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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 www.onsemi.com. Please email any questions regarding the system integration to Fairchild_questions@onsemi.com.

FAIRCHILD SEMICONDUCTOR®

March 2007

MMBZ5V6B

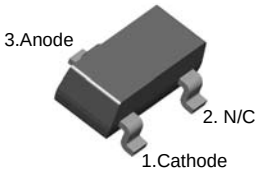
24 Watt Peak Power Zener Transient Voltage Suppressor

Applications

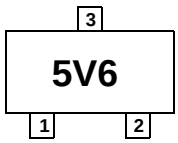
- For use as transient overvoltage protection for voltage and ESD sensitive equipment like laptop computers, HDD, printers, cellular phones, and other applications.

Features

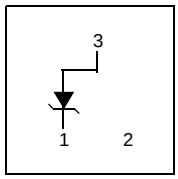
- SOT-23 Zener for ESD Protection
- Pb-free
- Maximum Clamping voltage = 8V @ Peak Pulse Current= 3A
- Working Peak Reverse Voltage = 3V
- HBM = 16KV (Class 3) ESD Rating
- Flammability Rating UL94 V-O



SOT-23



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
$R_{\theta JA}$	Thermal Resistance Junction to Ambient, FR-5 Board	550	°C/W

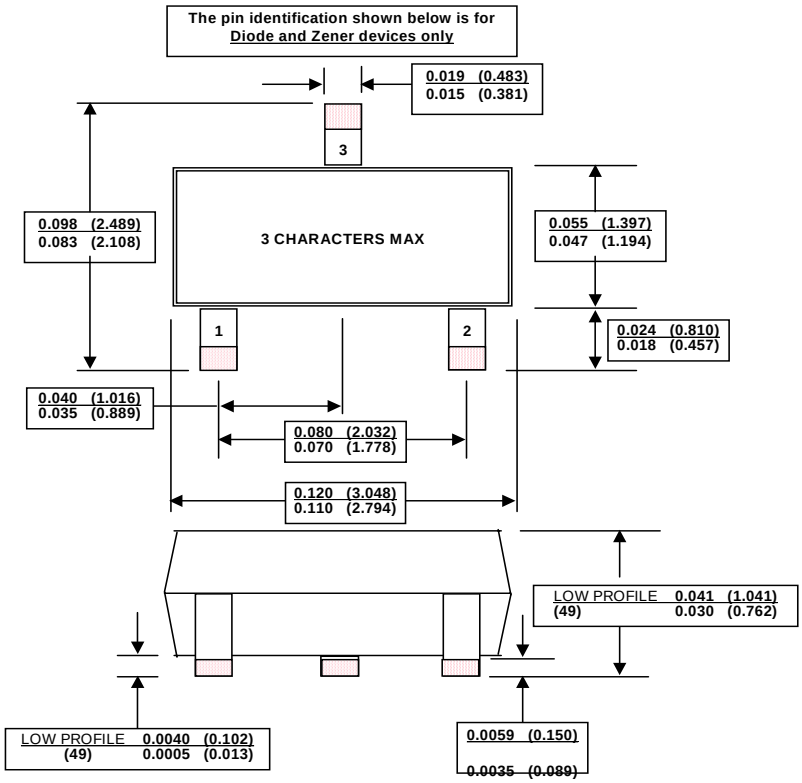
* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

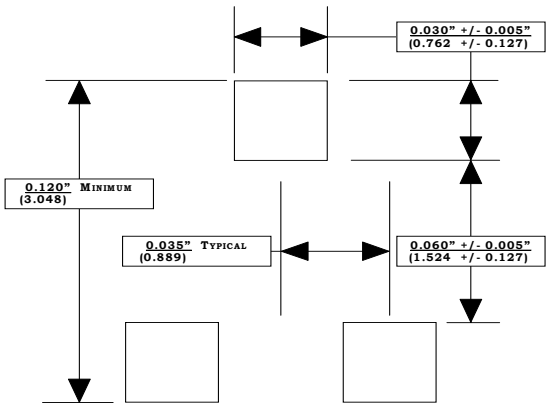
Electrical Characteristics T_C = 25°C unless otherwise noted

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 Tp=300uS		8.0	V

Mechanical Dimensions

SOT-23





Recommended Solder Pads for SOT-23

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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.

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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.

Rev. I23

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