



SMB3EZ3V3 THRU SMB3EZ250V

Surface Mount Zener Diode

Features

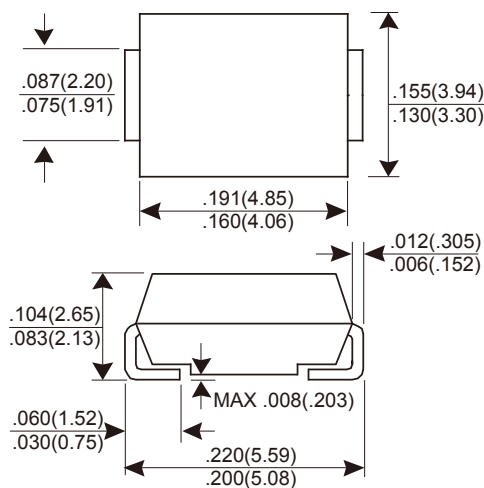
- ★ Ideally suited for automated assembly processes
- ★ Low leakage
- ★ Built-in strain relief
- ★ Low inductance
- ★ High peak reverse power dissipation
- ★ Zener voltage tolerance is $\pm 5\%$

Mechanical Data

- ★ Case: Molded plastic, SMB/DO-214AA
- ★ Epoxy: UL 94V-0 rate flame retardant
- ★ Terminals: Solderable per MIL-STD-750, method 2026
- ★ Polarity: Color band denotes cathode end
- ★ Mounting position: Any

Zener Voltage 3.3 to 250 V
Power Dissipation 3.0 Watts

SMB/DO-214AA



Dimensions in inches and (millimeters)

MAXIMUM RATINGS

$T_A = 25^\circ\text{C}$ unless otherwise noted

PARAMETER	SYMBOL	VALUE	UNIT
DC power dissipation at $T_L = 75^\circ\text{C}$	P_D	3	W
Maximum forward voltage at $I_F = 200\text{ mA}$	V_F	1.2	V
Junction temperature range	T_J	-55 to +150	$^\circ\text{C}$
Storage temperature range	T_{STG}	-55 to +150	$^\circ\text{C}$

SMB3EZ3V3 THRU SMB3EZ250V

Electrical Characteristics($T_A=25^\circ\text{C}$ unless otherwise noted)

Part Number	Device Marking Code	Zener Voltage $V_Z@I_{ZT}$			Maximum Zener Impedance			Maximum Reverse Leakage Current $I_R@V_R$		Maximum DC Zener Current
		Min (V)	Max (V)	I_{ZT} (mA)	$Z_{ZT}@I_{ZT}$ (Ω)	$Z_{ZK}@I_{ZK}$ (Ω)	I_{ZK} (mA)	I_R (μA)	V_R (V)	I_{ZM} (mA)
SMB3EZ3V3	3H0	3.14	3.47	227.3	10	500	1	100	1	817
SMB3EZ3V6	3H1	3.42	3.78	208.3	9	500	1	100	1	749
SMB3EZ3V9	3H2	3.71	4.1	192	4.5	400	1	100	1	691
SMB3EZ4V3	3H3	4.09	4.52	174	4.5	400	1	50	1	627
SMB3EZ4V7	3H4	4.47	4.94	160	4	500	1	50	1	573
SMB3EZ5V1	3H5	4.85	5.36	147	3.5	550	1	10	1	528
SMB3EZ5V6	3H6	5.32	5.88	134	2.5	600	1	10	2	481
SMB3EZ6V2	3A0	5.89	6.51	121	1.5	700	1	10	3	435
SMB3EZ6V8	3A1	6.46	7.14	110	2	700	1	10	4	393
SMB3EZ7V5	3A2	7.13	7.88	100	2	700	0.5	10	5	360
SMB3EZ8V2	3A3	7.79	8.61	91	2.3	700	0.5	10	6	330
SMB3EZ9V1	3A4	8.65	9.56	82	2.5	700	0.5	10	7	297
SMB3EZ10V	3A5	9.5	10.5	75	3.5	700	0.25	10	7.6	270
SMB3EZ11V	3A6	10.45	11.55	68	4	700	0.25	0.5	8.4	225
SMB3EZ12V	3A7	11.4	12.6	63	4.5	700	0.25	0.5	9.1	246
SMB3EZ13V	3A8	12.35	13.65	58	4.5	700	0.25	0.5	9.9	208
SMB3EZ14V	3A9	13.3	14.7	53	5	700	0.25	0.5	10.6	193
SMB3EZ15V	3B0	14.25	15.75	50	5.5	700	0.25	0.5	11.4	180
SMB3EZ16V	3B1	15.2	16.8	47	5.5	700	0.25	0.5	12.2	169
SMB3EZ17V	3B2	16.15	17.85	44	6	750	0.25	0.5	13	159
SMB3EZ18V	3B3	17.1	18.9	42	6	750	0.25	0.5	13.7	150
SMB3EZ19V	3B4	18.05	19.95	40	7	750	0.25	0.5	14.4	142
SMB3EZ20V	3B5	19	21	37	7	750	0.25	0.5	15.2	135
SMB3EZ22V	3B6	20.9	23.1	34	8	750	0.25	0.5	16.7	123
SMB3EZ24V	3B7	22.8	25.2	31	9	750	0.25	0.5	18.2	112
SMB3EZ27V	3B8	25.65	28.35	28	10	750	0.25	0.5	20.6	100
SMB3EZ30V	3B9	28.5	31.5	25	16	1000	0.25	0.5	22.5	90
SMB3EZ33V	3C0	31.35	34.65	23	20	1000	0.25	0.5	25.1	82
SMB3EZ36V	3C1	34.2	37.8	21	22	1000	0.25	0.5	27.4	75
SMB3EZ39V	3C2	37.05	40.95	19	28	1000	0.25	0.5	29.7	69
SMB3EZ43V	3C3	40.85	45.15	17	33	1500	0.25	0.5	32.7	63
SMB3EZ47V	3C4	44.65	49.35	16	38	1500	0.25	0.5	35.6	57
SMB3EZ51V	3C5	48.45	53.55	15	45	1500	0.25	0.5	38.8	53
SMB3EZ56V	3C6	53.2	58.8	13	50	2000	0.25	0.5	42.6	48
SMB3EZ62V	3C7	58.9	65.1	12	55	2000	0.25	0.5	47.1	44
SMB3EZ68V	3C8	64.6	71.4	11	70	2000	0.25	0.5	51.7	40
SMB3EZ75V	3C9	71.25	78.75	10	85	2000	0.25	0.5	56	36
SMB3EZ82V	3F0	77.9	86.1	9.1	95	3000	0.25	0.5	62.2	33
SMB3EZ91V	3F1	86.45	95.55	8.2	115	3000	0.25	0.5	69.2	30
SMB3EZ100V	3F2	95	105	7.5	160	3000	0.25	0.5	76	27
SMB3EZ110V	3F3	104.5	115.5	6.8	225	4000	0.25	0.5	83.6	25
SMB3EZ120V	3F4	114	126	6.3	300	4500	0.25	0.5	91.2	22
SMB3EZ130V	3F5	123.5	136.5	5.8	375	5000	0.25	0.5	98.8	21
SMB3EZ140V	3F6	133	147	5.3	475	5000	0.25	0.5	106.4	19
SMB3EZ150V	3F7	142.5	157.5	5	550	6000	0.25	0.5	114	18
SMB3EZ160V	3F8	152	168	4.7	625	6500	0.25	0.5	121.6	17
SMB3EZ170V	3F9	161.5	178.5	4.4	650	7000	0.25	0.5	130.4	16
SMB3EZ180V	3G1	171	189	4.2	700	7000	0.25	0.5	136.8	15
SMB3EZ190V	3G2	180.5	199.5	4	800	8000	0.25	0.5	144.8	14
SMB3EZ200V	3G3	190	210	3.7	875	8000	0.25	0.5	152	13
SMB3EZ210V	3G4	199.5	220.5	3.5	950	8300	0.25	0.5	169	12.3
SMB3EZ220V	3G5	209	231	3.3	1600	8500	0.25	0.5	178	11.6
SMB3EZ230V	3G6	218.5	241.5	3.1	2000	9000	0.25	0.5	186	10.9
SMB3EZ240V	3G7	228	252	2.9	2500	9000	0.25	0.5	195	10.2
SMB3EZ250V	3G8	237.5	262.5	2.7	3000	9500	0.25	0.5	205	9.5

The reverse surge current is a non-repetitive, 8.3ms pulse width square wave or equivalent sine-wave superimposed on I_{ZT} per JEDEC method

RATINGS AND CHARACTERISTICS CURVES SMB3EZ3V3 THRU SMB3EZ250V

Fig.1 - Power Derating Curve

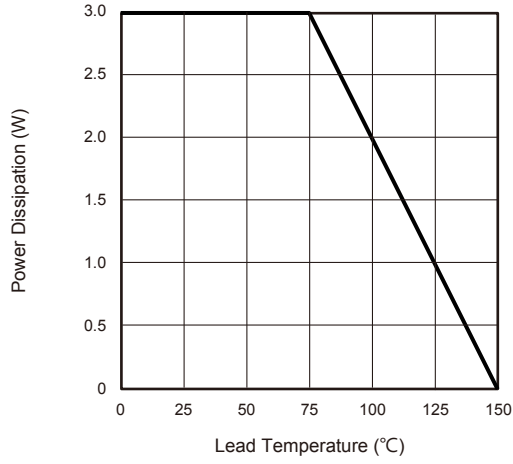


Fig.2 - Temperature Coefficients vs. Zener Voltage

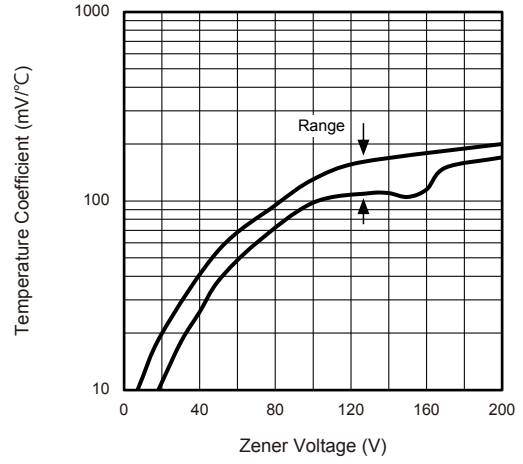


Fig.3 - Pulse Waveform

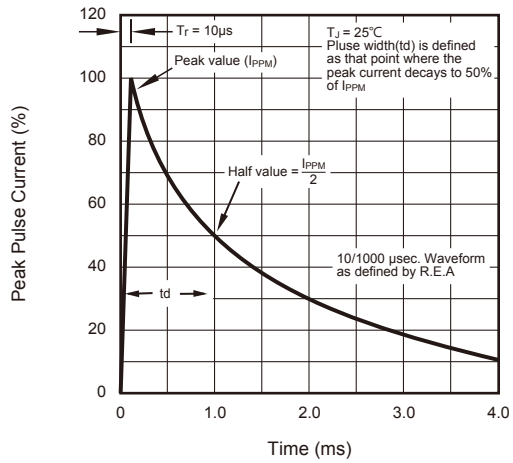


Fig.4 - Maximum Surge Power

