FAIRCHILD SEMICONDUCTOR®

March 2007

MMBZ5V6B

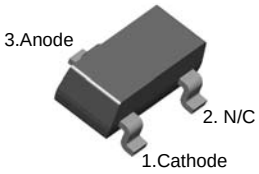
24 Watt Peak Power Zener Transient Voltage Suppressor

Applications

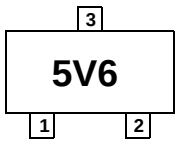
- For use as transient overvoltage protection for voltage and ESD sensitive equipment like laptop computers, HDD, printers, cellular phones, and other applications.

Features

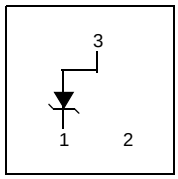
- SOT-23 Zener for ESD Protection
- Pb-free
- Maximum Clamping voltage = 8V @ Peak Pulse Current= 3A
- Working Peak Reverse Voltage = 3V
- HBM = 16KV (Class 3) ESD Rating
- Flammability Rating UL94 V-O



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

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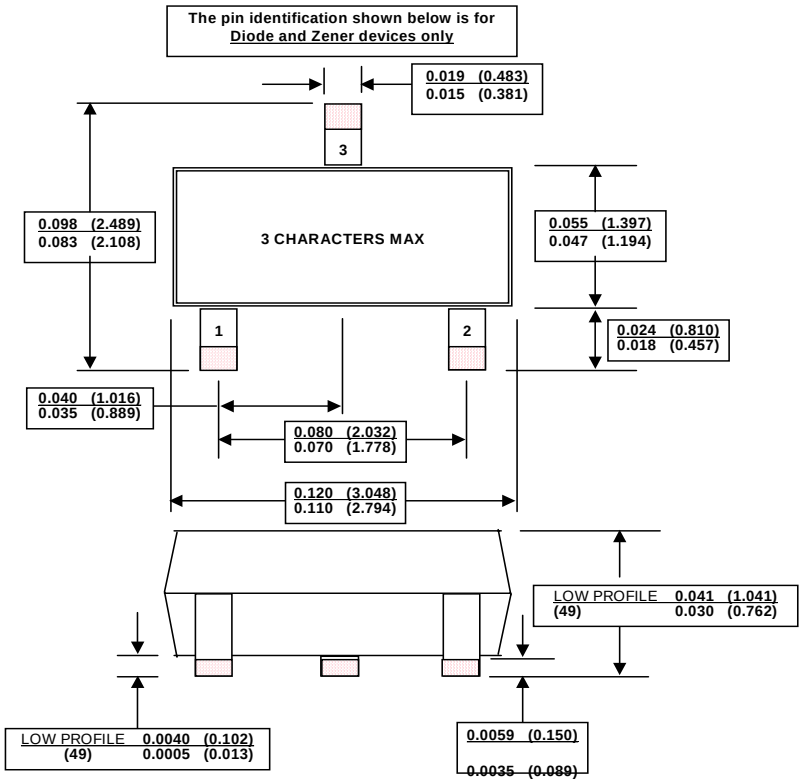
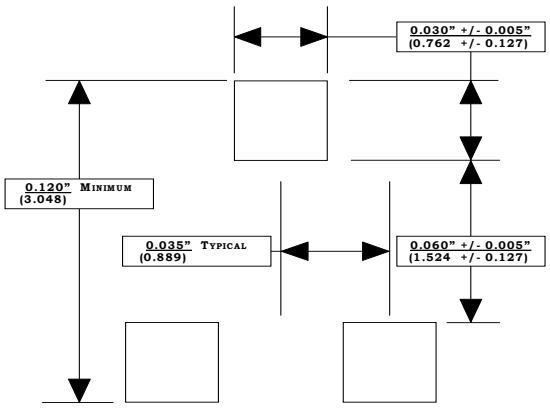
Mechanical Dimensions

SOT-23





Recommended Solder Pads for SOT-23

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