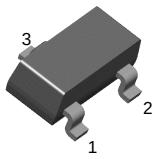
FAIRCHILD
SEMICONDUCTOR®

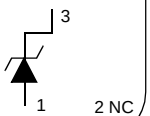
Zeners
MMBZ5221B-MMBZ5257B

Tolerance = 5%



SOT-23

CONNECTION DIAGRAM



Absolute Maximum Ratings *

T_A = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
P_D	Power Dissipation	350	mW
T_{STG}	Storage Temperature Range	-55 to +150	°C
T_J	Operating Junction Temperature	+150	°C

* These ratings are limiting values above which the serviceability of the diode may be impaired.

NOTES:
1) These ratings are based on a maximum junction temperature of 150 degrees C.
2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Electrical Characteristics

T_A=25°C unless otherwise noted

Device	Mark	V_Z (V)	$Z_Z(\Omega)$ @ I_Z (mA)		$Z_{ZK}(\Omega)$ @ I_{ZK} (mA)		I_R (µA) @ V_R (V)	
MMBZ5221B	18A	2.4	30	20	1,200	0.25	100	1.0
MMBZ5223B	18C	2.7	30	20	1,300	0.25	75	1.0
MMBZ5226B	8A	3.3	28	20	1,600	0.25	25	1.0
MMBZ5227B	8B	3.6	24	20	1,700	0.25	15	1.0
MMBZ5228B	8C	3.9	23	20	1,900	0.25	10	1.0
MMBZ5229B	8D	4.3	22	20	1,000	0.25	5.0	1.0
MMBZ5230B	8E	4.7	19	20	1,900	0.25	5.0	2.0
MMBZ5231B	8F	5.1	17	20	1,600	0.25	5.0	2.0
MMBZ5232B	8G	5.6	11	20	1,600	0.25	5.0	3.0
MMBZ5233B	8H	6.0	7.0	20	1,600	0.25	5.0	3.5
MMBZ5234B	8J	6.2	7.0	20	1,000	0.25	5.0	4.0
MMBZ5235B	8K	6.8	5.0	20	750	0.25	3.0	5.0
MMBZ5236B	8L	7.5	6.0	20	500	0.25	3.0	6.0
MMBZ5237B	8M	8.2	8.0	20	500	0.25	3.0	6.5
MMBZ5238B	8N	8.7	8.0	20	600	0.25	3.0	6.5
MMBZ5239B	8P	9.1	10	20	600	0.25	3.0	7.0
MMBZ5240B	8Q	10	17	20	600	0.25	3.0	8.0
MMBZ5241B	8R	11	22	20	600	0.25	2.0	8.4
MMBZ5242B	8S	12	30	20	600	0.25	1.0	8.1
MMBZ5243B	8T	13	13	9.5	600	0.25	0.5	9.9
MMBZ5244B	8U	14	15	9.0	600	0.25	0.1	10
MMBZ5245B	8V	15	16	8.5	600	0.25	0.1	11
MMBZ5246B	8W	16	17	7.8	600	0.25	0.1	12
MMBZ5247B	8X	17	19	7.4	600	0.25	0.1	13

V_F Forward Voltage = 0.9V Maximum @ I_F = 10mA for all MMBZ5200 series

©2004 Fairchild Semiconductor Corporation

Electrical Characteristics

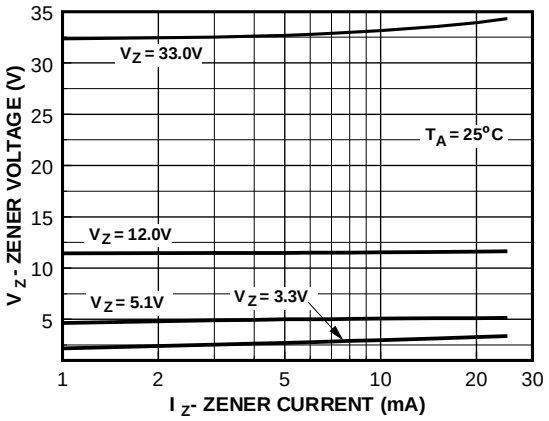
T_A=25°C unless otherwise noted

Device	Mark	V_Z (V)	Z_Z(Ω) @ I_Z (mA)		Z_{ZK}(Ω) @ I_{ZK} (mA)		I_R (μA) @ V_R (V)	
MMBZ5248B	8Y	18	21	7.0	600	0.25	0.1	14
MMBZ5249B	8Z	19	23	6.6	600	0.25	0.1	14
MMBZ5250B	81A	20	25	6.2	600	0.25	0.1	15
MMBZ5251B	81B	22	29	5.6	600	0.25	0.1	17
MMBZ5252B	81C	24	33	5.2	600	0.25	0.1	18
MMBZ5253B	81D	25	35	5.0	600	0.25	0.1	19
MMBZ5254B	81E	27	41	4.6	600	0.25	0.1	21
MMBZ5255B	81F	28	44	4.5	600	0.25	0.1	21
MMBZ5256B	81G	30	49	4.2	600	0.25	0.1	23
MMBZ5257B	81H	33	58	3.8	600	0.25	0.1	25

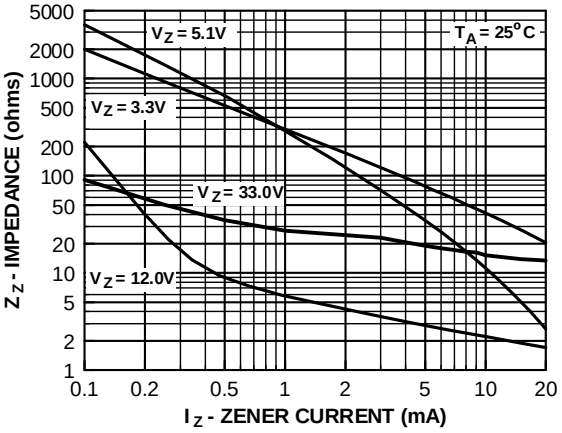
V_F Forward Voltage = 0.9V Maximum @ I_F = 10mA for all MMBZ5200 series

©2004 Fairchild Semiconductor Corporation

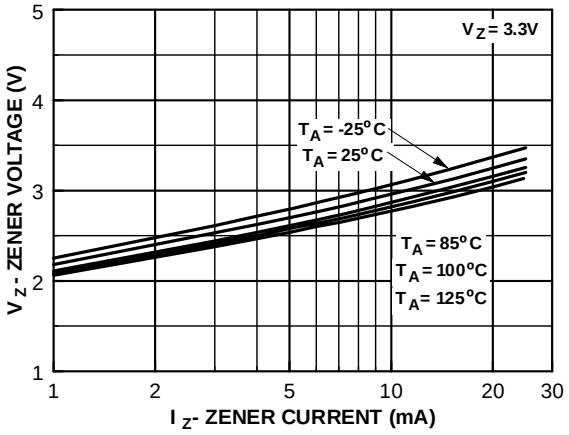
Typical Characteristics



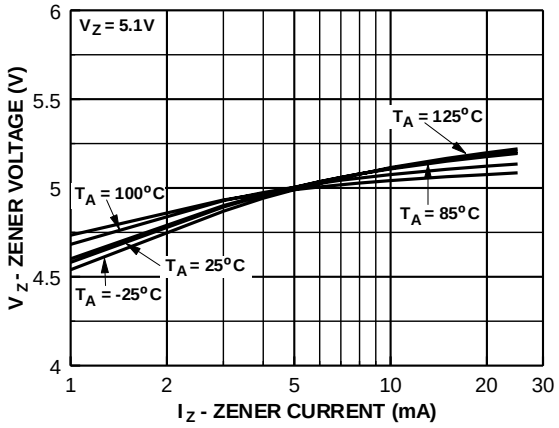
Zener Current vs. Zener Voltage



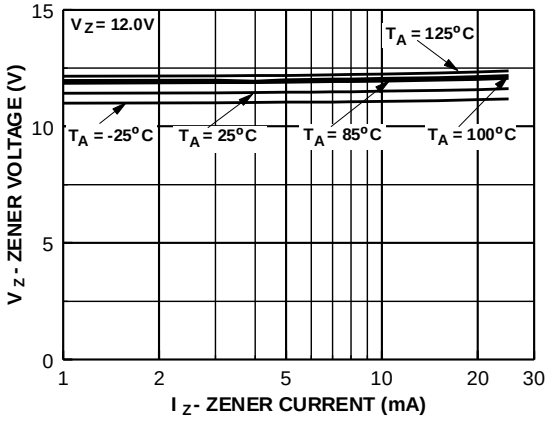
Zener Current vs. Zener Impedence



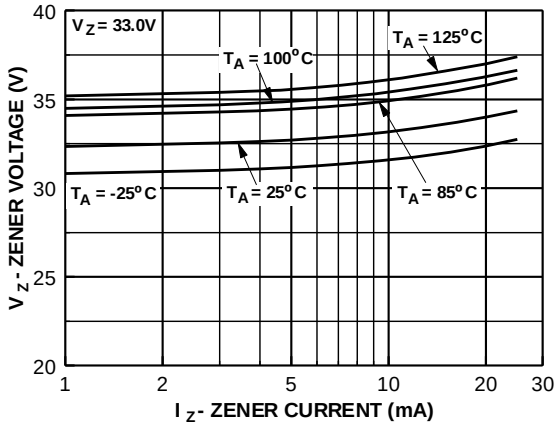
3.3 Zener Voltage vs. Temperature



5.1 Zener Voltage vs. Temperature



12 Zener Voltage vs. Zener Temperature



33 Zener Voltage vs. Zener Temperature

©2004 Fairchild Semiconductor Corporation

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™	FACT Quiet Series™	ISOPLANAR™	POP™	SuperFET™
ActiveArray™	FAST®	LittleFET™	Power247™	SuperSOT™-3
Bottomless™	FASTr™	MICROCOUPLER™	PowerTrench®	SuperSOT™-6
CoolFET™	FPS™	MicroFET™	QFET®	SuperSOT™-8
CROSSVOLT™	FRFET™	MicroPak™	QS™	SyncFET™
DOME™	GlobalOptoisolator™	MICROWIRE™	QT Optoelectronics™	TinyLogic®
EcoSPARK™	GTO™	MSX™	Quiet Series™	TINYOPTO™
E^2CMOS^{TM}	HiSeC™	MSXPro™	RapidConfigure™	TruTranslation™
EnSigna™	I^2C™	OCX™	RapidConnect™	UHC™
FACT™	ImpliedDisconnect™	OCXPro™	SILENT SWITCHER®	UltraFET®
Across the board. Around the world.™		OPTOLOGIC®	SMART START™	VCX™
The Power Franchise™		OPTOPLANAR™	SPM™	
Programmable Active Droop™		PACMAN™	Stealth™	

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

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.