMOS™	MSXPro™	SMART START™	Wire™
EcoSPARK®	OCX™	SPM™	
EnSigna™	OCXPro™	SuperFET™	
FACT Quiet Series™	OPTOLOGIC®	SuperSOT™-3	
FACT®	OPTOPLANAR™®	SuperSOT™-6	
FAST®	PACMAN™	SuperSOT™-8	
FASTr™	POP™	TCM™	
FPS™	Power220®	The Power Franchise®	
FRFET™	Power247®	TinyBoost™	
GlobalOptoisolator™	PowerEdge™		

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:

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

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.
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.