



THE DATASHEET OF SMBJ5361B



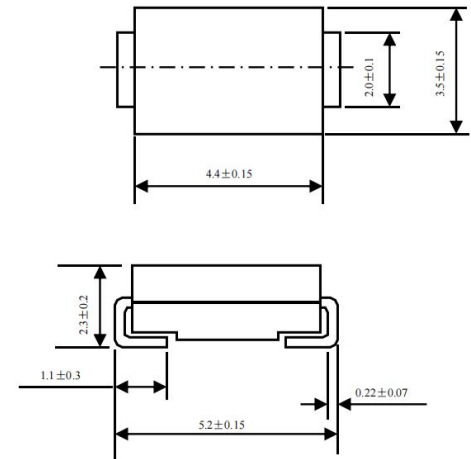
Features:

- Low Zener impedance at low current
- High reliability
- Resistance to soldering heat: SMD product 250°C/10S, lead end 1.5mm.

Mechanical properties:

- Packaging: Molded package
- Packaging material: Flame-retardant epoxy material approved by UL94V-0
- Terminal: Electroplating solderability complies with MIL-STD-202E, Method 208C
- Polarity: Color ring indicates cathode
- Mounting position: Any

SMB / DO-214AA



5w Zener (voltage regulator) diode
Dimensions: inches (mm)

Maximum Ratings And Characteristics (Measured at an ambient temperature of 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
zener current	I_Z MAX	see table	mA
power dissipation @ TL = 75°C (Note 1)	P_t	5	W
forward voltage @IF=1.0A	VF	1.2	V
thermal impedance (Junction to Ambient, Note 1)	$R_{\theta(ja)}$	20	°C/W
operating and storage temperature range	T_J, T_{STG}	-55~+150	°C

Note1: Install 5×5mm heat sink copper sheet at the end of the lead wire. Set to ambient temperature.

Electrical Characteristics (Measured at 25°C unless otherwise specified)								
Model (Note 1)	Zener Voltage	Measuring Current	Maximum Zener Impedance			Maximum Reverse Leakage Current		Maximum DC Zener Current @V(BR)
	$V_Z@I_{ZT}$	I_{ZT}	$Z_{ZT}@I_{ZT}$ (Note 2)	$Z_{ZK}@I_{ZK}$ (Note 2)	I_{ZK}	$I_R@V_R$	@ V_R	$I_{ZM}@50^\circ\text{C}$ (Note 3)
	V	mA	Ω	Ω	mA	μA	V	mA
SMBJ5333B	3.3	380	3	400	1	300	1.0	1440
SMBJ5334B	3.6	350	2.5	500	1	150	1.0	1320
SMBJ5335B	3.9	320	2	500	1	50	1.0	1220
SMBJ5336B	4.3	290	2	500	1	10	1.0	1100
SMBJ5337B	4.7	260	2	450	1	5	1.0	1010
SMBJ5338B	5.1	240	1.5	400	1	1	1.0	930
SMBJ5339B	5.6	220	1	400	1	1	2.0	856
SMBJ5340B	6.0	200	1	300	1	1	3.0	790
SMBJ5341B	6.2	200	1	200	1	1	4.0	765
SMBJ5342B	6.8	175	1	200	1	10	4.9	700
SMBJ5343B	7.5	175	1.5	200	1	10	5.4	630
SMBJ5344B	8.2	150	1.5	200	1	10	5.9	580
SMBJ5345B	8.7	150	2	200	1	10	6.3	545
SMBJ5346B	9.1	150	2	150	1	7.5	6.6	520
SMBJ5347B	10	125	2	125	1	5	7.2	475
SMBJ5348B	11	125	2.5	125	1	5	8	430
SMBJ5349B	12	100	2.5	125	1	2	8.6	395
SMBJ5350B	13	100	2.5	100	1	1	9.4	365
SMBJ5351B	14	100	2.5	75	1	1	10.1	340
SMBJ5352B	15	75	2.5	75	1	1	10.8	315
SMBJ5353B	16	75	2.5	75	1	1	11.5	295
SMBJ5354B	17	70	2.5	75	1	0.5	12.2	280
SMBJ5355B	18	65	2.5	75	1	0.5	13	265
SMBJ5356B	19	65	3	75	1	0.5	13.7	250
SMBJ5357B	20	50	3	75	1	0.5	14.4	237
SMBJ5358B	22	50	3.5	75	1	0.5	15.8	216
SMBJ5359B	24	50	3.5	100	1	0.5	17.3	198
SMBJ5360B	25	50	4	110	1	0.5	18	190
SMBJ5361B	27	50	5	120	1	0.5	19.4	176
SMBJ5362B	28	50	6	130	1	0.5	20.1	170
SMBJ5363B	30	40	8	140	1	0.5	21.6	158
SMBJ5364B	33	40	10	150	1	0.5	23.8	144
SMBJ5365B	36	30	11	160	1	0.5	25.9	132
SMBJ5366B	39	30	14	170	1	0.5	28.1	122
SMBJ5367B	43	30	20	190	1	0.5	31	110
SMBJ5368B	47	25	25	210	1	0.5	33.8	100
SMBJ5369B	51	25	27	230	1	0.5	36.7	93
SMBJ5370B	56	20	35	280	1	0.5	40.3	86
SMBJ5371B	60	20	40	350	1	0.5	43	79
SMBJ5372B	62	20	42	400	1	0.5	44.6	76
SMBJ5373B	68	20	44	500	1	0.5	49	70
SMBJ5374B	75	20	45	620	1	0.5	54	63



SMBJ5333B-SMBJ5388B

Electrical Characteristics (Measured at 25°C unless otherwise specified)								
Model (Note 1)	Zener Voltage	Measuring Current	Maximum Zener Impedance			Maximum Reverse Leakage Current		Maximum DC Zener Current @V(BR)
	$V_Z@I_{ZT}$	I_{ZT}	$Z_{ZT}@I_{ZT}$ (Note 2)	$Z_{ZK}@I_{ZK}$ (Note 2)	I_{ZK}	$I_R@V_R$	@ V_R	$I_{ZM}@50^\circ\text{C}$ (Note 3)
	V	mA	Ω	Ω	mA	μA	V	mA
SMBJ5375B	82	15	65	720	1	0.5	59	58
SMBJ5376B	87	15	75	760	1	0.5	63	54.5
SMBJ5377B	91	15	75	760	1	0.5	65.5	52.5
SMBJ5378B	100	12	90	800	1	0.5	72	47.5
SMBJ5379B	110	12	125	1000	1	0.5	79.2	43
SMBJ5380B	120	10	170	1150	1	0.5	86.4	39.5
SMBJ5381B	130	10	190	1250	1	0.5	93.2	36.6
SMBJ5382B	140	8	230	1500	1	0.5	101	34
SMBJ5383B	150	8	330	1500	1	0.5	108	31.6
SMBJ5384B	160	8	350	1650	1	0.5	115	29.4
SMBJ5385B	170	8	380	1750	1	0.5	122	28
SMBJ5386B	180	5	430	1750	1	0.5	130	26.4
SMBJ5387B	190	5	450	1850	1	0.5	137	25
SMBJ5388B	200	5	480	1850	1	0.5	144	23.6

Notes:

1. The standard Zener voltage deviation is 10%; for special selections marked with subscript "B," the deviation is 5%.
2. The Zener impedance is derived from an AC voltage over 60 seconds, where the RMS AC current equals the sum of 10% of the DC stabilization current (I_{ZT} or I_{ZK}).
3. The maximum Zener current value here is not absolute; in practical steady-state applications, ensure the product of voltage and current does not exceed the rated power value.

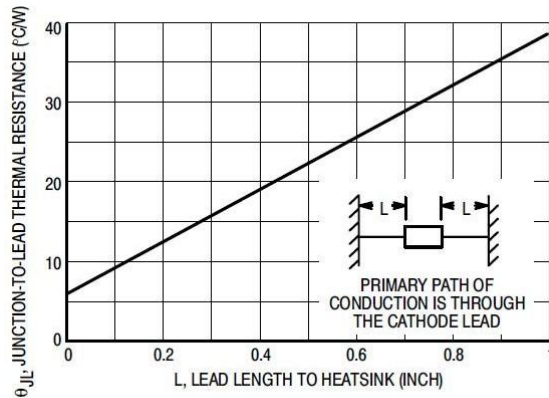


Figure 1. Typical Thermal Resistance

TEMPERATURE COEFFICIENTS

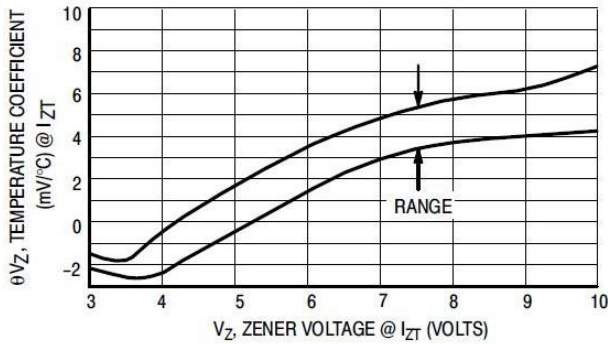


Figure 2. Temperature Coefficient-Range for Units 3 to 10 Volts

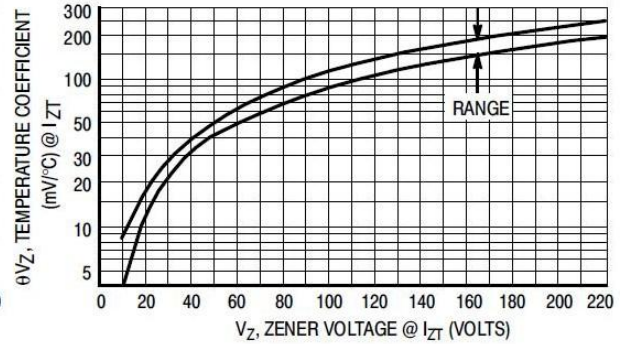


Figure 3. Temperature Coefficient-Range for Units 10 to 220 Volts

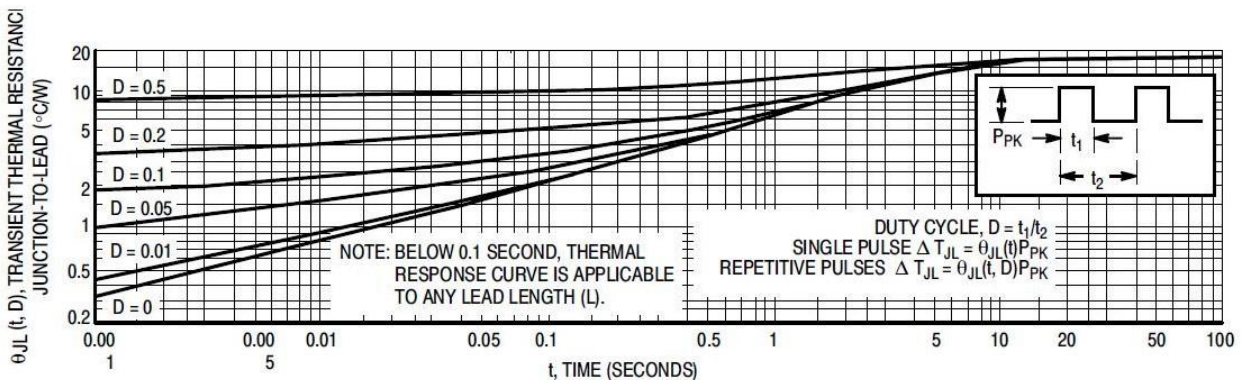


Figure 4. Typical Thermal Response
L, Lead Length = 3/8 Inch

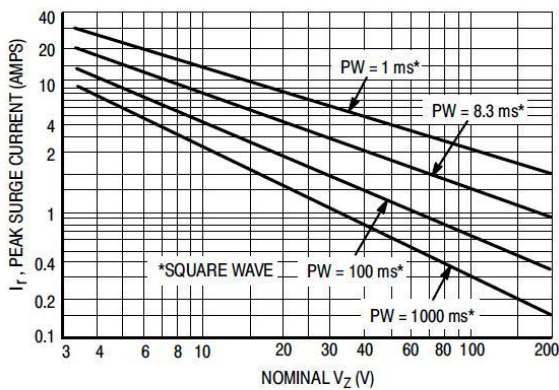


Figure 5. Maximum Non-Repetitive Surge Current versus Nominal Zener Voltage

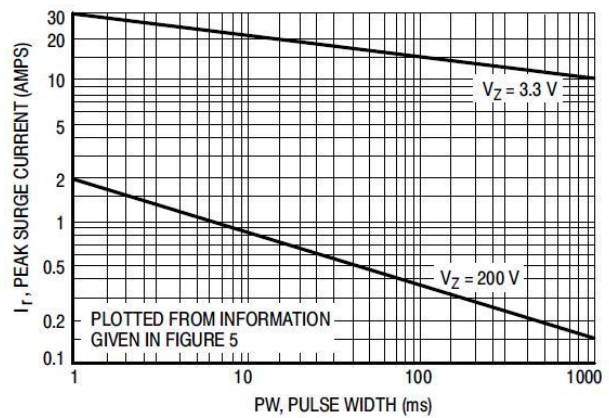
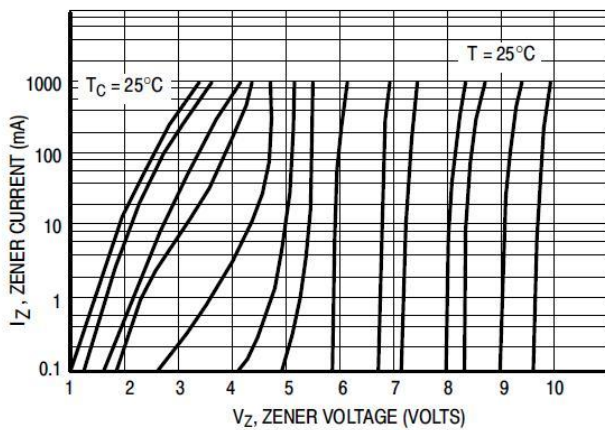
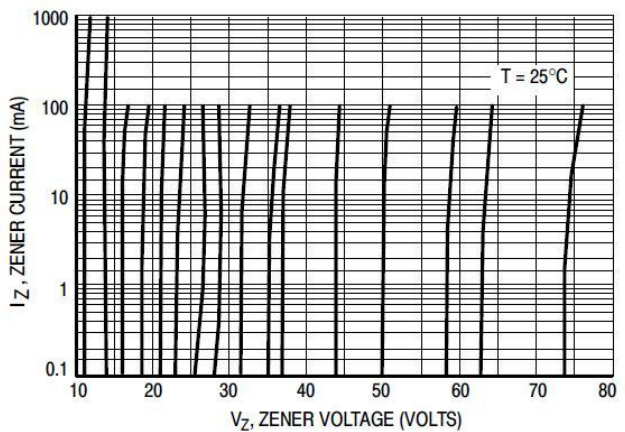


Figure 6. Peak Surge Current versus Pulse Width

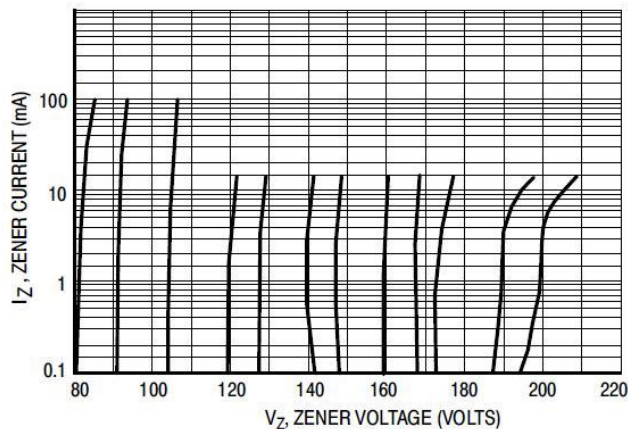


**Figure 7. Zener Voltage versus Zener Current
V_Z = 3.3 thru 10 Volts**



**Figure 8. Zener Voltage versus Zener Current
V_Z = 11 thru 75 Volts**



1N5333B Series





**Figure 9. Zener Voltage versus Zener Current
V_Z = 82 thru 200 Volts**

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