

# Zener Diodes

## 1.5W 5.1 to 200V DO-214AC

SMA5918B~5956B

MERITEK

### FEATURE

- Glass passivation junction
- Low Leakage
- Built-in strain relief
- Low inductance
- High peak reverse power dissipation
- UL Flammability Classification Rating 94V-0



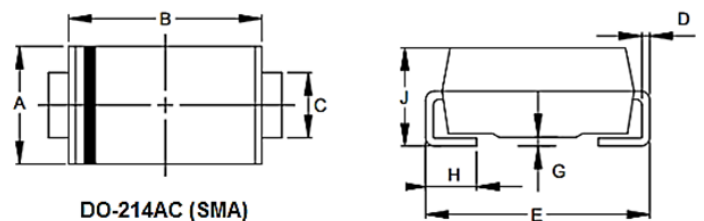
### ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
DC Power Dissipation at $T_L = 75^\circ\text{C}$	$P_D$	1.5	W
Maximum Forward Voltage at $I_F = 200\text{mA}$	$V_F$	1.5	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.  
2. Ratings at 25 $^\circ\text{C}$  ambient temperature unless otherwise specified.

### DIMENSIONS

Item	DO-214AC (SMA)	
	Min. (mm)	Max. (mm)
A	2.180	2.900
B	4.000	4.600
C	1.230	1.700
D	0.152	0.305
E	4.700	5.310
G	0.000	0.203
H	0.750	1.510
J	1.700	2.440



### SPECIFICATIONS

Part Number	Nominal Zener Voltage		Maximum Zener Impedance			Max Reverse Leakage Current		Max 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	Ohm	Ohm	mA	$\mu\text{A}$	V	mA
SMA5918B	5.1	73.5	4	350	1.00	5.0	2.0	294
SMA5919B	5.6	66.9	2	250	1.00	5.0	3.0	267
SMA5920B	6.2	60.5	2	200	1.00	2.5	4.0	240
SMA5921B	6.8	55.1	2.5	200	1.00	2.5	5.2	220
SMA5922B	7.5	50.0	3	400	0.50	2.5	6.0	200
SMA5923B	8.2	45.7	3.5	400	0.50	2.5	6.5	182
SMA5924B	9.1	41.2	4	500	0.50	2.5	7.0	164
SMA5925B	10	37.5	4.5	500	0.25	2.5	8.0	150

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### SPECIFICATIONS (CONTINUED)

Part Number	Nominal Zener Voltage		Maximum Zener Impedance			Max Reverse Leakage Current		Max 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	Ohm	Ohm	mA	$\mu A$	V	mA
SMA5926B	11	34.1	5.5	550	0.25	0.5	8.4	136
SMA5927B	12	31.2	6.5	550	0.25	0.5	9.1	125
SMA5928B	13	28.8	7	550	0.25	0.5	9.9	115
SMA5929B	15	25.0	9	600	0.25	0.5	11.4	100
SMA5930B	16	23.4	10	600	0.25	0.5	12.2	93
SMA5931B	18	20.8	12	650	0.25	0.5	13.7	83
SMA5932B	20	18.7	14	650	0.25	0.5	15.2	75
SMA5933B	22	17.0	17.5	650	0.25	0.5	16.7	68
SMA5934B	24	15.6	19	700	0.25	0.5	18.2	62
SMA5935B	27	13.9	23	700	0.25	0.5	20.6	55
SMA5936B	30	12.5	26	750	0.25	0.5	22.8	50
SMA5937B	33	11.4	33	800	0.25	0.5	25.1	45
SMA5938B	36	10.4	38	850	0.25	0.5	27.4	41
SMA5939B	39	9.6	45	900	0.25	0.5	29.7	38
SMA5940B	43	8.7	53	950	0.25	0.5	32.7	34
SMA5941B	47	8.0	67	1000	0.25	0.5	35.8	31
SMA5942B	51	7.3	70	1100	0.25	0.5	38.8	29
SMA5943B	56	6.7	86	1300	0.25	0.5	42.6	26
SMA5944B	62	6.0	100	1500	0.25	0.5	47.1	24
SMA5945B	68	5.5	120	1700	0.25	0.5	51.7	22
SMA5946B	75	5.0	140	2000	0.25	0.5	56.0	20
SMA5947B	82	4.6	160	2500	0.25	0.5	62.2	18
SMA5948B	91	4.1	200	3000	0.25	0.5	69.2	16
SMA5949B	100	3.7	250	3100	0.25	0.5	76.0	15
SMA5950B	110	3.4	300	4000	0.25	0.5	83.6	13
SMA5951B	120	3.1	380	4500	0.25	0.5	91.2	12
SMA5952B	130	2.9	450	5000	0.25	0.5	98.8	11
SMA5953B	150	2.5	600	6000	0.25	0.5	114.0	10
SMA5954B	160	2.3	700	6500	0.25	0.5	121.6	9
SMA5955B	180	2.1	900	7000	0.25	0.5	136.8	8
SMA5956B	200	1.9	1200	8000	0.25	0.5	152.0	7

Note: 1. Standard tolerance on the nominal zener voltage:  $\pm 5\%$

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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### CHARACTERISTIC CURVES

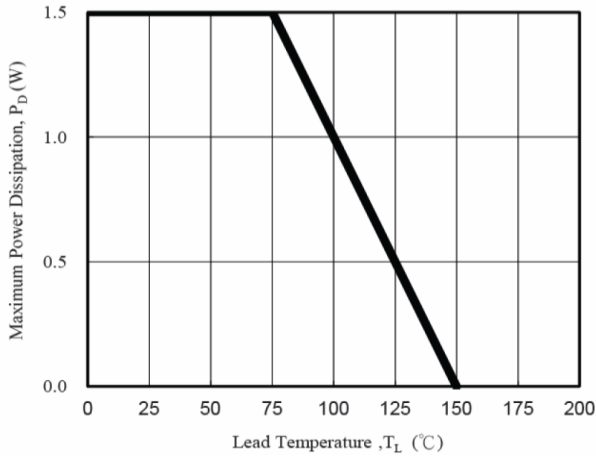


Fig1. Power Temperature Derating Curve

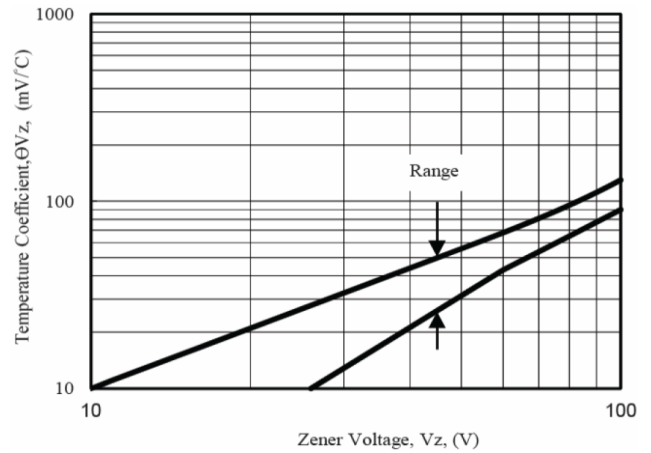


Fig2. Temperature Coefficients v.s. Zener Voltage

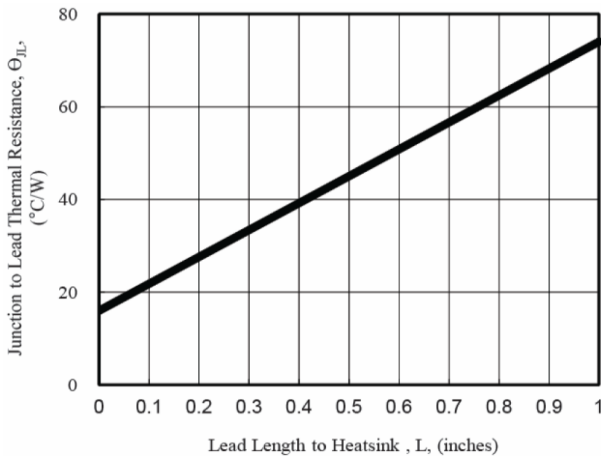


Fig3. Typical Thermal Resistance v.s. Lead Length

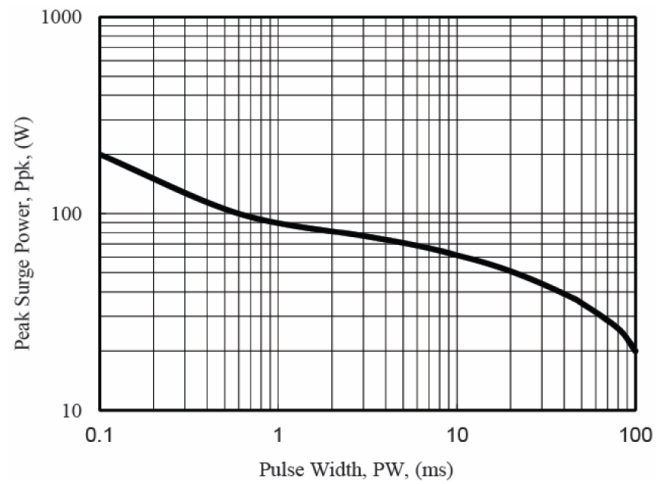


Fig4. Maximum Surge Power

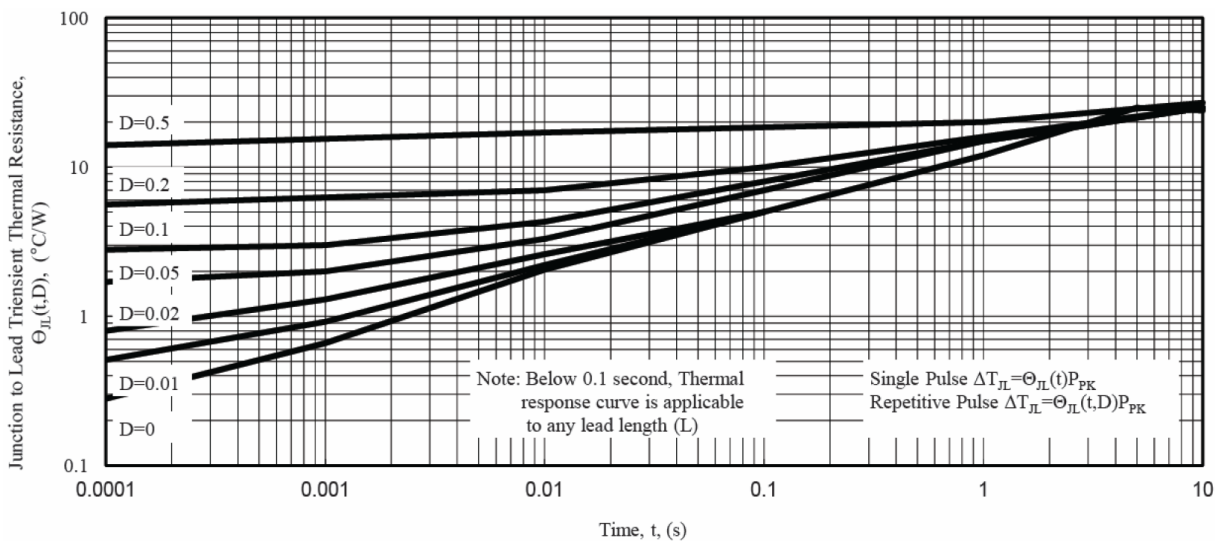


Fig5. Typical Thermal Response L, Lead Length=3/8 inch

\*Specifications subject to change without notice