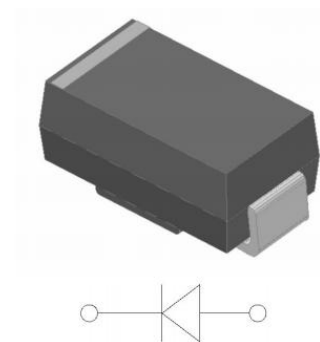


Features

- ◆ For surface mounted applications to optimize board space
- ◆ 1.5W Power Dissipation
- ◆ Zener Voltage Range 5.6V to 68V
- ◆ Standard V_Z Tolerance is $\pm 5\%$
- ◆ Plastic package has underwriters laboratory flammability 94V-0
- ◆ Meets MSL level 1, per J-STD-020.
- ◆ Meet Halogen free and RoHS compliant
- ◆ Polarity: Cathode Indicated by Polarity Band



Dimensions (SMA)

Symbol	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.250	1.650	0.049	0.065
B	3.990	4.550	0.157	0.178
C	2.540	2.790	0.100	0.110
D	1.980	2.290	0.078	0.090
E	0.780	1.550	0.030	0.061
F	-	0.203	-	0.008
G	4.75	5.280	0.194	0.208
H	0.152	0.305	0.006	0.012
I	1.800	-	0.070	-
J	2.100	-	0.082	-
K	-	2.300	-	0.090

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

Characteristics	Symbol	Value	Unit
Maximum steady state power dissipation at $T_L = 75^{\circ}\text{C}$	P_{tot}	1500	mW
Maximum steady state power dissipation at $T_A = 25^{\circ}\text{C}$	P_{tot}	500	mW
Forward Voltage @ $I_F = 200\text{mA}$ (Note3)	V_F	1.5	V
Thermal Resistance Junction to lead(Note1)	$R_{\theta JL}$	50	$^{\circ}\text{C/W}$
Thermal Resistance Junction to Ambient(Note2)	$R_{\theta JA}$	250	
Junction and Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^{\circ}\text{C}$

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

Part Number	Zener Voltage Range (Note 2)			Test Current	Maximum Zener Impedance			Maximum Reverse Current		IzM Max
	Vz @ IzT			IzT	ZzT @ IzT	Zzk @ IzK		Ir @ Vr		
	Nom (V)	Min (V)	Max (V)	mA	Ω	Ω	mA	μA	V	mA
SMAZ5V6	5.60	5.32	5.88	66.9	5.0	700	1.0	200	3.0	268
SMAZ6V2	6.20	5.89	6.51	60.5	2.0	700	1.0	200	4.0	242
SMAZ6V8	6.80	6.46	7.14	55.1	2.5	400	1.0	200	5.2	221
SMAZ8V2	8.20	7.79	8.61	45.7	5.0	700	0.5	10	6.5	183
SMAZ9V1	9.10	8.64	9.56	41.2	5.0	700	0.5	10	7.0	165
SMAZ10	10.00	9.50	10.50	37.5	5.0	700	0.25	10	8.0	150
SMAZ11	11.00	10.50	11.60	34.1	5.5	550	0.25	5	8.4	136
SMAZ12	12.00	11.40	12.60	31.2	6.5	550	0.25	1.0	9.1	125
SMAZ13	13.00	12.40	13.70	28.8	7.0	550	0.25	1.0	9.9	115
SMAZ15	15.00	14.30	15.80	25.0	9.0	600	0.25	1.0	11.4	100
SMAZ16	16.00	15.20	16.80	23.4	10	600	0.25	1.0	12.2	94
SMAZ18	18.00	17.10	18.90	20.8	12	650	0.25	1.0	13.7	83
SMAZ20	20.00	19.00	21.00	18.7	14	650	0.25	1.0	15.2	75
SMAZ22	22.00	20.90	23.10	17.0	17.5	650	0.25	1.0	16.7	68
SMAZ24	24.00	22.80	25.20	15.6	19	700	0.25	1.0	18.2	62
SMAZ27	27.00	25.70	28.40	13.9	23	700	0.25	1.0	20.6	56
SMAZ30	30.00	28.50	31.50	12.5	28	750	0.25	1.0	22.8	50
SMAZ33	33.00	31.40	34.70	11.4	33	800	0.25	1.0	25.1	45
SMAZ36	36.00	34.20	37.80	10.4	38	850	0.25	1.0	27.4	42
SMAZ39	39.00	37.10	41.00	9.6	45	900	0.25	1.0	29.7	38
SMAZ43	43.00	40.90	45.2	8.7	53	950	0.25	1.0	32.7	35
SMAZ47	47.00	44.65	49.35	8.0	67	1000	0.25	1.0	35.8	32
SMAZ51	51.00	48.45	53.55	7.3	70	1100	0.25	1.0	38.8	29
SMAZ56	56.00	53.20	58.8	6.7	86	1300	0.25	1.0	42.6	27
SMAZ62	62.00	58.90	65.1	6.0	100	1500	0.25	1.0	47.1	24
SMAZ68	68.00	64.60	71.4	5.5	120	1700	0.25	1.0	51.7	22

Notes:

- 1.Mounted on PCB with 5.0 mm x 5.0 mm copper pads attached to each terminal
- 2.Mounted on minimum recommended pad layout
- 3.Pulse test: 300 μs pulse width, 1 % duty cycle

Ratings and Characteristic Curves (T_A=25°C unless otherwise noted)

Figure 1. Steady State Power Derating

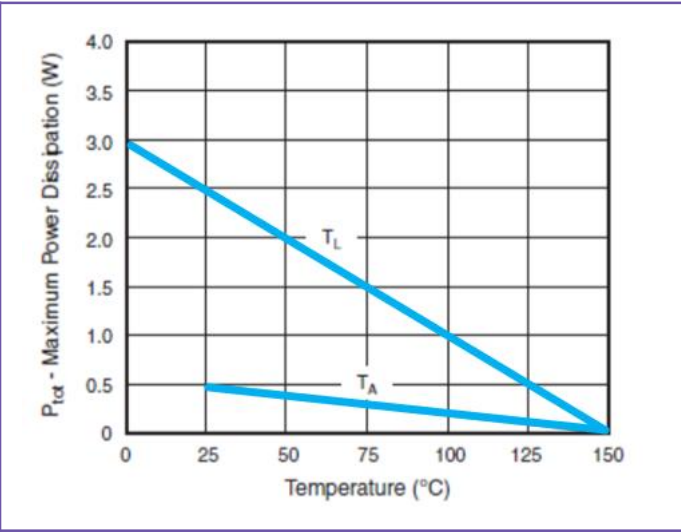


Figure 2. Typical Zener Voltage

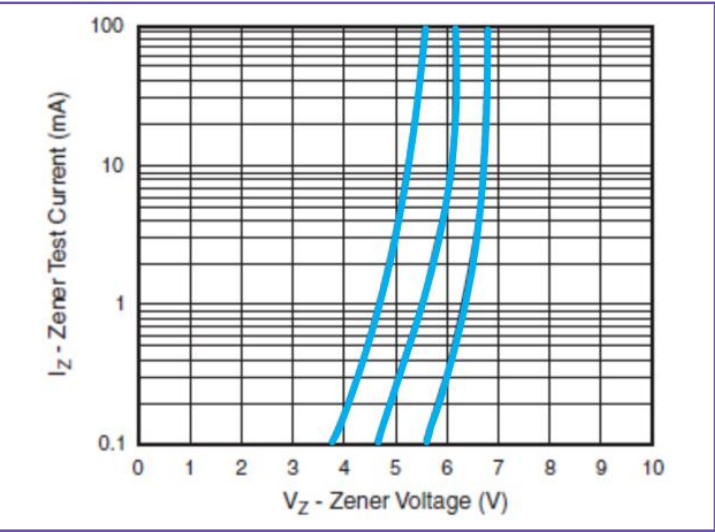


Figure 3. Typical Zener Voltage

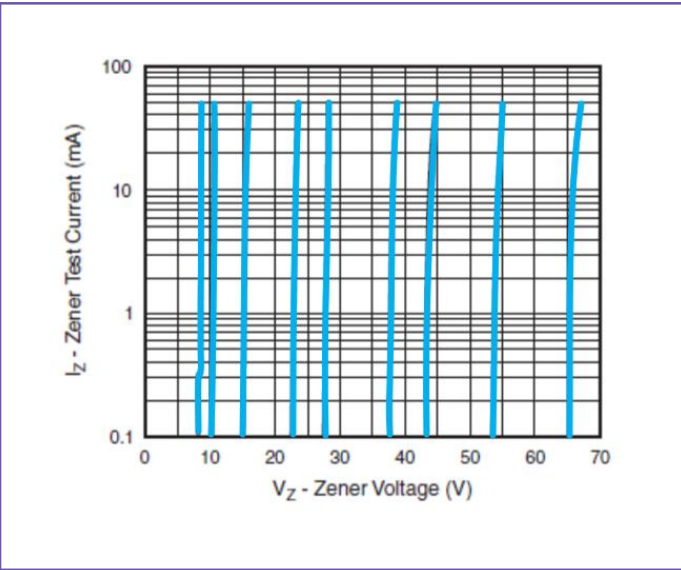


Figure 4. Typical Temperature Coefficients

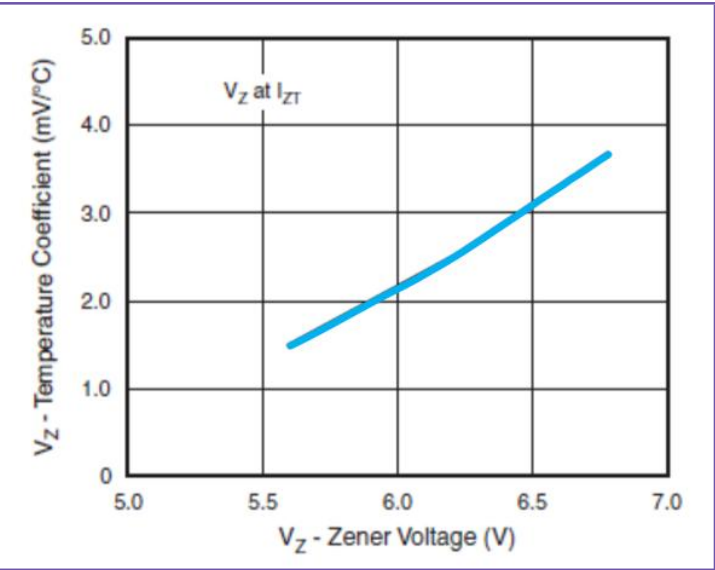


Figure 5. Typical Temperature Coefficients

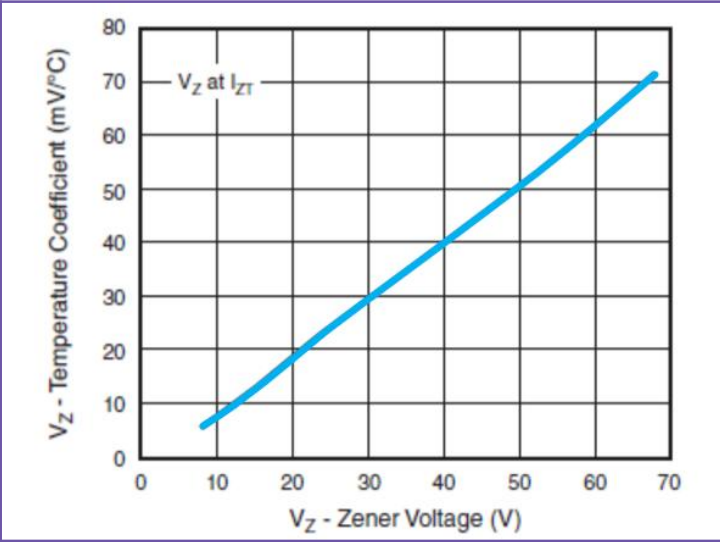


Figure 6. Typical Junction Capacitance

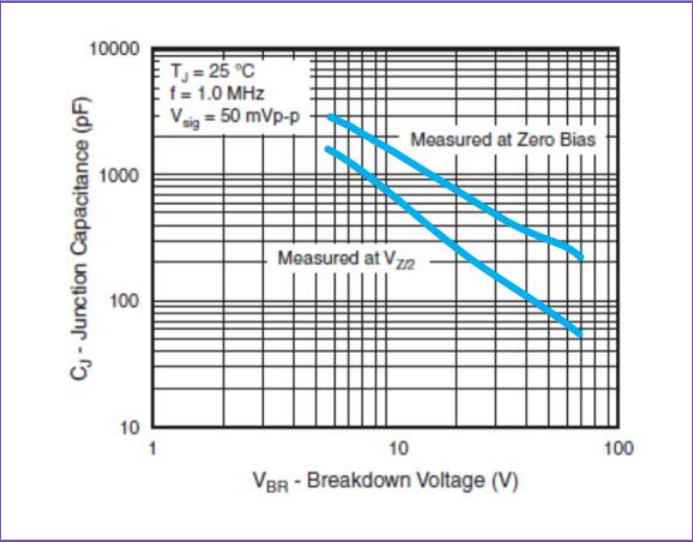
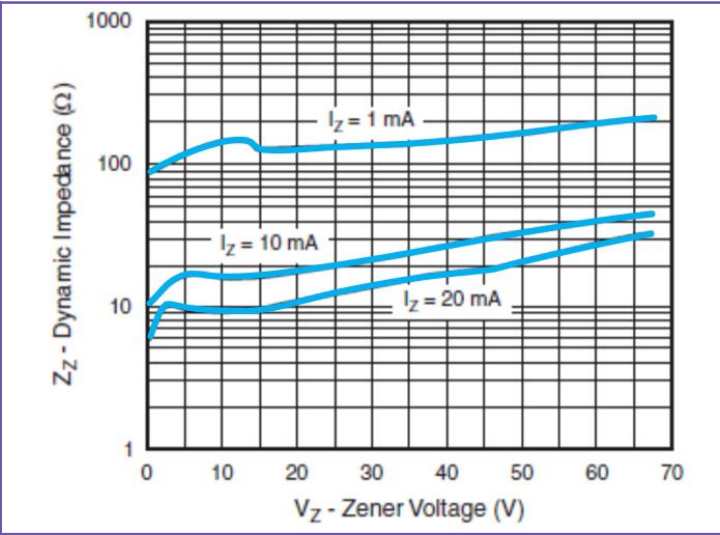
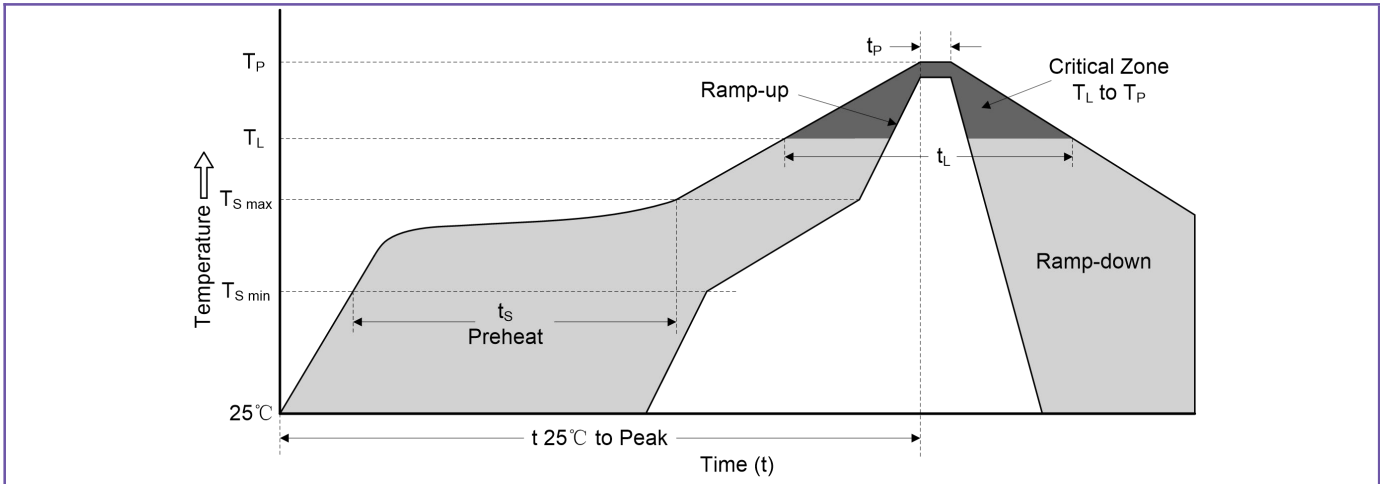


Figure 7. Typical Zener Impedance



Reflow Soldering Parameters



Reflow Condition		Lead-free Assembly
Pre heat	-Temperature Min (TS min)	150℃
	-Temperature Max (TS max)	200℃
	-Time (min to max) (ts)	60-180 seconds
Average ramp-up rate (TL to TP)		3℃/second max.
TS max to TL -Ramp-up Rate		3℃/second max.
Reflow	-Temperature (TL) (Liquidus)	217℃
	-Time (min to max) (ts)	60-150 seconds
Peak Temperature (TP)		260(+0/-5)℃
Time within 5℃ of actual Peak Temperature (tp)		20-40 seconds
Ramp-down Rate		6℃/second max.
Time 25℃ to Peak Temperature(Tp)		8 minutes max.
Do not exceed		260℃