SZCJ

Shenzhen Changji Semiconductor Co., LTD.

SMBG Plastic-Encapsulate Diodes

SMB53 SERIES Zener Diodes

Features

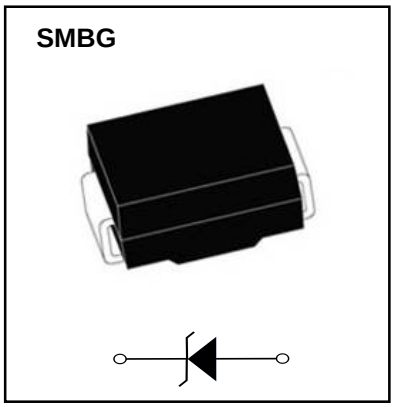
- P_{tot} 5W
- V_Z 3.3V- 200V
- The marking bar indicates the cathode

Applications

- Stabilizing Voltage

Marking

- SMB53XXB
  XX：From 33 To 88



Limiting Values(Absolute Maximum Rating)

Item	Symbol	Unit	Conditions	Max
Power dissipation	P_d	W	T_L=75℃	5
Zener current	I_Z	mA		P_V /V_Z
Operation Junction and Storage Temperature Range	T_J,T_{stg}	℃		-55 ~ +150

Electrical Characteristics（T_a=25℃ Unless otherwise specified）

Item	Symbol	Unit	Conditions	Max
Thermal resistance	$R_{\theta JA}$	℃/W	Between junction to ambient	90
	$R_{\theta JL}$	℃/W	Between junction to lead	25
Forward voltage	V_F	V	I_F=200mA	1.2

Electrical Characteristics (T_A=25℃ unless otherwise noted)

TYPE	Regulator Voltage		Maximum Zener Impedance			Maximum Reverse Leakage Current		Maximum Zener Current	Maximum Surge Current	Maximum Voltage Regulator
	V_Z @ I_{ZT}	I_{ZT}	Z_{ZT} @ I_{ZT}	Z_{ZK} @ I_{ZK}	I_{ZK}	I_R @ V_R		I_{ZM}	I_{ZSM}	
	(V)	(mA)	(Ω)	(Ω)	(mA)	(μA)	(V)	(mA)	(A)	ΔV_Z
SMB5333B	3.3	380	3.0	400	1.0	300	1.0	1440	20.0	0.85
SMB5334B	3.6	350	2.5	500	1.0	150	1.0	1320	18.7	0.80
SMB5335B	3.9	320	2.0	500	1.0	50	1.0	1220	17.6	0.54
SMB5336B	4.3	290	2.0	500	1.0	10	1.0	1100	16.4	0.49
SMB5337B	4.7	260	2.0	450	1.0	5.0	1.0	1010	15.3	0.44
SMB5338B	5.1	240	1.5	400	1.0	1.0	1.0	930	14.4	0.39
SMB5339B	5.6	220	1.0	400	1.0	1.0	2.0	856	13.4	0.25
SMB5340B	6.0	200	1.0	300	1.0	1.0	3.0	790	12.7	0.19
SMB5341B	6.2	200	1.0	200	1.0	1.0	3.0	765	12.4	0.10
SMB5342B	6.8	175	1.0	200	1.0	10	5.2	700	11.5	0.15
SMB5343B	7.5	175	1.5	200	1.0	10	5.7	630	10.7	0.15
SMB5344B	8.2	150	1.5	200	1.0	10	6.2	580	10.0	0.20
SMB5345B	8.7	150	2.0	200	1.0	10	6.6	545	9.5	0.20
SMB5346B	9.1	150	2.0	150	1.0	7.5	6.9	520	9.2	0.22
SMB5347B	10	125	2.0	125	1.0	5.0	7.6	475	8.6	0.22
SMB5348B	11	125	2.5	125	1.0	5.0	8.4	430	8.0	0.25
SMB5349B	12	100	2.5	125	1.0	2.0	9.1	395	7.5	0.25
SMB5350B	13	100	2.5	100	1.0	1.0	9.9	365	7.0	0.25
SMB5351B	14	100	2.5	75	1.0	1.0	10.6	340	6.7	0.25
SMB5352B	15	75	2.5	75	1.0	1.0	11.5	315	6.3	0.25
SMB5353B	16	75	2.5	75	1.0	1.0	12.2	295	6.0	0.30
SMB5354B	17	70	2.5	75	1.0	0.5	12.9	280	5.8	0.35
SMB5355B	18	65	2.5	75	1.0	0.5	13.7	265	5.5	0.40
SMB5356B	19	65	3.0	75	1.0	0.5	14.4	250	5.3	0.40
SMB5357B	20	65	3.0	75	1.0	0.5	15.2	237	5.1	0.40
SMB5358B	22	50	3.5	75	1.0	0.5	16.7	216	4.7	0.45
SMB5359B	24	50	3.5	100	1.0	0.5	18.2	198	4.4	0.55
SMB5360B	25	50	4.0	110	1.0	0.5	19.0	190	4.3	0.55
SMB5361B	27	50	5.0	120	1.0	0.5	20.6	176	4.1	0.60
SMB5362B	28	50	6.0	130	1.0	0.5	21.2	170	3.9	0.60
SMB5363B	30	40	8.0	140	1.0	0.5	22.8	158	3.7	0.60
SMB5364B	33	40	10	150	1.0	0.5	25.1	144	3.5	0.60
SMB5365B	36	30	11	160	1.0	0.5	27.4	132	3.3	0.65
SMB5366B	39	30	14	170	1.0	0.5	29.7	122	3.1	0.65
SMB5367B	43	30	20	190	1.0	0.5	32.7	110	2.8	0.70
SMB5368B	47	25	25	210	1.0	0.5	35.8	100	2.7	0.80
SMB5369B	51	25	27	230	1.0	0.5	38.8	93.0	2.5	0.90
SMB5370B	56	20	35	280	1.0	0.5	42.6	86.0	2.3	1.00
SMB5371B	60	20	40	350	1.0	0.5	45.5	79.0	2.2	1.20
SMB5372B	62	20	42	400	1.0	0.5	47.1	76.0	2.1	1.35
SMB5373B	68	20	44	500	1.0	0.5	51.7	70.0	2.0	1.50
SMB5374B	75	20	45	620	1.0	0.5	56.0	63.0	1.9	1.60
SMB5375B	82	15	65	720	1.0	0.5	62.2	58.0	1.8	1.80
SMB5376B	87	15	75	760	1.0	0.5	66.0	54.5	1.7	2.00
SMB5377B	91	15	75	760	1.0	0.5	69.2	52.5	1.6	2.20
SMB5378B	100	12	90	800	1.0	0.5	76.0	47.5	1.5	2.30
SMB5379B	110	12	125	1000	1.0	0.5	83.6	43.0	1.4	2.50
SMB5380B	120	10	170	1150	1.0	0.5	91.2	39.5	1.3	2.50
SMB5381B	130	10	190	1250	1.0	0.5	98.8	36.6	1.2	2.50
SMB5382B	140	8.0	230	1500	1.0	0.5	106	34.0	1.2	2.50
SMB5383B	150	8.0	330	1500	1.0	0.5	114	31.6	1.1	3.00
SMB5384B	160	8.0	350	1650	1.0	0.5	122	29.4	1.1	3.00
SMB5385B	170	8.0	380	1750	1.0	0.5	129	28.0	1.0	3.00
SMB5386B	180	5.0	430	1750	1.0	0.5	137	26.4	1.0	4.00
SMB5387B	190	5.0	450	1850	1.0	0.5	144	25.0	0.9	5.00
SMB5388B	200	5.0	480	1850	1.0	0.5	152	23.6	0.9	5.00

Notes :

(1) The type number listed have a standard tolerance on the nominal zener voltage of ± 5 %

(2) The revese surge current is a non-repetitive, 8.3ms pulse width square wave or equivalent sine-wave superimposed on IZT per method.

Typical Characteristics

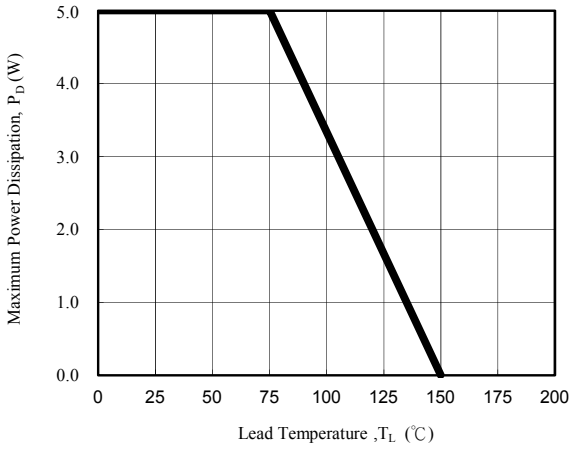


Fig. 1 - Power Temperature Derating Curve

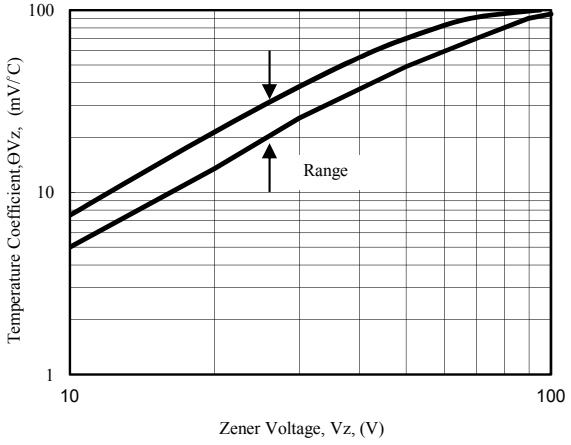


Fig. 2 - Temperature Coefficients v.s. Zener Voltage

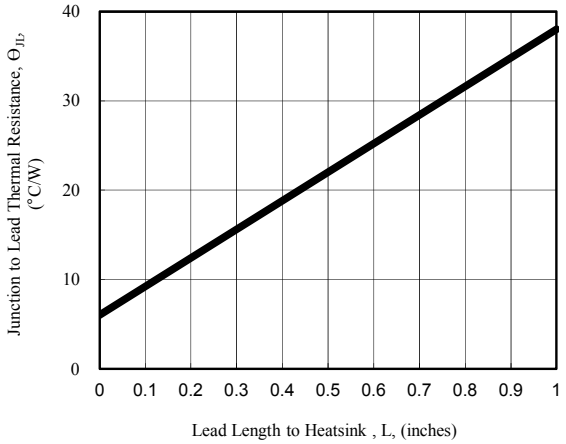


Fig. 3 - Typical Thermal Resistance v.s. Lead Length

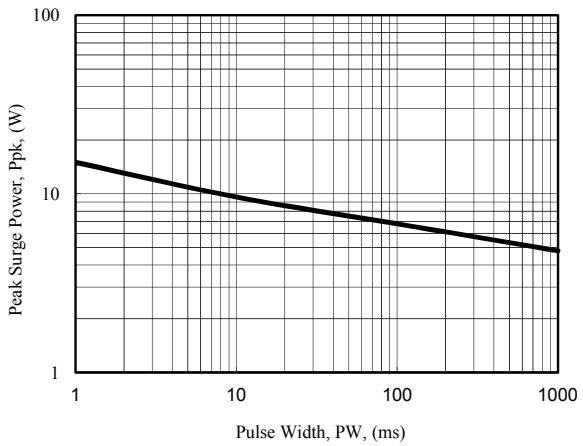


Fig. 4 - Maximum Surge Power

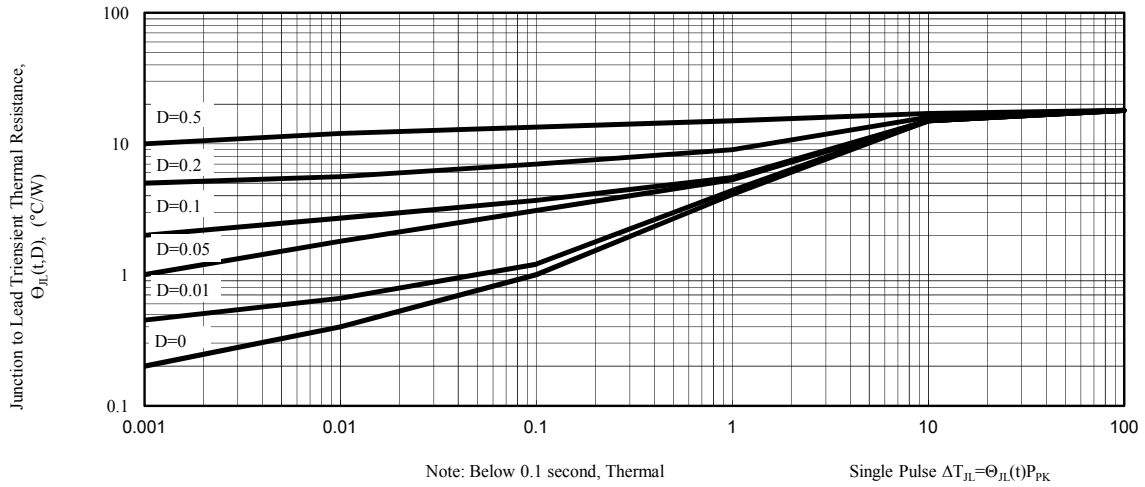
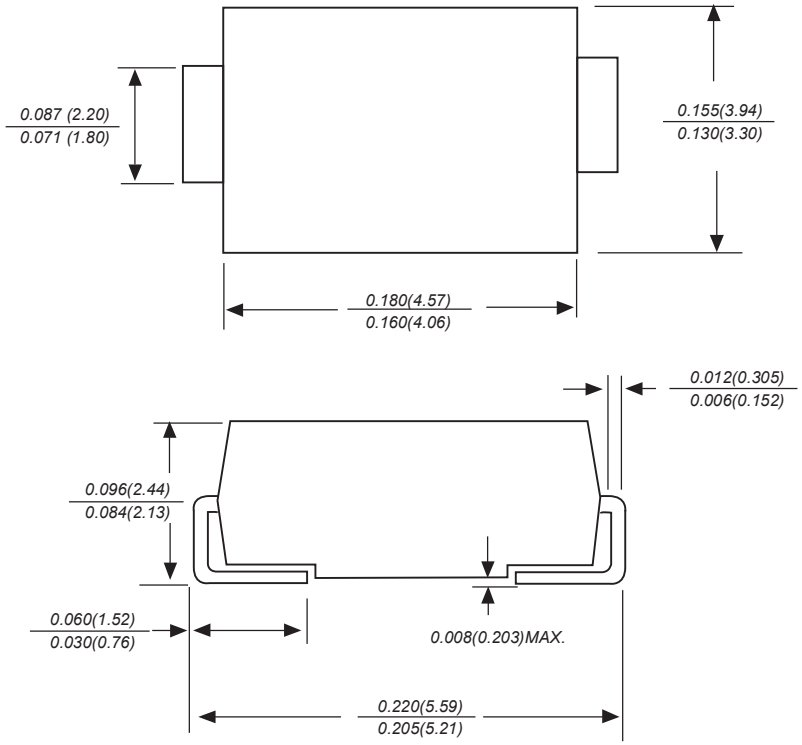


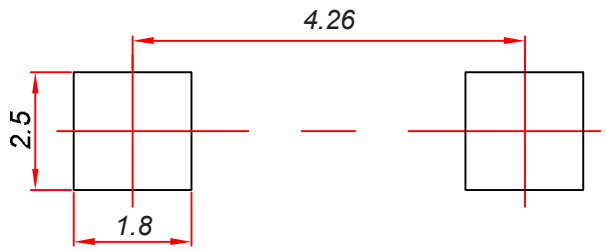
Fig. 5 - Typical Thermal Response L, Lead Length=3/8inch

SMBG Package Outline Dimensions



Dimensions in inches and (millimeters)

SMBG Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

NOTICE

SZCJ reserve the right to make modifications,enhan ts,improvements,corrections or other c s without turther notice to any product herein. SZCJ oes not assume any liability arising out of the application or use of any product described .

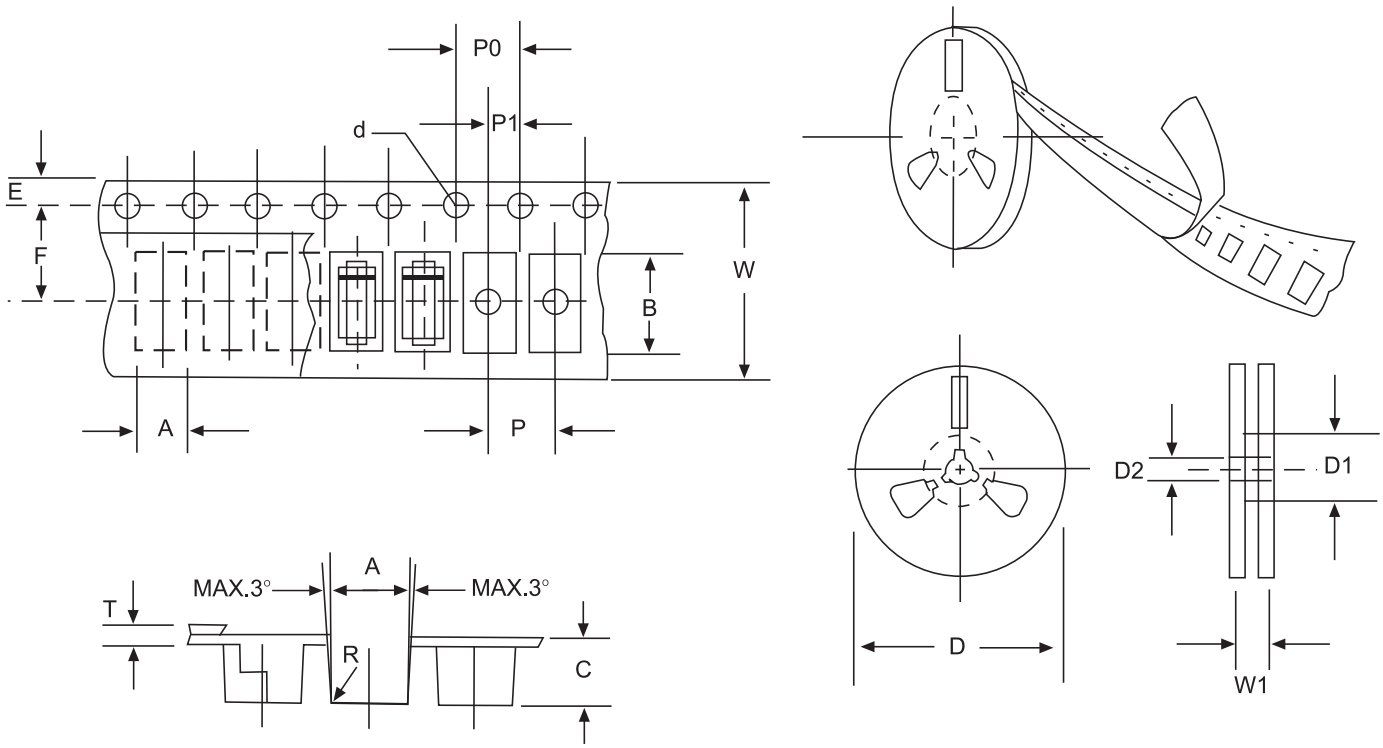


FIG:CONFIGURATION OF AXIAL TAPING

ITEM	SYMBOL	SMBG mm(inch)
Carrier width	A	4.09±0.1(0.161±0.004)
Carrier length	B	5.82±0.1(0.229±0.004)
Carrier depth	C	2.50±0.1(0.100±0.004)
Sprocket hole	d	1.55±0.05(0.061±0.002)
Reel outside diameter	D	330±2.0(13±0.079)
Reel inner diameter	D1	75±1.0 (2.95 ±0.039)
Feed hole diameter	D2	13±0.5(0.512±0.020)
Stroket hole position	E	1.75±0.1(0.069±0.004)
Punch hole position	F	5.65±0.05(0.222±0.002)
Punch hole pitch	P	8.0±0.1(0.315±0.004)
Sprocket hole pitch	P0	4.0±0.1(0.157±0.004)
Embossment center	P1	2.0±0.1(0.079±0.004)
Totall tape thickness	T	0.32±0.1(0.013±0.004)
Tape width	W	12.0±0.2(0.472±0.008)
Reel width	W1	16.8±2.0(0.661±0.079)

NOTE:Devices are packde in accordance with EIA standard RS-481-A and specification given above.