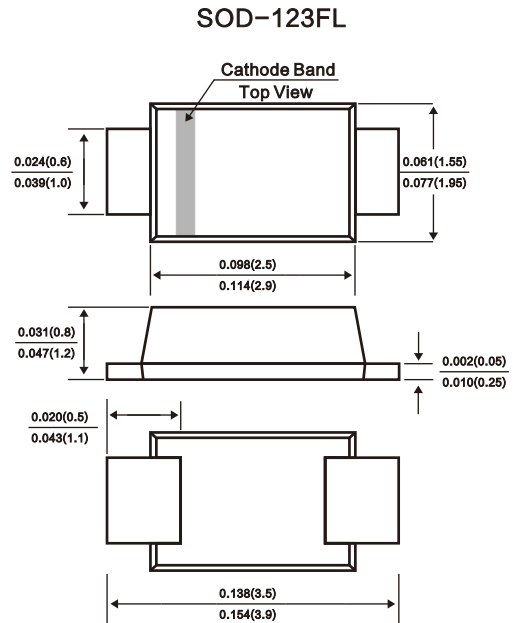


**FEATURES**

- \* Stand-off voltage ; 5 - 170 Volts
- \* Peak Power ; - 200 Watts @ 1 ms (SMF5.0A - SMF58A)  
- 175 Watts @ 1 ms (SMF60A - SMF170A)
- \* Maximum clamp voltage @ Peak pulse current
- \* Low leakage
- \* Pb Free / RoHS Compliant

**Mechanical Data**

- \* Case: JEDEC SOD-123FL, molded plastic over passivated chip
- \* Terminals: Solder Plated, solderable per MIL-STD-750, Method 2026
- \* Polarity: Color band denotes cathode end
- \* Mounting position : Any
- \* Weight: 0.006 ounces, 0.02 gram



Dimensions in inches and (millimeters)

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Rating at 25 °C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit	
Maximum $P_{PK}$ Dissipation (PW - 10/1000 $\mu$ s) (Note 1)	$P_{PK}$	SMF60A - SMF170A	175	W
		SMF5.0A - SMF58A	200	W
Maximum $P_{PK}$ Dissipation @ $T_a = 25\text{ }^\circ\text{C}$ (PW - 8/10 $\mu$ s) (Note 2)	$P_{PK}$	1000	W	
DC Power Dissipation @ $T_a = 25\text{ }^\circ\text{C}$ (Note 3)	$P_D$	385	mW	
Derate above 25 °C		4.0	mW/°C	
Thermal Resistance, Junction to Ambient (Note 3)	$R_{\theta JA}$	325	°C/W	
Thermal Resistance, Junction to Lead (Note 3)	$R_{\theta JL}$	26	°C/W	
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150	°C	

**Notes :**

- (1) Non-repetitive current pulse at  $T_a = 25\text{ }^\circ\text{C}$ , per waveform of Fig. 2.
- (2) Non-repetitive current pulse at  $T_a = 25\text{ }^\circ\text{C}$ , per waveform of Fig. 5.
- (3) Mounted with recommended minimum pad size, DC board FR4.

**ELECTRICAL CHARACTERISTICS** (  $T_L = 30\text{ }^\circ\text{C}$  unless otherwise noted  $V_F = 1.25\text{ Volts @ }200\text{ mA}$ )

Type No.	Marking	Working Peak Reverse Voltage <sup>(1)</sup>	Breakdown Voltage @ †			Test Current	Max. Reverse Leakage Current	Max. Clamping Voltage at $I_P$	Max. Reverse Peak Pulse Current <sup>(3)</sup>
		$V_{RWM}$	$V_{BR} @ I_T$			$I_T$	$I_R @ V_{RWM}$	$V_C$	$I_{PP}$
		(V)	Min	Nom	Max.	(mA)	( A)	(V)	(mA)
SMF5.0A(CA)	AE	5.0	6.40	6.70	7.00	10	400	9.2	21.7
SMF6.0A(CA)	AG	6.0	6.67	7.02	7.37	10	400	10.3	19.4
SMF6.5A(CA)	AK	6.5	7.22	7.60	7.98	10	250	11.2	17.9
SMF7.0A(CA)	AM	7.0	7.78	8.20	8.60	10	100	12.0	16.7
SMF7.5A(CA)	AP	7.5	8.33	8.77	9.21	1.0	50	12.9	15.5
SMF8.0A(CA)	AR	8.0	8.89	9.36	9.83	1.0	25	13.6	14.7
SMF8.5A(CA)	AT	8.5	9.44	9.92	10.4	1.0	10	14.4	13.9
SMF9.0A(CA)	AV	9.0	10.0	10.55	11.1	1.0	5.0	15.4	13.0
SMF10A(CA)	AX	10	11.1	11.70	12.3	1.0	2.5	17.0	11.8
SMF11A(CA)	AZ	11	12.2	12.85	13.5	1.0	2.5	18.2	11.0
SMF12A(CA)	BE	12	13.3	14.00	14.7	1.0	2.5	19.9	10.1
SMF13A(CA)	BG	13	14.4	15.15	15.9	1.0	1.0	21.5	9.3
SMF14A(CA)	BK	14	15.6	16.40	17.2	1.0	1.0	23.2	8.6
SMF15A(CA)	BM	15	16.7	17.60	18.5	1.0	1.0	24.4	8.2
SMF16A(CA)	BP	16	17.8	18.75	19.7	1.0	1.0	26.0	7.7
SMF17A(CA)	BR	17	18.9	19.90	20.9	1.0	1.0	27.6	7.2
SMF18A(CA)	BT	18	20.0	21.00	22.1	1.0	1.0	29.2	6.8
SMF20A(CA)	BV	20	22.2	23.35	24.5	1.0	1.0	32.4	6.2
SMF22A(CA)	BX	22	24.4	25.60	26.9	1.0	1.0	35.5	5.6
SMF24A(CA)	BZ	24	26.7	28.10	29.5	1.0	1.0	38.9	5.1
SMF26A(CA)	CE	26	28.9	30.40	31.9	1.0	1.0	42.1	4.8
SMF28A(CA)	CG	28	31.1	32.80	34.4	1.0	1.0	45.4	4.4
SMF30A(CA)	CK	30	33.3	35.10	36.8	1.0	1.0	48.4	4.1
SMF33A(CA)	CM	33	36.7	38.70	40.6	1.0	1.0	53.3	3.8
SMF36A(CA)	CP	36	40.0	42.10	44.2	1.0	1.0	58.1	3.4
SMF40A(CA)	CR	40	44.4	46.80	49.1	1.0	1.0	64.5	3.1
SMF43A(CA)	CT	43	47.8	50.30	52.8	1.0	1.0	69.4	2.9
SMF45A(CA)	CV	45	50.0	52.65	55.3	1.0	1.0	72.7	2.8
SMF48A(CA)	CX	48	53.3	56.10	58.9	1.0	1.0	77.4	2.6
SMF51A(CA)	CZ	51	56.7	59.70	62.7	1.0	1.0	82.4	2.4
SMF54A(CA)	RE	54	60.0	63.15	66.3	1.0	1.0	87.1	2.3
SMF58A(CA)	RG	58	64.4	67.80	71.2	1.0	1.0	93.6	2.1
SMF60A(CA)	RK	60	66.7	70.20	73.7	1.0	1.0	96.8	1.8
SMF64A(CA)	RM	64	71.1	74.85	78.6	1.0	1.0	103	1.7
SMF70A(CA)	RP	70	77.8	81.90	86.0	1.0	1.0	113	1.5
SMF75A(CA)	RR	75	83.3	87.70	92.1	1.0	1.0	121	1.4
SMF78A(CA)	RT	78	86.7	91.25	95.8	1.0	1.0	126	1.4
SMF85A(CA)	RV	85	94.4	99.20	104	1.0	1.0	137	1.3
SMF90A(CA)	RX	90	100	105.50	111	1.0	1.0	146	1.2
SMF100A(CA)	RZ	100	111	117.00	123	1.0	1.0	162	1.1
SMF110A(CA)	SE	110	122	128.50	135	1.0	1.0	177	1.0
SMF120A(CA)	VG	120	133	140.00	147	1.0	1.0	193	0.9
SMF130A(CA)	VK	130	144	151.50	159	1.0	1.0	209	0.8
SMF150A(CA)	VM	150	167	176.00	185	1.0	1.0	243	0.7
SMF160A(CA)	SP	160	178	187.50	197	1.0	1.0	259	0.7
SMF170A(CA)	SR	170	189	199.00	209	1.0	1.0	275	0.6

Notes :

- (1) 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.
- (2)  $V_{BR}$  measured at pulse test current † at ambient temperature of 25 °C.

FIG.1 - PULSE DERATING CURVE

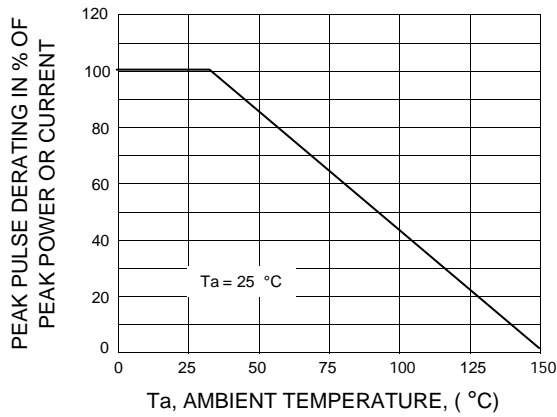


FIG.2 - 10 x 1000  $\mu$ s PULSE WAVEFORM

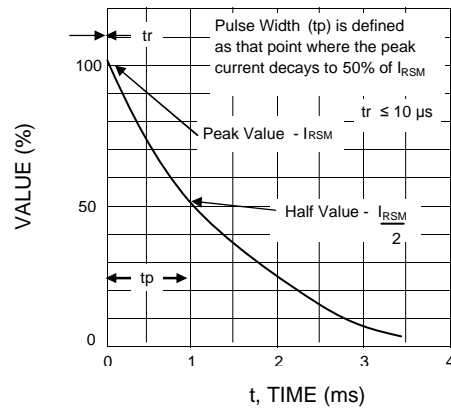


FIG.3 - STEADY STATE POWER DERATING

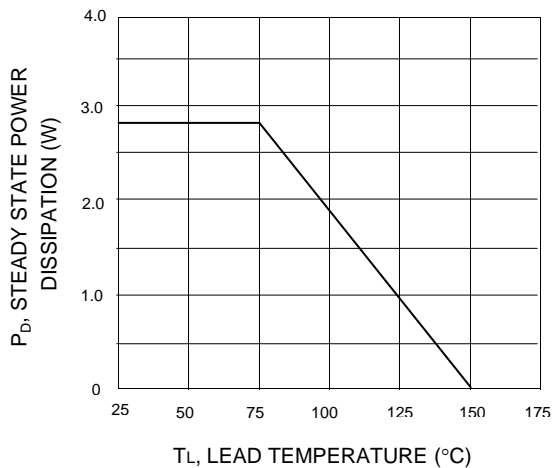


FIG.4 - PULSE RATING CURVE

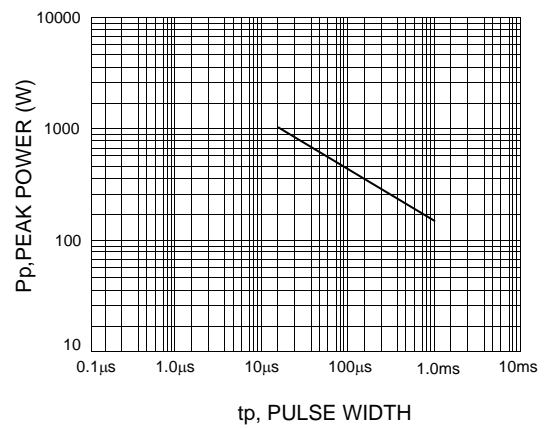


FIG.5 - 8 x 20  $\mu$ s PULSE WAVEFORM

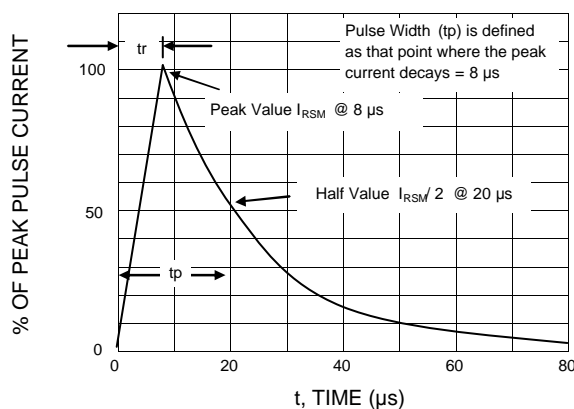
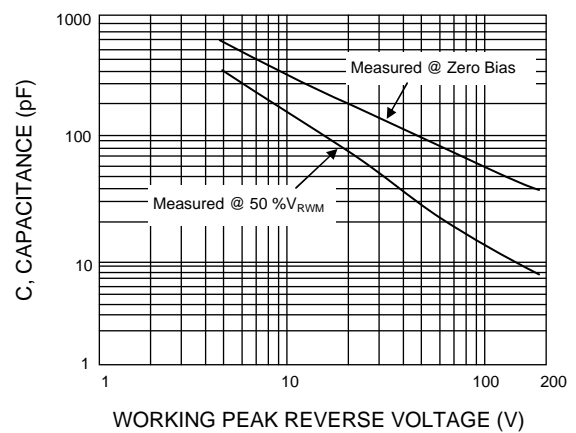


FIG. 6 - CAPACITANCE VS. WORKING PEAK REVERSE VOLTAGE



**ORDERING INFORMATION**

Order Code	Package	Baseqty	Deliverymode
UMW SMFxxA	SOD-123FL	3000	Tape and reel
UMW SMFxxCA	SOD-123FL	3000	Tape and reel