



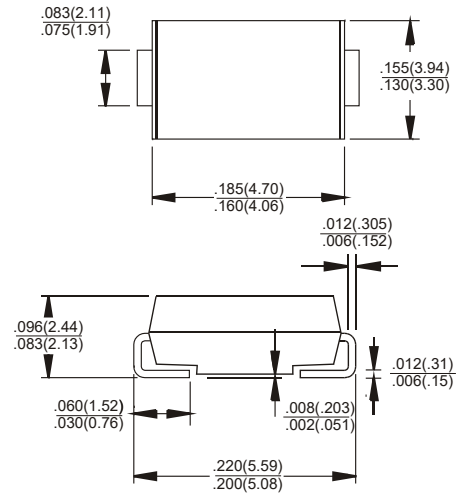
**Features**

- Glass passivated chip
- Low leakage
- Built-in strain relief
- Low inductance
- High peak reverse power dissipation
- Lead (Pb)-free component
- For use in stabilizing and clipping with high power rating

**Mechanical data**

- Case: DO-214AA (SMB)
- Epoxy: UL 94V-0 rate flame retardant
- Polarity: Laser band denotes cathode end
- Weight: 0.095 grams (approximate)

SMB/DO-214AA Unit:inch(mm)



<b>MAXIMUM RATINGS (TA=25°C unless otherwise noted)</b>			
Parameter	Symbol	Value	UNIT
DC Power Dissipation at T <sub>L</sub> = 50 °C (Note1)	P <sub>D</sub>	3.0	W
Maximum Forward Voltage at I <sub>F</sub> = 200 mA.	V <sub>F</sub>	1.5	V
Junction Temperature Range	T <sub>J</sub>	- 55 to + 150	°C
Storage Temperature Range	T <sub>STG</sub>	- 55 to + 150	°C

NOTE: 1. T<sub>L</sub> = Lead temperature at 3/8 " (9.5mm) from body.

# DEVICE CHARACTERISTICS

## SMB3EZxxD5

3 Watt Surface Mount Zener Diodes / DO-214AA (SMB)

Part Number	Nominal Zener Voltage		Max. Zener Impedance				Max. Reverse Leakage Current		Max. DC Zener Current	Marking Code
	$V_Z @ I_{ZT}$		$Z_{ZT} @ I_{ZT}$		$Z_{ZK} @ I_{ZK}$		$I_R @ V_R$		$I_{ZM}$	
	Nom. V	mA	$\Omega$	mA	$\Omega$	mA	$\mu A$	V	mA	
SMB3EZ3.3D5	3.3	113.6	10.0	113.6	500	1.0	100	1.0	817	3H0
SMB3EZ3.6D5	3.6	104.2	9.0	104.2	500	1.0	75	1.0	749	3H1
SMB3EZ3.9D5	3.9	192.0	4.5	192.0	400	1.0	80	1.0	691	3H2
SMB3EZ4.3D5	4.3	174.0	4.5	174.0	400	1.0	30	1.0	627	3H3
SMB3EZ4.7D5	4.7	160.0	4.0	160.0	500	1.0	20	1.0	573	3H4
SMB3EZ5.1D5	5.1	147.0	3.5	147.0	550	1.0	5.0	1.0	528	3H5
SMB3EZ5.6D5	5.6	134.0	2.5	134.0	600	1.0	5.0	2.0	481	3H6
SMB3EZ6.2D5	6.2	121.0	1.5	121.0	700	1.0	5.0	3.0	435	3A0
SMB3EZ6.8D5	6.8	110.0	2.0	110.0	700	1.0	5.0	4.0	393	3A1
SMB3EZ7.5D5	7.5	100.0	2.0	100.0	700	0.5	5.0	5.0	360	3A2
SMB3EZ8.2D5	8.2	91.0	2.3	91.0	700	0.5	5.0	6.0	330	3A3
SMB3EZ9.1D5	9.1	82.0	2.5	82.0	700	0.5	3.0	7.0	297	3A4
SMB3EZ10D5	10.0	75.0	3.5	75.0	700	0.25	3.0	7.6	270	3A5
SMB3EZ11D5	11.0	68.0	4.0	68.0	700	0.25	1.0	8.4	225	3A6
SMB3EZ12D5	12.0	63.0	4.5	63.0	700	0.25	1.0	9.1	246	3A7
SMB3EZ13D5	13.0	58.0	4.5	58.0	700	0.25	0.5	9.9	208	3A8
SMB3EZ14D5	14.0	53.0	5.0	53.0	700	0.25	0.5	10.6	193	3A9
SMB3EZ15D5	15.0	50.0	5.5	50.0	700	0.25	0.5	11.4	180	3B0
SMB3EZ16D5	16.0	47.0	5.5	47.0	700	0.25	0.5	12.2	169	3B1
SMB3EZ17D5	17.0	44.0	6.0	44.0	750	0.25	0.5	13.0	159	3B2
SMB3EZ18D5	18.0	42.0	6.0	42.0	750	0.25	0.5	13.7	150	3B3
SMB3EZ19D5	19.0	40.0	7.0	40.0	750	0.25	0.5	14.4	142	3B4
SMB3EZ20D5	20.0	37.0	7.0	37.0	750	0.25	0.5	15.2	135	3B5
SMB3EZ22D5	22.0	34.0	8.0	34.0	750	0.25	0.5	16.7	123	3B6
SMB3EZ24D5	24.0	31.0	9.0	31.0	750	0.25	0.5	18.2	112	3B7
SMB3EZ27D5	27.0	28.0	10	28.0	750	0.25	0.5	20.6	100	3B8
SMB3EZ28D5	28.0	27.0	12	27.0	750	0.25	0.5	21.0	96	3B9
SMB3EZ30D5	30.0	25.0	16	25.0	1000	0.25	0.5	22.5	90	3C0
SMB3EZ33D5	33.0	23.0	20	23.0	1000	0.25	0.5	25.1	82	3C1
SMB3EZ36D5	36.0	21.0	22	21.0	1000	0.25	0.5	27.4	75	3C2
SMB3EZ39D5	39.0	19.0	28	19.0	1000	0.25	0.5	29.7	69	3C3
SMB3EZ43D5	43.0	17.0	33	17.0	1500	0.25	0.5	32.7	63	3C4
SMB3EZ47D5	47.0	16.0	38	16.0	1500	0.25	0.5	35.6	57	3C5
SMB3EZ51D5	51.0	15.0	45	15.0	1500	0.25	0.5	38.8	53	3C6
SMB3EZ56D5	56.0	13.0	50	13.0	2000	0.25	0.5	42.6	48	3C7
SMB3EZ62D5	62.0	12.0	55	12.0	2000	0.25	0.5	47.1	44	3C8
SMB3EZ68D5	68.0	11.0	70	11.0	2000	0.25	0.5	51.7	40	3C9
SMB3EZ75D5	75.0	10.0	85	10.0	2000	0.25	0.5	56.0	36	3F0
SMB3EZ82D5	82.0	9.1	95	9.1	3000	0.25	0.5	62.2	33	3F1
SMB3EZ91D5	91.0	8.2	115	8.2	3000	0.25	0.5	69.2	30	3F2

# DEVICE CHARACTERISTICS

## SMB3EZxxD5

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Part Number	Nominal Zener Voltage		Max. Zener Impedance				Max. Reverse Leakage Current		Max. DC Zener Current	Marking Code
	$V_Z @ I_{ZT}$		$Z_{ZT} @ I_{ZT}$		$Z_{ZK} @ I_{ZK}$		$I_R @ V_R$		$I_{ZM}$	
	Nom. V	mA	$\Omega$	mA	$\Omega$	mA	$\mu A$	V	mA	
SMB3EZ100D5	100	7.5	160	7.5	3000	0.25	0.5	76.0	27	3F3
SMB3EZ110D5	110	6.8	225	6.8	4000	0.25	0.5	83.6	25	3F4
SMB3EZ120D5	120	6.3	300	6.3	4500	0.25	0.5	91.2	22	3F5
SMB3EZ130D5	130	5.8	375	5.8	5000	0.25	0.5	98.8	21	3F6
SMB3EZ140D5	140	5.3	475	5.3	5000	0.25	0.5	106.4	19	3F7
SMB3EZ150D5	150	5.0	550	5.0	6000	0.25	0.5	114.0	18	3F8
SMB3EZ160D5	160	4.7	625	4.7	6500	0.25	0.5	121.6	17	3F9
SMB3EZ170D5	170	4.4	650	4.4	7000	0.25	0.5	130.4	16	3G1
SMB3EZ180D5	180	4.2	700	4.2	7000	0.25	0.5	136.8	15	3G2
SMB3EZ190D5	190	4.0	800	4.0	8000	0.25	0.5	144.8	14	3G3
SMB3EZ200D5	200	3.7	875	3.7	8000	0.25	0.5	152.0	13	3G4

**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  $I_{ZT}$  per JEDEC Method

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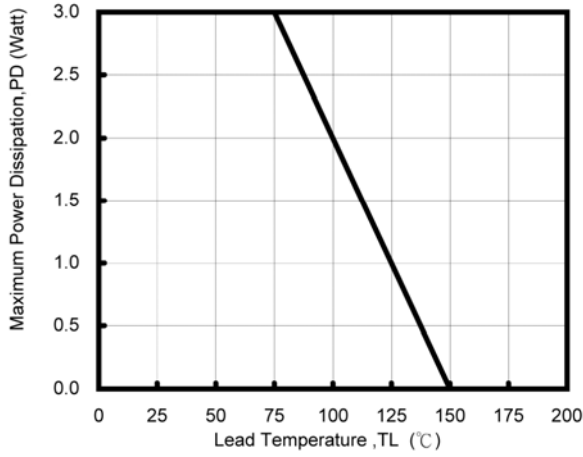


Fig. 1 - Power Temperature Derating Curve

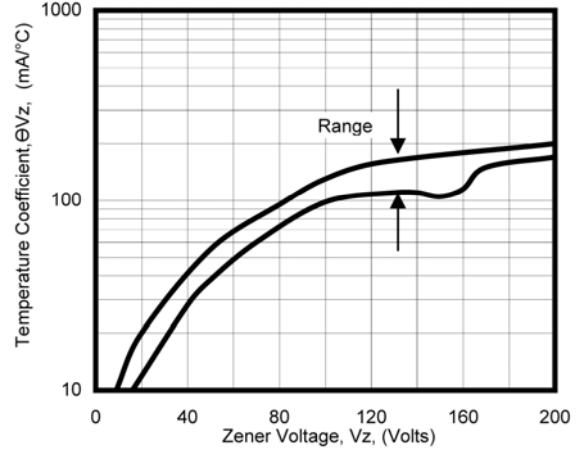


Fig. 2 - Temperature Coefficients v.s. Zener Voltage

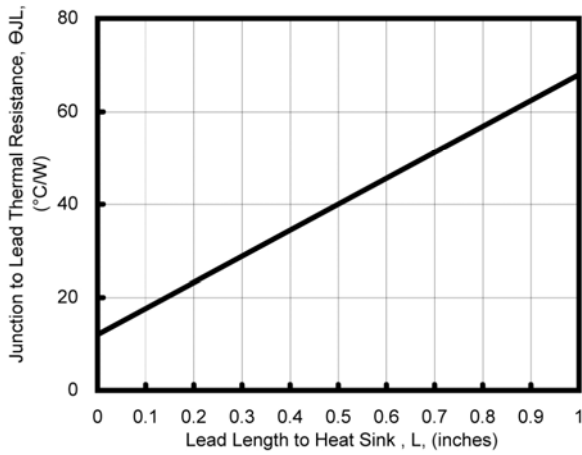


Fig. 3 - Typical Thermal Resistance v.s. Lead Length

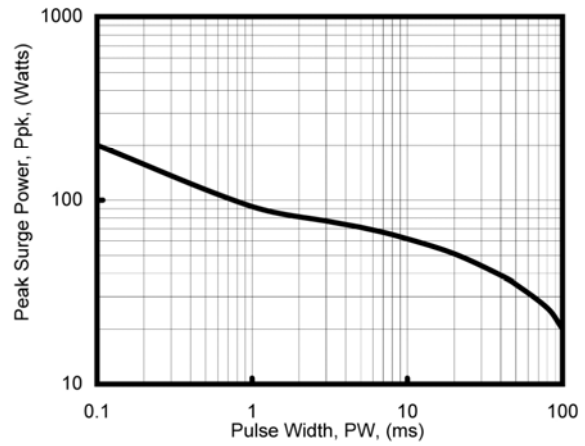


Fig. 4 - Maximum Surge Power

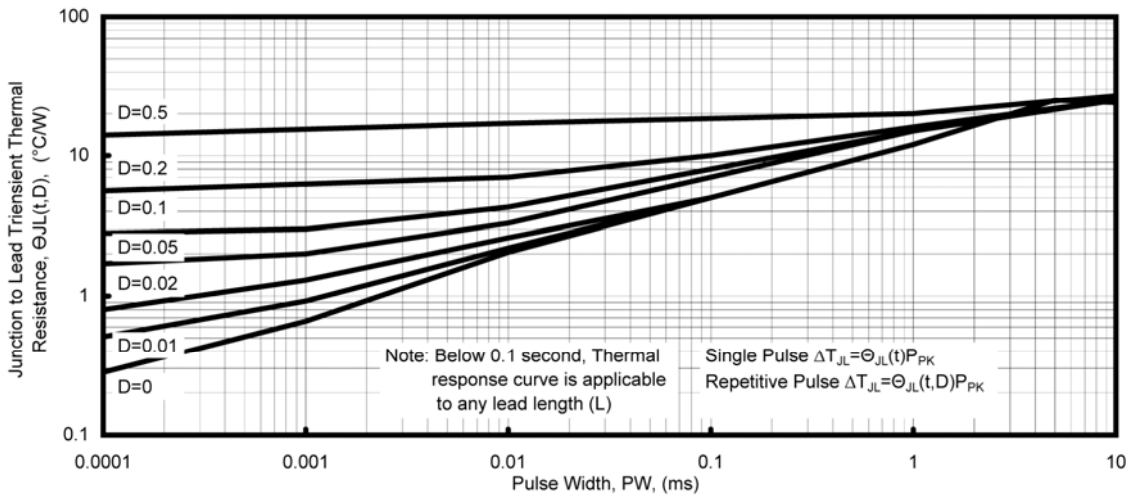


Fig. 5 - Typical Thermal Response L, Lead Length=3/8inch