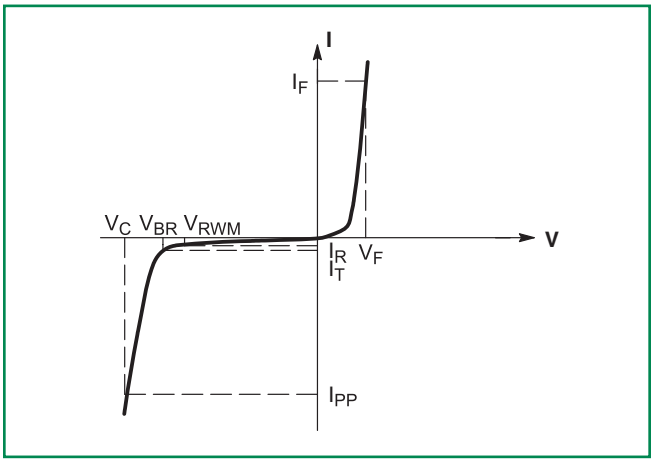
I-V Curve Characteristics (T_A = 25°C unless otherwise noted, V_F = 3.5 V Max. @ I_F (Note 4) = 12 A)



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

4. 1/2 sine wave (or equivalent square wave), PW = 8.3 ms, duty cycle = 4 pulses per minute maximum.

Ratings and Characteristic Curves

Figure 1. Pulse Rating Curve

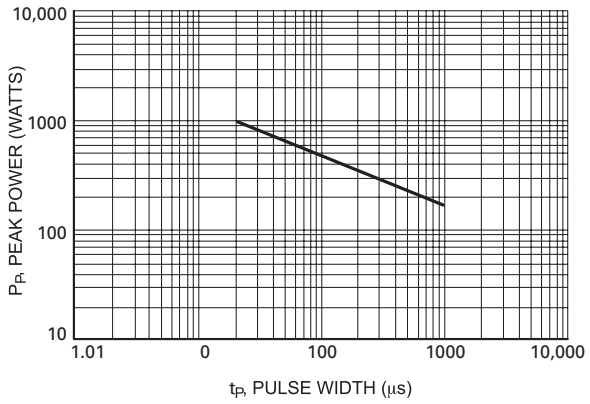


Figure 2. 10 X 1000 µs Pulse Waveform

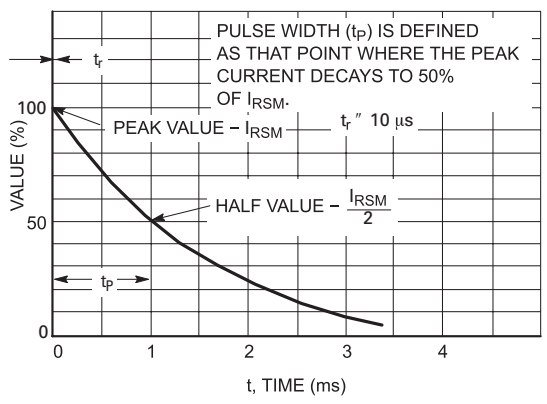


Figure 3. 8 X 20 µs Pulse Waveform

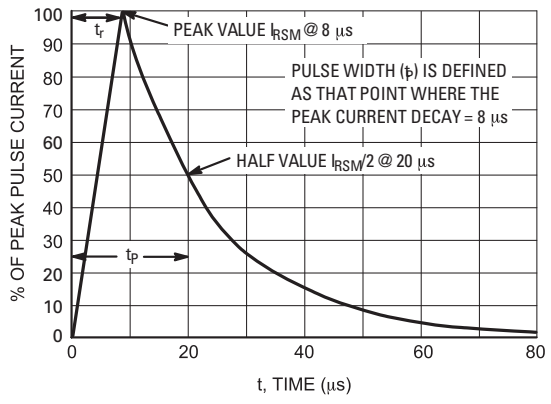
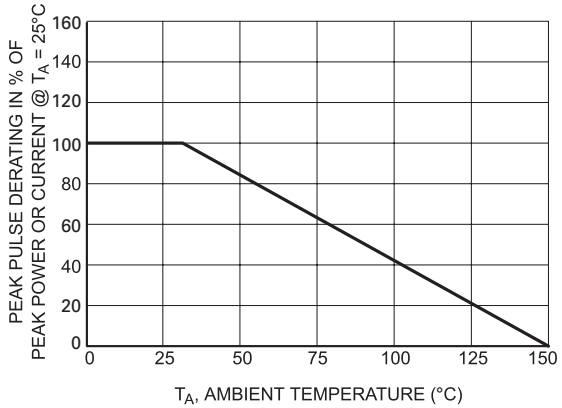


Figure 4. Pulse Derating Curve



Revised: 09/13/17

Figure 5. Typical Derating Factor for Duty Cycle

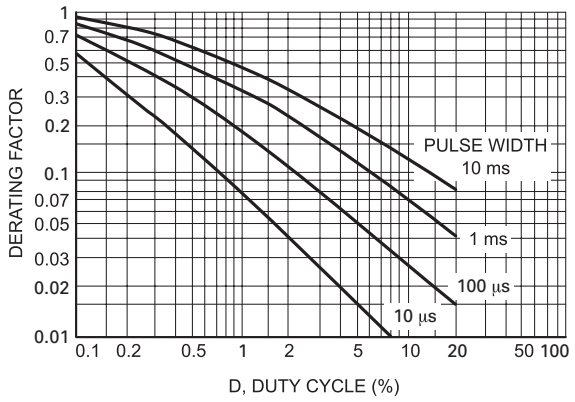


Figure 6. Steady State Power Derating

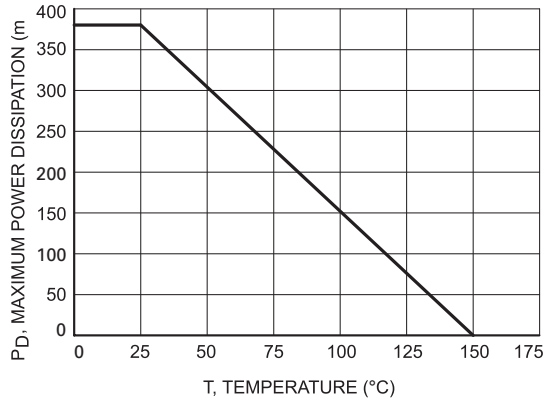


Figure 7. Forward Voltage

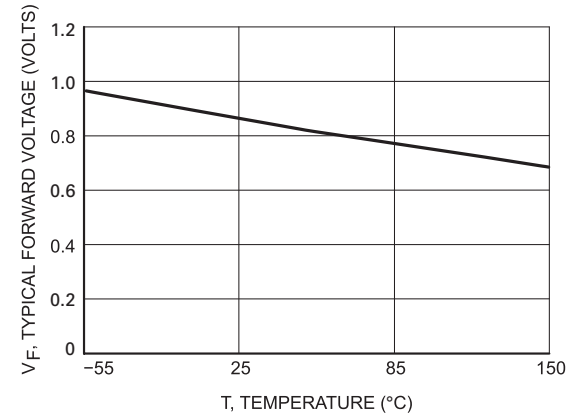
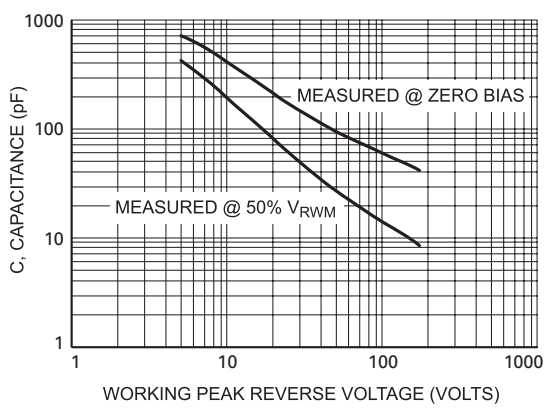


Figure 8. Capacitance vs. Working Peak Reverse Voltage

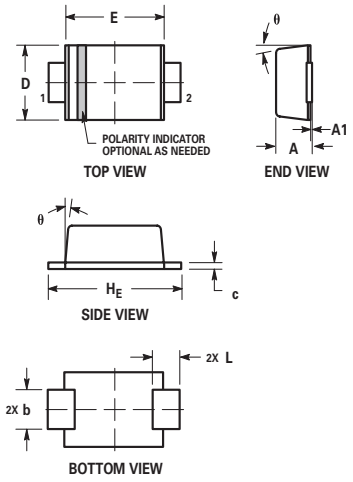


Electrical Characteristics (T_L = 30°C unless otherwise noted, V_F = 1.25 Volts @ 200 mA)

Device	Device Marking	V_{RWM}	I_R @ V_{RWM}	V_{BR} @ I_T (V) (Note 6)			@ I_T	I_R @ V_{RWM}	V_C(Max)	I_{PP}(Max) (A)
		V	µA	Min	Nom	Max	mA	(µA)	(V)	(Note 7)
SMF5.0AG	KE	5	400	6.4	6.7	7.0	10	400	9.2	21.7
SMF6.0AG	KG	6	400	6.67	7.02	7.37	10	400	10.3	19.4
SMF6.5AG	KK	6.5	250	7.22	7.60	7.98	10	250	11.2	17.9
SMF7.0AG	KM	7	100	7.78	8.19	8.6	10	100	12	16.7
SMF7.5AG	KP	7.5	50	8.33	8.77	9.21	1	50	12.9	15.5
SMF8.0AG	KR	8	25	8.89	9.36	9.83	1	25	13.6	14.7
SMF9.0AG	KV	9	5	10	10.55	11.1	1	5	15.4	13.0
SMF10AG	KX	10	2.5	11.1	11.7	12.3	1	2.5	17	11.8
SMF11AG	KZ	11	2.5	12.2	12.85	13.5	1	2.5	18.2	11.0
SMF12AG	LE	12	2.5	13.3	14	14.7	1	2.5	19.9	10.1
SMF13AG	LG	13	1	14.4	15.15	15.9	1	1	21.5	9.3
SMF14AG	LK	14	1	15.6	16.4	17.2	1	1	23.2	8.6
SMF15AG	LM	15	1	16.7	17.6	18.5	1	1	24.4	8.2
SMF18AG	LT	18	1	20	21	22.1	1	1	29.2	6.8
SMF20AG	LV	20	1	22.2	23.35	24.5	1	1	32.4	6.2
SMF22AG	LX	22	1	24.4	25.6	26.9	1	1	35.5	5.6
SMF24AG	LZ	24	1	26.7	28.1	29.5	1	1	38.9	5.1
SMF26AG	ME	26	1	28.9	30.4	31.9	1	1	42.1	4.8
SMF28AG	MG	28	1	31.1	32.8	34.4	1	1	45.4	4.4
SMF30AG	MK	30	1	33.3	35.1	36.8	1	1	48.4	4.1
SMF33AG	MM	33	1	36.7	38.7	40.6	1	1	53.3	3.8
SMF36AG	MP	36	1	40	42.1	44.2	1	1	58.1	3.4
SMF48AG	MX	48	1	53.3	56.1	58.9	1	1	77.4	2.6
SMF51AG	MZ	51	1	56.7	59.7	62.7	1	1	82.4	2.4
SMF58AG	NG	58	1	64.4	67.8	71.2	1	1	93.6	2.1

5. A transient suppressor is normally selected according to the Working Peak Reverse Voltage (V_{RWM}) which should be equal to or greater than the DC or continuous peak operating voltage level.
6. V_{BR} measured at pulse test current I_T at ambient temperature of 25°C.
7. Surge current waveform per Figure 2 and derate per Figure 3.

Dimensions

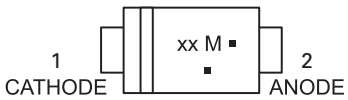


Dim	Inches			Millimeters		
	Min	Nom	Max	Min	Nom	Max
A	0.035	0.037	0.039	0.90	0.95	0.98
A1	0.000	0.002	0.004	0.00	0.05	0.10
b	0.028	0.035	0.043	0.70	0.90	1.10
c	0.004	0.006	0.008	0.10	0.15	0.20
D	0.059	0.065	0.071	1.50	1.65	1.80
E	0.098	0.106	0.114	2.50	2.70	2.90
L	0.022	0.030	0.037	0.55	0.75	0.95
H_E	0.134	0.142	0.150	3.40	3.60	3.80
θ	0°	–	8°	0°	–	8°

NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETER.
3. DIMENSIONS A AND B DO NOT INCLUDE MOLD FLASH.
4. DIMENSIONS D AND J ARE TO BE MEASURED ON FLAT SECTION OF THE LEAD: BETWEEN 0.10 AND 0.25 MM FROM THE LEAD TIP.

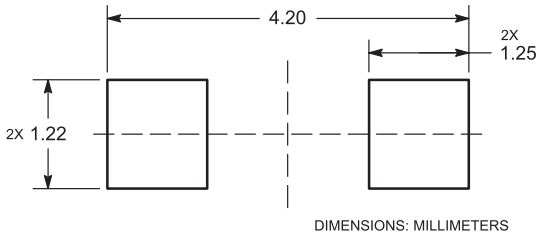
Part Marking System



xx = Device Code (Refer to page 3)
M = Date Code
▪ = Pb−Free Package

(Note: Microdot may be in either location)

Soldering Footprint



DIMENSIONS: MILLIMETERS

ORDERING INFORMATION

Device	Package	Shipping†
SMFxxxAT1G	SOD−123FL (Pb−Free)	3,000 / Tape & Reel

Flow/Wave Soldering (Solder Dipping)

Peak Temperature :	260°C Device Meets MSL 1 Requirements

Physical Specifications

Case	Void-free, transfer-molded, thermosetting plastic Epoxy Meets UL 94 V−0
Lead Finish	100% Matte Sn (Tin)
Mounting Position	Any