

RoHS Compliant Product  
A suffix of "-C" specifies halogen & lead-free

## 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 circuits with high power rating

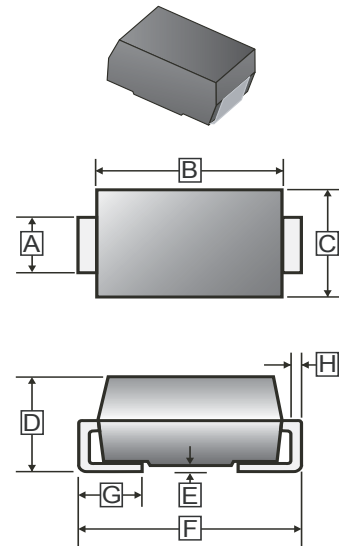
## MECHANICAL DATA

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

## PACKAGE INFORMATION

Package	MPQ	Leader Size
SMB	3K	13 inch

### SMB



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	1.91	2.20	E	-	0.203
B	4.06	4.70	F	5.08	5.59
C	3.30	3.94	G	0.76	1.52
D	2.13	2.44	H	0.15	0.305

## MAXIMUM RATINGS (T<sub>A</sub>=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
DC Power Dissipation @T <sub>L</sub> =50°C <sup>1</sup>	P <sub>D</sub>	3.0	W
Maximum Forward Voltage @I <sub>F</sub> =200mA	V <sub>F</sub>	1.5	V
Junction Temperature Range	T <sub>J</sub>	-55 ~ + 150	°C
Storage Temperature Range	T <sub>STG</sub>	-55 ~ + 150	°C

Notes :

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

**ELECTRICAL CHARACTERISTICS** (Rating 25°C ambient temperature unless otherwise specified)

Part Number	Nominal Zener Voltage		Max. Zener Impedance				Max. Reverse Leakage Current		Max. DC Zener Current
	V <sub>Z</sub> @ I <sub>ZT</sub>		Z <sub>ZT</sub> @ I <sub>ZT</sub>		Z <sub>ZK</sub> @ I <sub>ZK</sub>		I <sub>R</sub> @ V <sub>R</sub>		I <sub>ZM</sub>
	Nom.V	mA	Ω	mA	Ω	mA	uA	V	mA
SMB3EZ5.1D5	5.1	147	3.5	147	550	1	5	1	528
SMB3EZ5.6D5	5.6	134	2.5	134	600	1	5	2	481
SMB3EZ6.2D5	6.2	121	1.5	121	700	1	5	3	435
SMB3EZ6.8D5	6.8	110	2	110	700	1	5	4	393
SMB3EZ7.5D5	7.5	100	2	100	700	0.5	5	5	360
SMB3EZ8.2D5	8.2	91	2.3	91	700	0.5	5	6	330
SMB3EZ9.1D5	9.1	82	2.5	82	700	0.5	3	7	297
SMB3EZ10D5	10	75	3.5	75	700	0.25	3	7.6	270
SMB3EZ11D5	11	68	4	68	700	0.25	1	8.4	225
SMB3EZ12D5	12	63	4.5	63	700	0.25	1	9.1	246
SMB3EZ13D5	13	58	4.5	58	700	0.25	0.5	9.9	208
SMB3EZ14D5	14	53	5	53	700	0.25	0.5	10.6	193
SMB3EZ15D5	15	50	5.5	50	700	0.25	0.5	11.4	180
SMB3EZ16D5	16	47	5.5	47	700	0.25	0.5	12.2	169
SMB3EZ17D5	17	44	6	44	750	0.25	0.5	13	159
SMB3EZ18D5	18	42	6	42	750	0.25	0.5	13.7	150
SMB3EZ19D5	19	40	7	40	750	0.25	0.5	14.4	142
SMB3EZ20D5	20	37	7	37	750	0.25	0.5	15.2	135
SMB3EZ22D5	22	34	8	34	750	0.25	0.5	16.7	123
SMB3EZ24D5	24	31	9	31	750	0.25	0.5	18.2	112
SMB3EZ27D5	27	28	10	28	750	0.25	0.5	20.6	100
SMB3EZ28D5	28	27	12	27	750	0.25	0.5	21	96
SMB3EZ30D5	30	25	16	25	1000	0.25	0.5	22.5	90
SMB3EZ33D5	33	23	20	23	1000	0.25	0.5	25.1	82
SMB3EZ36D5	36	21	22	21	1000	0.25	0.5	27.4	75
SMB3EZ39D5	39	19	28	19	1000	0.25	0.5	29.7	69
SMB3EZ43D5	43	17	33	17	1500	0.25	0.5	32.7	63
SMB3EZ47D5	47	16	38	16	1500	0.25	0.5	35.6	57
SMB3EZ51D5	51	15	45	15	1500	0.25	0.5	38.8	53
SMB3EZ56D5	56	13	50	13	2000	0.25	0.5	42.6	48
SMB3EZ62D5	62	12	55	12	2000	0.25	0.5	47.1	44
SMB3EZ68D5	68	11	70	11	2000	0.25	0.5	51.7	40
SMB3EZ75D5	75	10	85	10	2000	0.25	0.5	56	36

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Part Number	Nominal Zener Voltage		Max. Zener Impedance				Max. Reverse Leakage Current		Max. DC Zener Current
	V <sub>Z</sub> @ I <sub>ZT</sub>		Z <sub>ZT</sub> @ I <sub>ZT</sub>		Z <sub>ZK</sub> @ I <sub>ZK</sub>		I <sub>R</sub> @ V <sub>R</sub>		I <sub>ZM</sub>
	Nom. V	mA	Ω	mA	Ω	mA	uA	V	mA
SMB3EZ82D5	82	9.1	95	9.1	3000	0.25	0.5	62.2	33
SMB3EZ91D5	91	8.2	115	8.2	3000	0.25	0.5	69.2	30
SMB3EZ100D5	100	7.5	160	7.5	3000	0.25	0.5	76	27
SMB3EZ110D5	110	6.8	225	6.8	4000	0.25	0.5	83.6	25
SMB3EZ120D5	120	6.3	300	6.3	4500	0.25	0.5	91.2	22
SMB3EZ130D5	130	5.8	375	5.8	5000	0.25	0.5	98.8	21
SMB3EZ140D5	140	5.3	475	5.3	5500	0.25	0.5	106.4	19
SMB3EZ150D5	150	5	550	5	6000	0.25	0.5	114	18
SMB3EZ160D5	160	4.7	625	4.7	6500	0.25	0.5	121.6	17
SMB3EZ170D5	170	4.4	650	4.4	7000	0.25	0.5	130.4	16
SMB3EZ180D5	180	4.2	700	4.2	7000	0.25	0.5	136.8	15
SMB3EZ190D5	190	4	800	4	8000	0.25	0.5	144.8	14
SMB3EZ200D5	200	3.7	875	3.7	8000	0.25	0.5	152	13

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<sub>ZT</sub> per JEDEC Method.

**RATINGS AND CHARACTERISTIC CURVES**

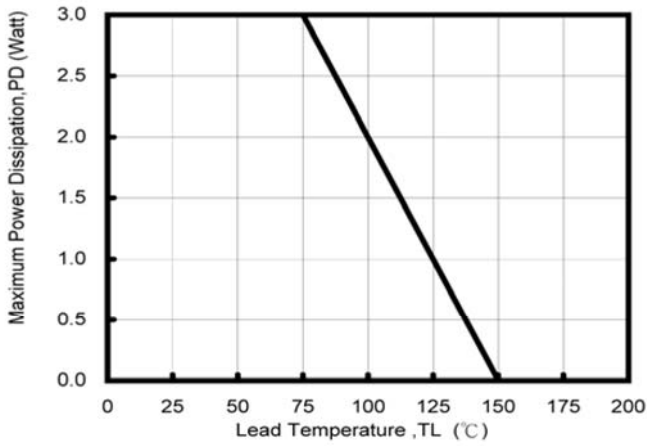


Fig. 1 - Power Temperature Derating Curve

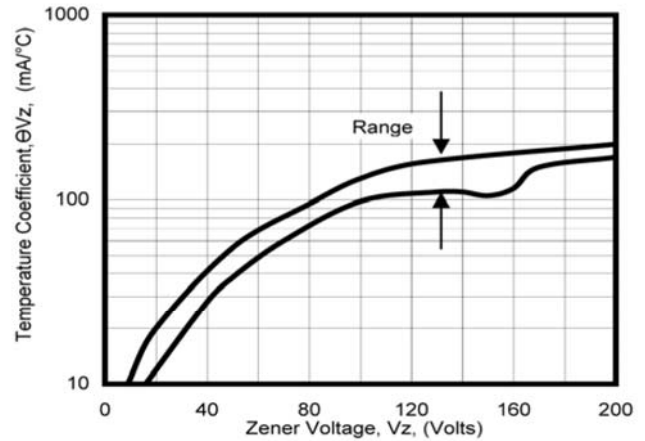


Fig. 2 - Temperature Coefficients v.s. Zener Voltage

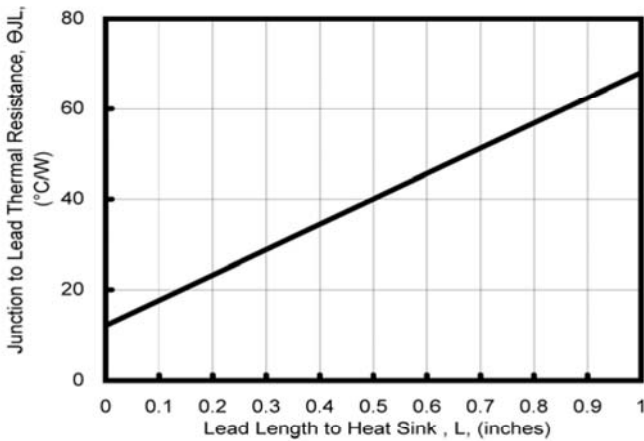


Fig. 3 - Typical Thermal Resistance v.s. Lead Length

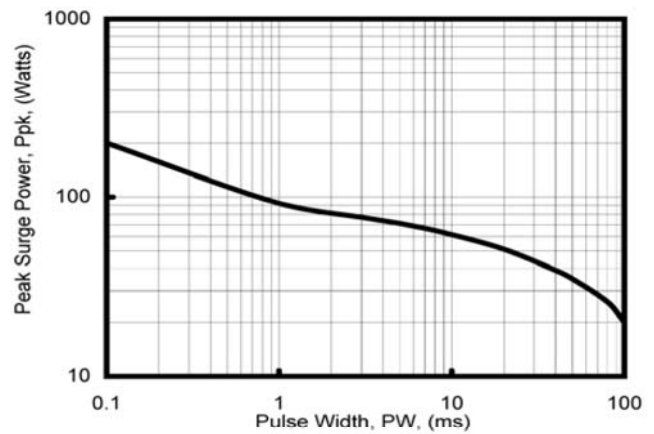


Fig. 4 - Maximum Surge Power

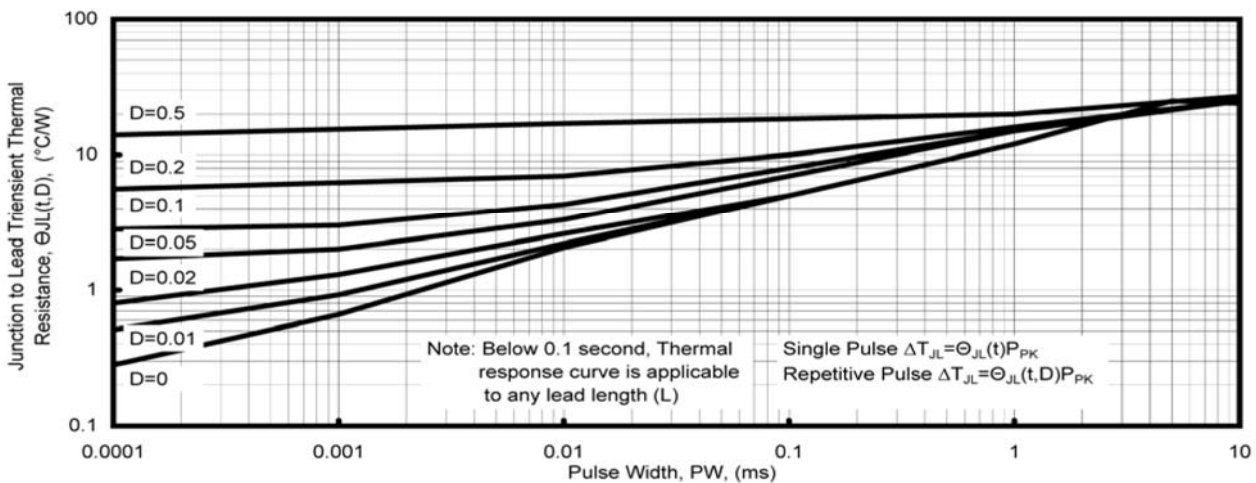


Fig. 5 - Typical Thermal Response L, Lead Length=3/8inch