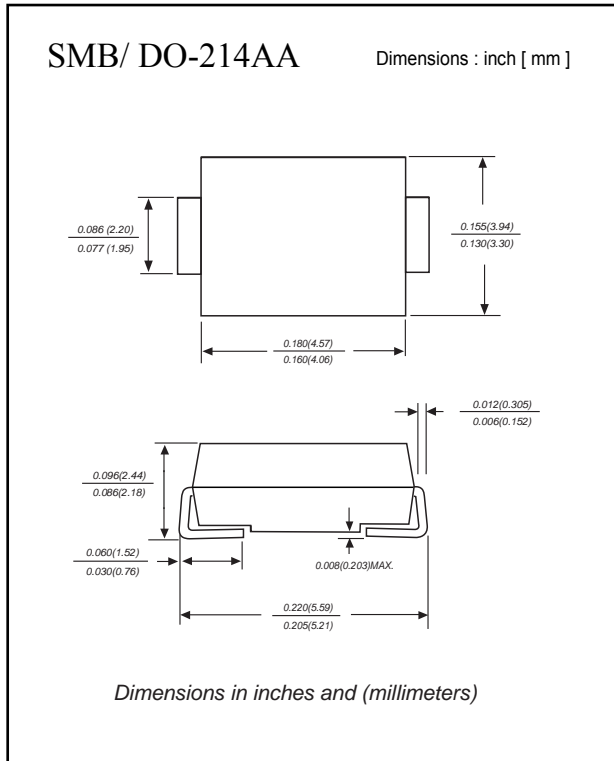


# SMB5333B THRU SMB5388B

## SURFACE MOUNT SILICON ZENER DIODES

$V_Z$  : 3.3 - 200 Volts

$P_D$  : 5 Watts



### Features

- Glass passivated chip
- Low leakage
- Built-in strain relief
- Low inductance
- High peak reverse power dissipation
- For use in stabilizing and clipping with high power rating
- RoHS compliant

### Mechanical Data

- Case: Molded plastic
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Solderable per MIL-STD-30, method 2026 guaranteed
- Polarity: Color band denotes cathode end
- Mounting position: Any
- Weight: 0.005 ounce, 0.138 gram

### Maximum Ratings( $T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	UNIT
DC power dissipation at $T_L = 50^\circ\text{C}^{(1)}$	$P_D$	5	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	$^\circ\text{C}$

**Note:**

(1)  $T_L$  = Lead temperature at 3/8 " (9.5mm) from body



# SMB5333B THRU SMB5388B

## Ratings and Characteristics Curves ( $T_A=25^\circ\text{C}$ unless otherwise noted)

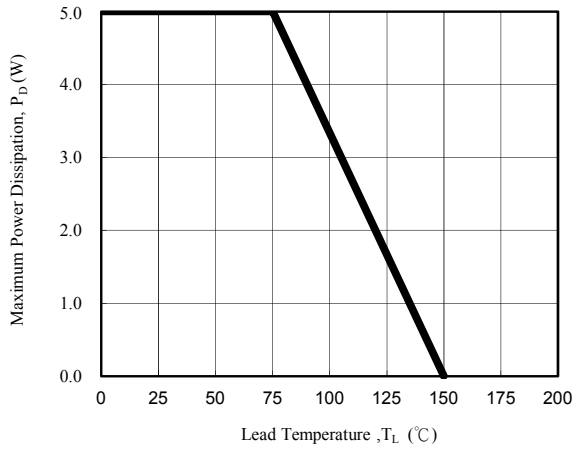


Fig. 1 - Power Temperature Derating Curve

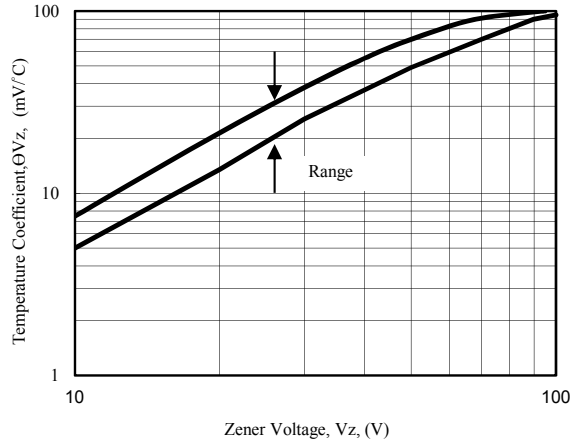


Fig. 2 - Temperature Coefficients v.s. Zener Voltage

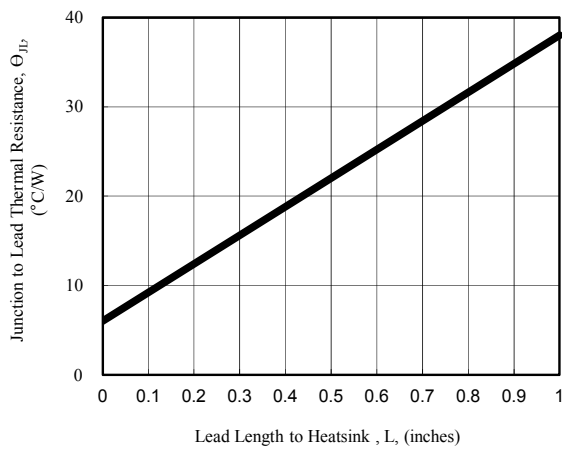


Fig. 3 - Typical Thermal Resistance v.s. Lead Length

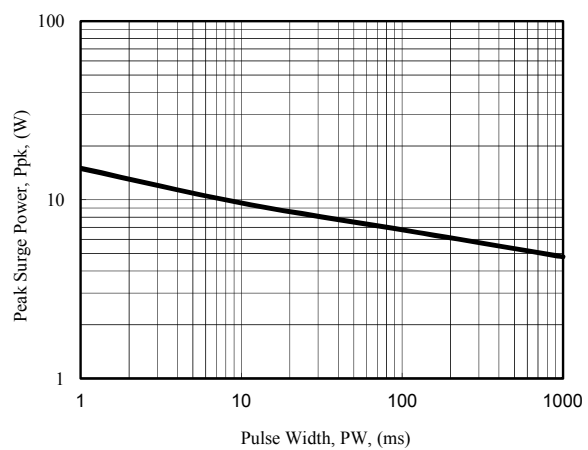


Fig. 4 - Maximum Surge Power

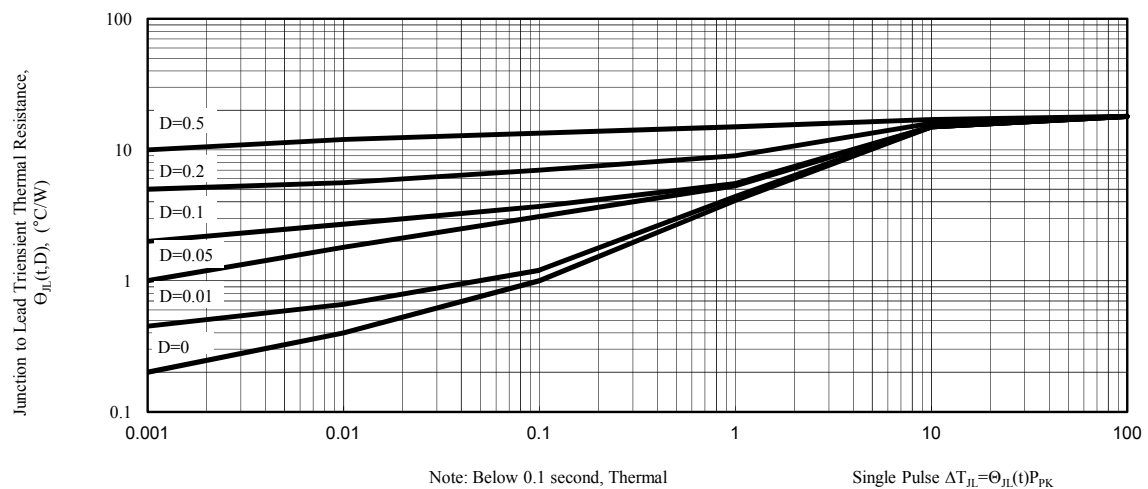


Fig. 5 - Typical Thermal Response L, Lead Length=3/8inch

# SMB5333B THRU SMB5388B

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

Part Number	Device Marking Code	Nominal Zener Voltage		Maximum Zener Impedance			Maximum Reverse Leakage Current		Maximum DC Zener Current
		$V_Z @ I_{ZT}$	$I_{ZT}$	$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$	$I_{ZK}$	$I_R @ V_R$		$I_{ZM}$
		(V)	(mA)	( $\Omega$ )	( $\Omega$ )	(mA)	( $\mu\text{A}$ )	(V)	(mA)
SMB5333B	333B	3.3	380	3.0	400	1	300.0	1.0	1437.0
SMB5334B	334B	3.6	350	2.5	500	1	150.0	1.0	1317.0
SMB5335B	335B	3.9	320	2.0	500	1	50.0	1.0	1216.0
SMB5336B	336B	4.3	290	2.0	500	1	10.0	1.0	1103.0
SMB5337B	337B	4.7	260	2.0	450	1	5.0	1.0	1009.0
SMB5338B	338B	5.1	240	1.5	400	1	1.0	1.0	930.0
SMB5339B	339B	5.6	220	1.0	400	1	1.0	2.0	846.0
SMB5340B	340B	6.0	200	1.0	300	1	1.0	3.0	790.0
SMB5341B	341B	6.2	200	1.0	200	1	1.0	3.0	765.0
SMB5342B	342B	6.8	175	1.0	200	1	10.0	5.2	700.0
SMB5343B	343B	7.5	175	1.5	200	1	10.0	5.7	630.0
SMB5344B	344B	8.2	150	1.5	200	1	10.0	6.2	580.0
SMB5345B	345B	8.7	150	2.0	200	1	10.0	6.6	545.0
SMB5346B	346B	9.1	150	2.0	150	1	7.5	6.9	520.0
SMB5347B	347B	10.0	125	2.0	125	1	5.0	7.6	475.0
SMB5348B	348B	11.0	125	2.5	125	1	5.0	8.4	430.0
SMB5349B	349B	12.0	100	2.5	125	1	2.0	9.1	395.0
SMB5350B	350B	13.0	100	2.5	100	1	1.0	9.9	365.0
SMB5351B	351B	14.0	100	2.5	75	1	1.0	10.6	340.0
SMB5352B	352B	15.0	75	2.5	75	1	1.0	11.5	315.0
SMB5353B	353B	16.0	75	2.5	75	1	1.0	12.2	295.0
SMB5354B	354B	17.0	70	2.5	75	1	0.5	12.9	280.0
SMB5355B	355B	18.0	65	2.5	75	1	0.5	13.7	265.0
SMB5356B	356B	19.0	65	3.0	75	1	0.5	14.4	250.0
SMB5357B	357B	20.0	65	3.0	75	1	0.5	15.2	237.0
SMB5358B	358B	22.0	50	3.5	75	1	0.5	16.7	216.0
SMB5359B	359B	24.0	50	3.5	100	1	0.5	18.2	198.0
SMB5360B	360B	25.0	50	4.0	110	1	0.5	19.0	190.0
SMB5361B	361B	27.0	50	5.0	120	1	0.5	20.6	176.0
SMB5362B	362B	28.0	50	6.0	130	1	0.5	21.2	170.0
SMB5363B	363B	30.0	40	8.0	140	1	0.5	22.8	158.0
SMB5364B	364B	33.0	40	10.0	150	1	0.5	25.1	144.0
SMB5365B	365B	36.0	30	11.0	160	1	0.5	27.4	132.0
SMB5366B	366B	39.0	30	14.0	170	1	0.5	29.7	122.0
SMB5367B	367B	43.0	30	20.0	190	1	0.5	32.7	110.0
SMB5368B	368B	47.0	25	25.0	210	1	0.5	35.8	100.0
SMB5369B	369B	51.0	25	27.0	230	1	0.5	38.8	93.0
SMB5370B	370B	56.0	20	35.0	280	1	0.5	42.6	86.0
SMB5371B	371B	60.0	20	40.0	350	1	0.5	42.5	79.0
SMB5372B	372B	62.0	20	42.0	400	1	0.5	47.1	76.0
SMB5373B	373B	68.0	20	44.0	500	1	0.5	51.7	70.0
SMB5374B	374B	75.0	20	45.0	620	1	0.5	56.0	63.0
SMB5375B	375B	82.0	15	65.0	720	1	0.5	62.2	58.0

**Notes :**

- (1) The type number listed have a standard tolerance on the nominal zener voltage of  $\pm 5\%$
- (2) The reverse surge current is a non-repetitive, 8.3ms pulse width square wave or equivalent sine-wave superimposed on IZT per JEDEC method

# SMB5333B THRU SMB5388B

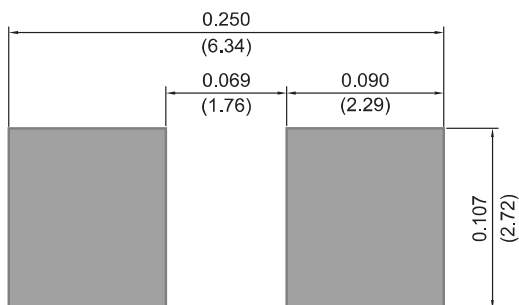
Electrical Characteristics( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

Part Number	Device Marking Code	Nominal Zener Voltage		Maximum Zener Impedance			Maximum Reverse Leakage Current		Maximum DC Zener Current
		$V_Z @ I_{ZT}$	$I_{ZT}$	$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$	$I_{ZK}$	$I_R @ V_R$		$I_{ZM}$
		(V)	(mA)	( $\Omega$ )	( $\Omega$ )	(mA)	( $\mu\text{A}$ )	(V)	(mA)
SMB5376B	376B	87.0	15	75.0	760	1	0.5	66.0	54.5
SMB5377B	377B	91.0	15	75.0	760	1	0.5	69.2	52.5
SMB5378B	378B	100.0	12	90.0	800	1	0.5	76.0	47.5
SMB5379B	379B	110.0	12	125.0	1000	1	0.5	83.6	43.0
SMB5380B	380B	120.0	10	170.0	1150	1	0.5	91.2	39.5
SMB5381B	381B	130.0	10	190.0	1250	1	0.5	98.8	36.6
SMB5382B	382B	140.0	8	230.0	1500	1	0.5	106.0	34.0
SMB5383B	383B	150.0	8	330.0	1500	1	0.5	114.0	31.6
SMB5384B	384B	160.0	8	350.0	1650	1	0.5	122.0	29.4
SMB5385B	385B	170.0	8	380.0	1750	1	0.5	129.0	28.0
SMB5386B	386B	180.0	5	430.0	1750	1	0.5	137.0	26.4
SMB5387B	387B	190.0	5	450.0	1850	1	0.5	144.0	25.0
SMB5388B	388B	200.0	5	480.0	1850	1	0.5	152.0	23.6

## MOUNTING PAD LAYOUT

SMB/ DO-214AA

Dimensions : inch [ mm ]



## ORDER INFORMATION

- Packing information

T/R - 3K per 13" plastic Reel

T/R - 1K per 7" plastic Reel

