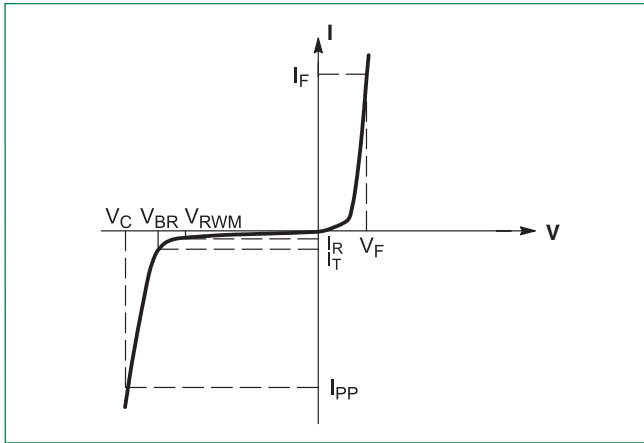




**I-V Curve Characteristics** ( $T_A = 25^\circ\text{C}$  unless otherwise noted,  $V_F = 3.5\text{ V Max @ } I_F = 100\text{ A}$ ) (Note 5)



Symbol	Parameter
$I_{PP}$	Maximum Reverse Peak Pulse Current
$V_C$	Clamping Voltage @ $I_{PP}$
$V_{RWM}$	Working Peak Reverse Voltage
$I_R$	Maximum Reverse Leakage Current @ $V_{RWM}$
$V_{BR}$	Breakdown Voltage @ $I_T$
$I_T$	Test Current
$I_F$	Forward Current
$V_F$	Forward Voltage @ $I_F$

5. 1/2 sine wave or equivalent, PW= 8.3 ms non-repetitive duty cycle

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

Device	Device Marking	$V_{RWM}$ (Note 6)	$I_R$ @ $V_{RWM}$	Breakdown Voltage				$V_C$ @ $I_{PP}$ (Note 8)	
				$V_{BR}$ (V) (Note 7)			@ $I_T$	$V_C$	$I_{PP}$
				Min	Nom	Max			
SZ1SMC5.0AT3G	GDE	5.0	1000	6.40	6.70	7.00	10	9.2	163.0
SZ1SMC6.0AT3G	GDG	6.0	1000	6.67	7.02	7.37	10	10.3	145.6
SZ1SMC6.5AT3G	GDK	6.5	500	7.22	7.60	7.98	10	11.2	133.9
SZ1SMC7.5AT3G	GDP	7.5	100	8.33	8.77	9.21	1	12.9	116.3
SZ1SMC8.0AT3G	GDR	8.0	50	8.89	9.36	9.83	1	13.6	110.3
SZ1SMC9.0AT3G	GDV	9.0	10	10.00	10.55	11.10	1	15.4	97.4
SZ1SMC10AT3G	GDX	10	5	11.10	11.70	12.30	1	17.0	88.2
SZ1SMC12AT3G	GEE	12	5	13.30	14.00	14.70	1	19.9	75.3
SZ1SMC13AT3G	GEG	13	5	14.40	15.15	15.90	1	21.5	69.7
SZ1SMC14AT3G	GEK	14	5	15.60	16.40	17.20	1	23.2	64.7
SZ1SMC15AT3G	GEM	15	5	16.70	17.60	18.50	1	24.4	61.5
SZ1SMC16AT3G	GEP	16	5	17.80	18.75	19.70	1	26.0	57.7
SZ1SMC17AT3G	GER	17	5	18.90	19.90	20.90	1	27.6	53.3
SZ1SMC18AT3G	GET	18	5	20.00	21.05	22.10	1	29.2	51.4
SZ1SMC20AT3G	GEV	20	5	22.20	23.35	24.50	1	32.4	46.3
SZ1SMC22AT3G	GEX	22	5	24.40	25.65	26.90	1	35.5	42.2
SZ1SMC24AT3G	GEZ	24	5	26.70	28.10	29.50	1	38.9	38.6
SZ1SMC26AT3G	GFE	26	5	28.90	30.40	31.90	1	42.1	35.6
SZ1SMC28AT3G	GFG	28	5	31.10	32.75	34.40	1	45.4	33.0
SZ1SMC30AT3G	GFK	30	5	33.30	35.05	36.80	1	48.4	31.0
SZ1SMC33AT3G	GFM	33	5	36.70	38.65	40.60	1	53.3	28.1
SZ1SMC36AT3G	GFP	36	5	40.00	42.10	44.20	1	58.1	25.8
SZ1SMC40AT3G	GFR	40	5	44.40	46.75	49.10	1	64.5	22.2
SZ1SMC43AT3G	GFT	43	5	47.80	50.30	52.80	1	69.4	21.6
SZ1SMC48AT3G	GFX	48	5	53.30	56.10	58.90	1	77.4	19.4
SZ1SMC51AT3G	GFZ	51	5	56.70	59.70	62.70	1	82.4	18.2
SZ1SMC54AT3G	GGE	54	5	60.00	63.15	66.30	1	87.1	17.2
SZ1SMC58AT3G	GGG	58	5	64.40	67.80	71.20	1	93.6	16.0
SZ1SMC60AT3G	GGK	60	5	66.70	70.20	73.70	1	96.8	15.5
SZ1SMC64AT3G	GGM	64	5	71.10	74.85	78.60	1	103.0	14.6
SZ1SMC70AT3G	GGP	70	5	77.80	81.90	86.00	1	113.0	13.3
SZ1SMC75AT3G	GGR	75	5	83.30	87.70	92.10	1	121.0	12.4
SZ1SMC78AT3G	GGT	78	5	86.70	91.25	95.80	1	126.0	11.4

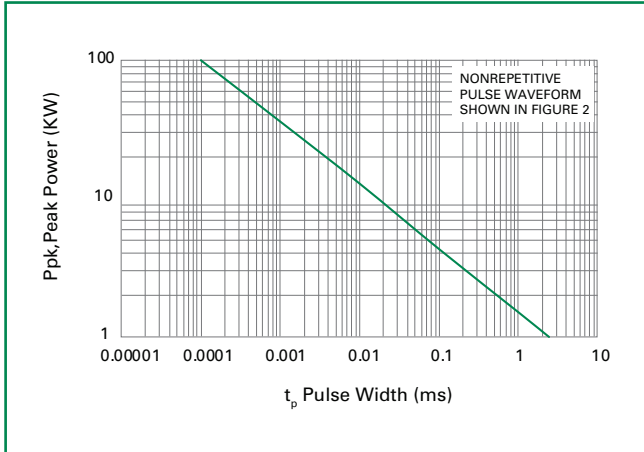
6. A transient suppressor is normally selected according to the maximum working peak reverse voltage ( $V_{RWM}$ ), which should be equal to or greater than the DC or continuous peak operating voltage level.

7.  $V_{BR}$  measured at pulse test current  $I_T$  at an ambient temperature of  $25^\circ\text{C}$ .

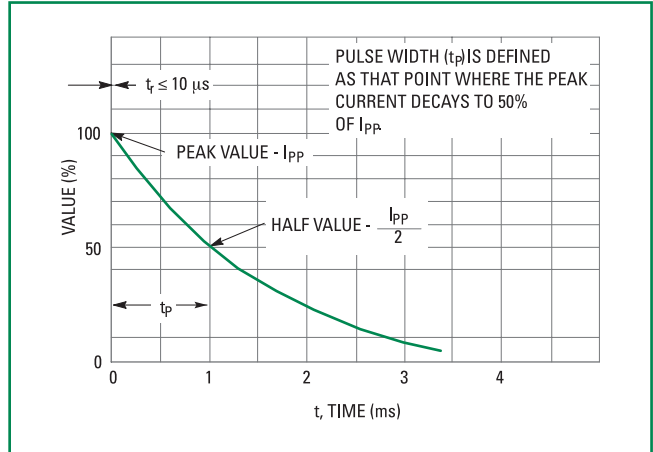
8. Surge current waveform per Figure 2 and derate per Figure 3 of the General Data – 1500 Watt at the beginning of this group.

**Ratings and Characteristic Curves**

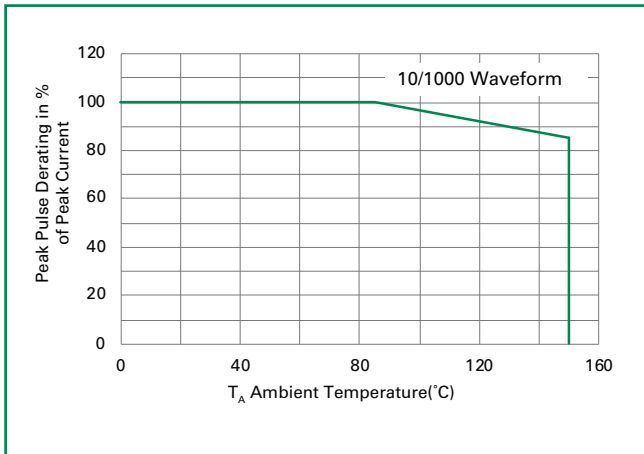
**Figure 1. Pulse Rating Curve**



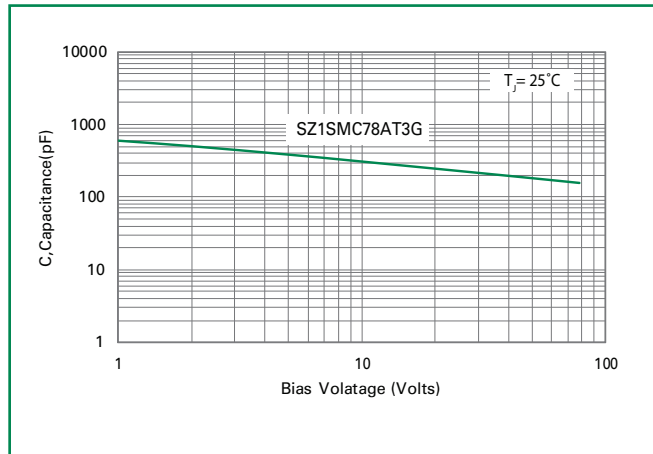
**Figure 2. Pulse Waveform**



**Figure 3. Surge Derating Curve**

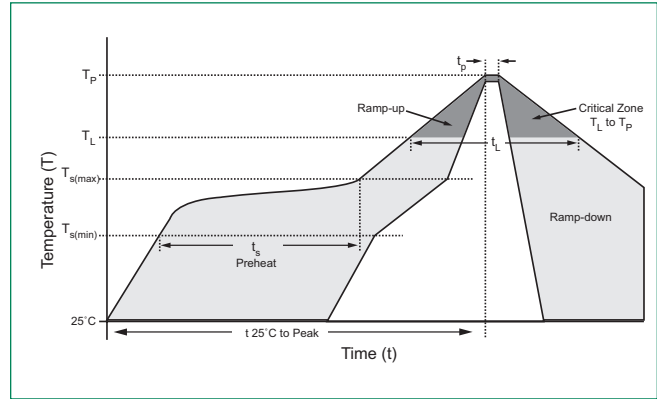


**Figure 4. Typical Junction Capacitance vs. Bias Voltage**



**Soldering Parameters**

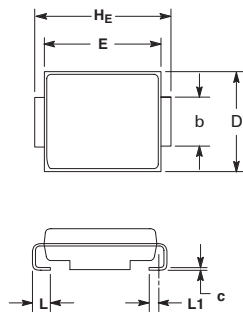
<b>Reflow Condition</b>		Lead-free assembly
<b>Pre Heat</b>	- Temperature Min ( $T_{s(min)}$ )	150°C
	- Temperature Max ( $T_{s(max)}$ )	200°C
	- Time (min to max) ( $t_p$ )	60 – 120 secs
<b>Average ramp up rate (Liquidus Temp (<math>T_L</math>) to peak)</b>		3°C/second max
<b><math>T_{s(max)}</math> to <math>T_L</math> - Ramp-up Rate</b>		3°C/second max
<b>Reflow</b>	- Temperature ( $T_L$ ) (Liquidus)	217°C
	- Time (min to max) ( $t_L$ )	60 – 150 seconds
<b>Peak Temperature (<math>T_p</math>)</b>		260 <sup>+0/-5</sup> °C
<b>Time within 5°C of actual peak Temperature (<math>t_p</math>)</b>		30 seconds max
<b>Ramp-down Rate</b>		6°C/second max
<b>Time 25°C to peak Temperature (<math>T_p</math>)</b>		8 minutes max.
<b>Do not exceed</b>		260°C



**Physical Specifications**

<b>Weight</b>	0.00733 ounce, 0.228 grams
<b>Case</b>	JEDEC DO-214AB. Void-Free, Transfer-Molded, Thermosetting Plastic Epoxy Meets UL 94V-0
<b>Polarity</b>	Color band denotes cathode for unidirectional components.
<b>Terminal</b>	Matte Tin-plated leads, Solderable per JESD22-B102

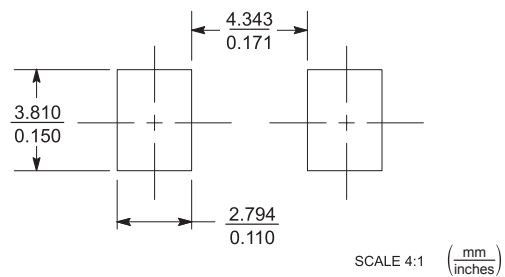
**Dimensions**



**Environmental Specifications**

<b>High Temp. Storage</b>	JESD22-A103
<b>HTRB</b>	JESD22-A108
<b>Temperature Cycling</b>	JESD22-A104
<b>MSL</b>	JEDEC-J-STD-020, Level 1
<b>H3TRB</b>	JESD22-A101
<b>RSH</b>	JESD22-A111

**Soldering Footprint**



Dim	Inches			Millimeters		
	Min	Nom	Max	Min	Nom	Max
A	0.079	0.087	0.095	2.00	2.22	2.41
A1	0.002	0.004	0.008	0.05	0.10	0.20
b	0.115	0.118	0.125	2.92	3.00	3.18
c	0.006	0.009	0.012	0.15	0.23	0.30
D	0.220	0.230	0.240	5.59	5.84	6.10
E	0.260	0.270	0.280	6.60	6.86	7.11
H <sub>E</sub>	0.305	0.313	0.320	7.75	7.94	8.13
L	0.030	0.040	0.050	0.76	1.02	1.27
L1	0.020 REF			0.51 REF		

**Ordering Information**

Device	Package	Shipping
SZ1SMCxxAT3G	SMC (Pb-Free)	2,500 / Tape & Reel

