

# Zener Diodes

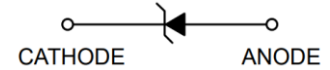
## 1.5W DO-214AC SMA

1SMA59-B Series

MERITEK

### FEATURE

- Zener Voltage Range: 5.1V to 200V
- Zener Voltage Tolerance:  $\pm 5\%$
- Power Dissipation: 1.5W
- Glass Passivation Junction
- Built-In Strain Relief
- Low Inductance
- High Peak Reverse Power Dissipation



### MECHANICAL DATA

- Flammability Classification Rating UL 94V-0
- Solderable Per MIL-STD-750, Method 2026
- Polarity: Color Band Denoted Cathode End

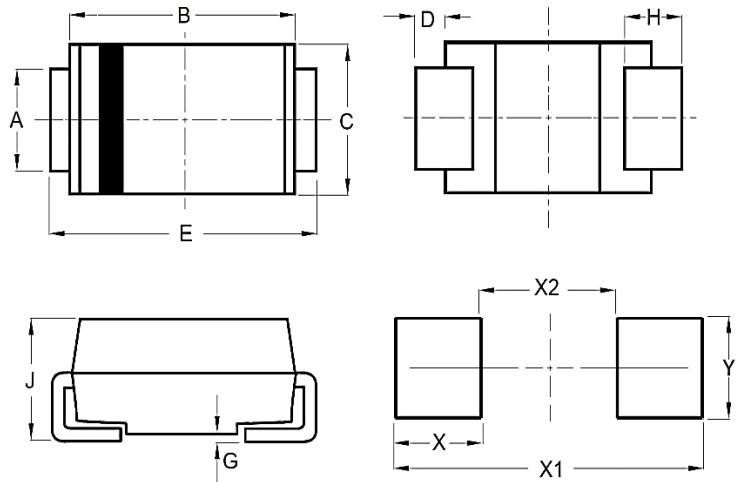
### ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
DC Power Dissipation at $T_L = 75^\circ\text{C}$	$P_D$	1.5	W
Thermal Resistance from Junction to Ambient Air	$R_{\theta JA}$	100	$^\circ\text{C/W}$
Thermal Resistance from Junction to Leads	$R_{\theta JL}$	25	$^\circ\text{C/W}$
Junction & Storage Temperature	$T_J, T_{STG}$	-55 to +150	$^\circ\text{C}$

Note:  $T_A = 25^\circ\text{C}$  unless otherwise noted

### DIMENSIONS

Item	Min (mm)	Max (mm)
A	1.700	2.300
B	3.990	4.500
C	2.450	3.000
D	0.152	0.305
E	4.800	5.280
G	0.000	0.203
H	0.760	1.520
J	1.980	2.420
X	1.50	
X1	5.80	
X2	2.80	
Y	1.60	



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### ELECTRICAL CHARACTERISTICS

Part Number	Nominal Zener Voltage				Maximum Zener Impedance			Max Reverse Leakage Current		Max DC Zener Current
	$V_Z$			$I_{ZT}$	$Z_{ZT} @ I_{ZT}$	$Z_{ZK}$	$I_{ZK}$	$I_R @ V_R$		$I_{ZM}$
	Min	Typ	Max	mA	$\Omega$	$\Omega$	mA	$\mu A$	V	mA
1SMA5918B	4.845	5.1	5.355	73.5	4.0	350	1	5	2.0	294
1SMA5919B	5.320	5.6	5.880	66.9	2.0	250	1	5	3.0	267
1SMA5920B	5.890	6.2	6.510	60.5	2.0	200	1	5	4.0	241
1SMA5921B	6.460	6.8	7.140	55.1	2.5	200	1	5	5.2	220
1SMA5922B	7.125	7.5	7.875	50.0	3.0	400	0.50	5	6.0	200
1SMA5923B	7.790	8.2	8.610	45.7	3.5	400	0.50	5	6.5	182
1SMA5924B	8.645	9.1	9.555	41.2	4.0	500	0.50	5	7.0	164
1SMA5925B	9.500	10.0	10.50	37.5	4.5	500	0.25	5	8.0	150
1SMA5926B	10.45	11.0	11.55	34.1	5.5	550	0.25	1	8.4	136
1SMA5927B	11.40	12.0	12.60	31.2	6.5	550	0.25	1	9.1	125
1SMA5928B	12.35	13.0	13.65	28.8	7.0	550	0.25	1	9.9	115
1SMA5929B	14.25	15.0	15.75	25.0	9.0	600	0.25	1	11.4	100
1SMA5930B	15.20	16.0	16.80	23.4	10.0	600	0.25	1	12.2	93
1SMA5931B	17.10	18.0	18.90	20.8	12.0	650	0.25	1	13.7	83
1SMA5932B	19.00	20.0	21.00	18.7	14.0	650	0.25	1	15.2	75
1SMA5933B	20.90	22.0	23.10	17.0	17.5	650	0.25	1	16.7	68
1SMA5934B	22.80	24.0	25.20	15.6	19.0	700	0.25	1	18.2	62
1SMA5935B	25.65	27.0	28.35	13.9	23.0	700	0.25	1	20.6	55
1SMA5936B	28.50	30.0	31.50	12.5	28.0	750	0.25	1	22.8	50
1SMA5937B	31.35	33.0	34.65	11.4	33.0	800	0.25	1	25.1	45
1SMA5938B	34.20	36.0	37.80	10.4	38.0	850	0.25	1	27.4	41
1SMA5939B	37.05	39.0	40.95	9.6	45.0	900	0.25	1	29.7	38
1SMA5940B	40.85	43.0	45.15	8.7	53.0	950	0.25	1	32.7	34
1SMA5941B	44.65	47.0	49.35	8.0	67.0	1000	0.25	1	35.8	31
1SMA5942B	48.45	51.0	53.55	7.3	70.0	1100	0.25	1	38.8	29
1SMA5943B	53.20	56.0	58.80	6.7	86.0	1300	0.25	1	42.6	26
1SMA5944B	58.90	62.0	65.10	6.0	100	1500	0.25	1	47.1	24
1SMA5945B	64.60	68.0	71.40	5.5	120	1700	0.25	1	51.7	22
1SMA5946B	71.25	75.0	78.80	5.0	140	2000	0.25	1	56.0	20
1SMA5947B	77.90	82.0	86.10	4.6	160	2500	0.25	1	62.2	18
1SMA5948B	86.45	91.0	95.60	4.1	200	3000	0.25	1	69.2	16
1SMA5949B	95.0	100.0	105.0	3.7	250	3100	0.25	1	76.0	15
1SMA5950B	104.5	110.0	115.5	3.4	300	4000	0.25	1	83.6	13
1SMA5951B	114.0	120.0	126.0	3.1	380	4500	0.25	1	91.2	12
1SMA5952B	123.5	130.0	136.5	2.9	450	5000	0.25	1	98.8	11
1SMA5953B	142.5	150.0	157.5	2.5	600	6000	0.25	1	114.0	10
1SMA5954B	152.0	160.0	168.0	2.3	700	6500	0.25	1	121.6	9
1SMA5955B	171.0	180.0	189.0	2.1	900	7000	0.25	1	136.8	8
1SMA5956B	190.0	200.0	210.0	1.9	1200	8000	0.25	1	152.0	7

Note:

1.  $T_A = 25^\circ C$  unless otherwise noted
2. Standard tolerance on the nominal Zener voltage:  $\pm 5\%$
3. 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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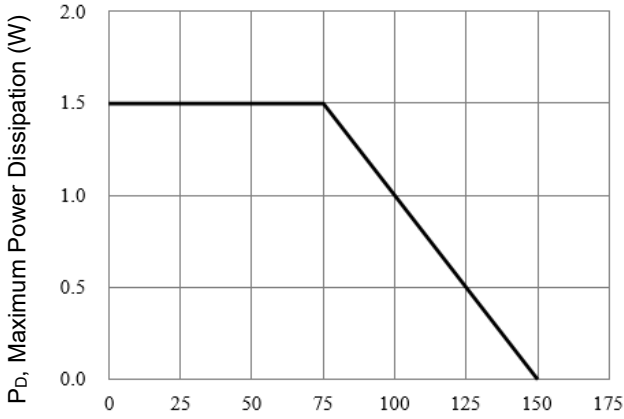
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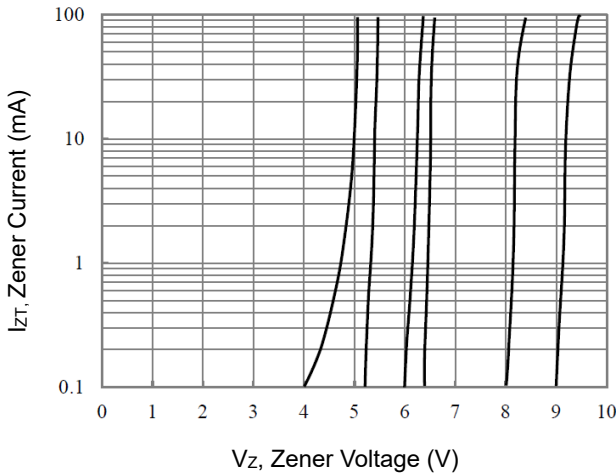
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### CHARACTERISTIC CURVES

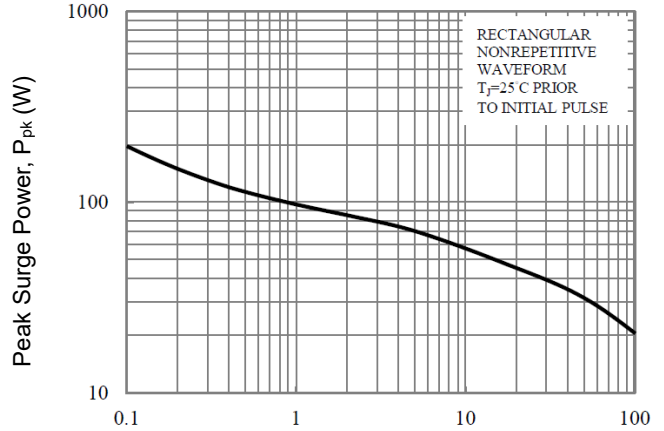
Power Temperature Derating Curve



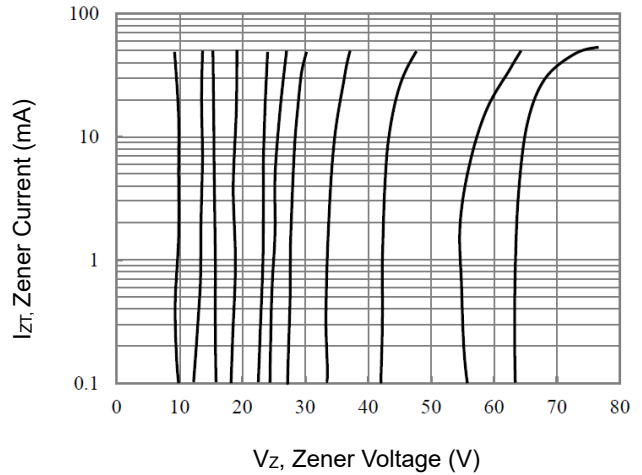
$T_L$ , Lead Temperature (°C)  
Zener Voltage 5.1~10V



Maximum Surge Power



Pulse Width (ms)  
Zener Voltage 12~68V



\*Specifications subject to change without notice