

Features

- Low Zener Impedance
- Power Dissipation of 5000mW
- High Stability and High Reliability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C

Applications

Zener diode is generally used as reference voltage sources in regulated power supplies or as protective diode in overvoltage protection circuits.

Mechanical Data

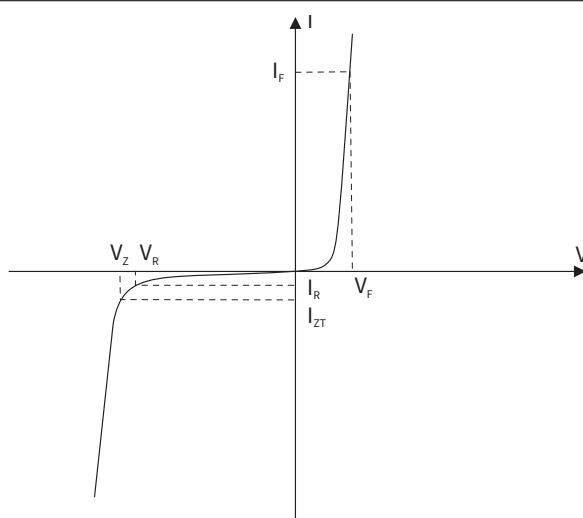
- Case: DO-214AA(SMB)
Molding compound meets UL 94V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Cathode line denotes the cathode end

Maximum Ratings (Ta=25°C Unless otherwise specified)

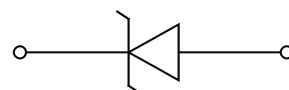
PARAMETER	SYMBOL	UNIT	VALUE
Power Dissipation	P_D	mW	5000
Forward Voltage @ $I_F=10\text{mA}$	V_F	V	1.2
Storage Temperature	T_{stg}	°C	-55 ~ +150
Junction Temperature	T_j	°C	-55 ~ +150
Typical Thermal Resistance	$R_{\theta J-A}$	°C /W	90

Electrical Parameter

SYMBOL	PARAMETER
V_Z	Reverse zener voltage @ I_{ZT}
I_{ZT}	Reverse current
Z_{ZT}	Maximum Zener Impedance @ I_{ZT}
I_{ZK}	Reverse Current
Z_{ZK}	Maximum Zener Impedance @ I_{ZK}
I_R	Reverse leakage current @ V_R
V_R	Reverse voltage
I_F	Forward current
V_F	Forward voltage @ I_F



DO-214AA(SMB)



► **Electrical Characteristics** (Ta=25°C Unless otherwise specified)

Type Number	Regulator Voltage	Test Current	Maximum Dynamic Impedance	Maximum Reverse Current	Test Voltage	Maximum Regulator Current	Maximum Dynamic Knee Impedance (Ω)	Maximum Surge Current	Maximum Voltage Regulation (V)
	V _Z (V)	I _Z (mA)	Z _{VT} (Ω)	I _R (μA)	V _R (V)	I _{ZM} (mA)	Z _{ZK} @1.0mA	I _{ZSM} (A)	
SMBJ5338B	5.1	240	1.5	1.0	1.0	930	400	14.4	0.39
SMBJ5339B	5.6	220	1.0	1.0	2.0	865	400	13.4	0.25
SMBJ5340B	6.0	200	1.0	1.0	3.0	790	300	12.7	0.19
SMBJ5341B	6.2	200	1.0	1.0	3.0	765	200	12.4	0.1
SMBJ5342B	6.8	175	1.0	10	5.2	700	200	11.5	0.15
SMBJ5343B	7.5	175	1.5	10	5.7	630	200	10.7	0.15
SMBJ5344B	8.2	150	1.5	10	6.2	580	200	10	0.2
SMBJ5345B	8.7	150	2.0	10	6.6	545	200	9.5	0.2
SMBJ5346B	9.1	150	2.0	7.5	6.9	520	150	9.2	0.22
SMBJ5347B	10	125	2.0	5.0	7.6	475	125	8.6	0.22
SMBJ5348B	11	125	2.5	5.0	8.4	430	125	8	0.25
SMBJ5349B	12	100	2.5	2.0	9.1	395	125	7.5	0.25
SMBJ5350B	13	100	2.5	1.0	9.9	365	100	7.0	0.25
SMBJ5351B	14	100	2.5	1.0	10.6	340	75	6.7	0.25
SMBJ5352B	15	75	2.5	1.0	11.5	315	75	6.3	0.25
SMBJ5353B	16	75	2.5	1.0	12.2	295	75	6	0.3
SMBJ5354B	17	70	2.5	0.5	12.9	280	75	5.8	0.35
SMBJ5355B	18	65	2.5	0.5	13.7	264	75	5.5	0.4
SMBJ5356B	19	65	3.0	0.5	14.4	250	75	5.3	0.4
SMBJ5357B	20	65	3.0	0.5	15.2	237	75	5.1	0.4
SMBJ5358B	22	50	3.5	0.5	16.7	216	75	4.7	0.45
SMBJ5359B	24	50	3.5	0.5	18.2	198	100	4.4	0.55
SMBJ5360B	25	50	4.0	0.5	19	190	110	4.3	0.55
SMBJ5361B	27	50	5.0	0.5	20.6	176	120	4.1	0.6
SMBJ5362B	28	50	6.0	0.5	21.2	170	130	3.9	0.6
SMBJ5363B	30	40	8.0	0.5	22.8	158	140	3.7	0.6
SMBJ5364B	33	40	10	0.5	25.1	144	150	3.5	0.6
SMBJ5365B	36	30	11	0.5	27.4	132	160	3.3	0.65
SMBJ5366B	39	30	14	0.5	29.7	122	170	3.1	0.65
SMBJ5367B	43	30	20	0.5	32.7	110	190	2.8	0.7
SMBJ5368B	47	25	25	0.5	35.8	100	210	2.7	0.8
SMBJ5369B	51	25	27	0.5	38.8	93	230	2.5	0.9
SMBJ5370B	56	20	35	0.5	42.6	86	280	2.3	1
SMBJ5371B	60	20	40	0.5	45.5	79	350	2.2	1.2

► Electrical Characteristics (Ta=25°C Unless otherwise specified)

Type Number	Regulator Voltage	Test Current	Maximum Dynamic Impedance	Maximum Reverse Current	Test Voltage	Maximum Regulator Current	Maximum Dynamic Knee Impedance	Maximum Surge Current	Maximum Voltage Regulation (V)
	V _Z (V)	I _Z (mA)	Z _{zT} (Ω)	I _R (μA)	V _R (V)	I _{ZM} (mA)	Z _{ZK} @1.0mA (Ω)	I _{ZSM} (A)	
SMBJ5372B	62	20	42	0.5	47.1	76	400	2.1	1.35
SMBJ5373B	68	20	44	0.5	51.7	70	500	2.0	1.5
SMBJ5374B	75	20	45	0.5	56	63	620	1.9	1.6
SMBJ5375B	82	15	65	0.5	62.2	58	720	1.8	1.8
SMBJ5376B	87	15	75	0.5	66	54.5	760	1.7	2.0
SMBJ5377B	91	15	75	0.5	69.2	52.5	760	1.6	2.2
SMBJ5378B	100	12	90	0.5	76	47.5	800	1.5	2.3
SMBJ5379B	110	12	125	0.5	83.6	43	1000	1.4	2.5
SMBJ5380B	120	10	170	0.5	91.2	39.5	1150	1.3	2.5
SMBJ5381B	130	10	190	0.5	98.8	36.6	1250	1.2	2.5
SMBJ5382B	140	8.0	230	0.5	106	34	1500	1.2	2.5
SMBJ5383B	150	8.0	330	0.5	114	31.6	1500	1.1	3.0
SMBJ5384B	160	8.0	350	0.5	122	29.4	1650	1.1	3.0
SMBJ5385B	170	8.0	380	0.5	129	28	1750	1.0	3.0
SMBJ5386B	180	5.0	430	0.5	137	26.4	1750	1.0	4.0
SMBJ5387B	190	5.0	450	0.5	144	25	1850	0.9	5.0
SMBJ5388B	200	5.0	480	0.5	152	23.6	1850	0.9	5.0

► Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)

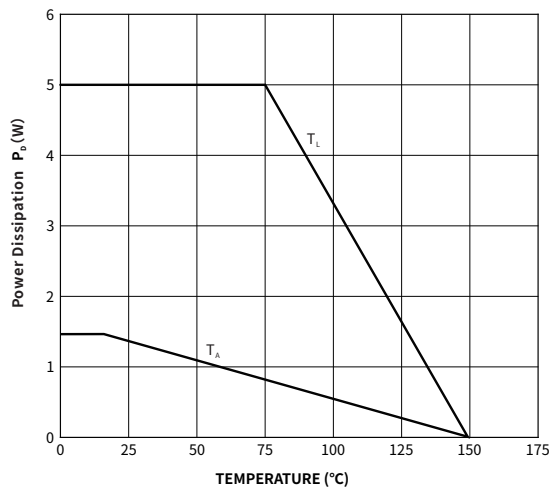


Fig. 1 Power Derating Curve

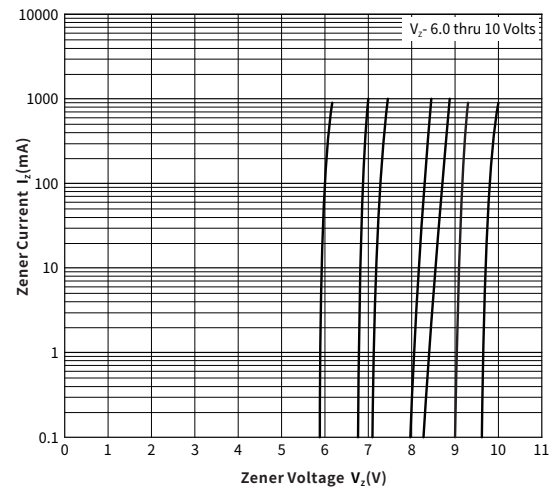


Fig.2 Typical Zener Breakdown Characteristics

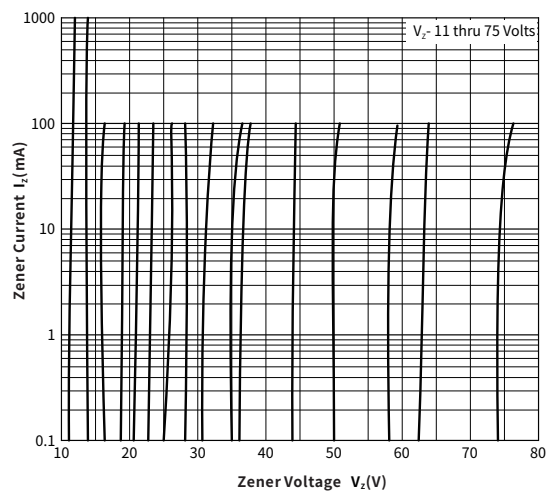


Fig.3 Typical Zener Breakdown Characteristics

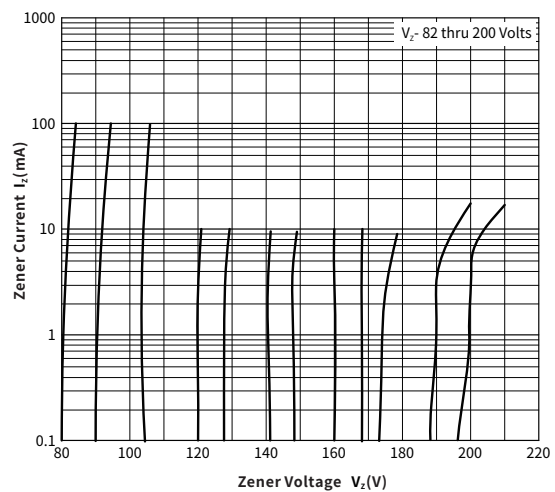


Fig.4 Typical Zener Breakdown Characteristics

Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SMB	R3	0.098	3000	6000	48000	13"

Package Outline Dimensions (SMB/DO-214AA)

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.85	2.21	0.073	0.087
B	4.25	4.85	0.167	0.191
C	3.30	3.94	0.130	0.155
D	2.15	2.65	0.085	0.104
E	0.75	1.52	0.030	0.060
F	-	0.203	-	0.008
G	5.08	5.59	0.200	0.220
H	0.15	0.31	0.006	0.012

Suggested Pad Layout

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
M	2.26	-	0.089	-
J	2.10	-	0.085	-
K	-	2.74	-	0.107