

Surface Mount Transient Voltage Suppressors (TVS)

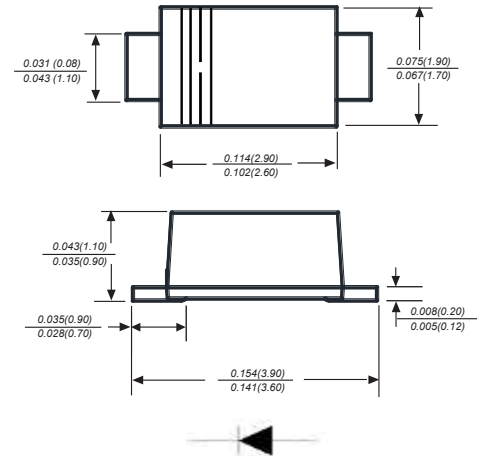
Features

- For surface mounted applications
- Low profile package
- Low incremental surge resistance, excellent clamping capability
- 200W peak pulse power capability with a10/1000 μ s wave from, repetition rate (duty cycle):0.01%
- High temperature soldering guaranteed:
260 °C/10 seconds, at terminals

Mechanical Data

- Case: JEDEC SOD-123FL, molded plastic over passivated chip
- Polarity: Color band denotes positive end (cathode) except for bidirectional
- Mounting position: Any
- Weight: 0.006 ounces, 0.02 gram

SOD-123FL



Dimensions in inches and (millimeters)

Maximum Ratings $T_A = 25^\circ\text{C}$ unless otherwise specified

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

Notes :

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

ELECTRICAL CHARACTERISTICS $T_A = 25^\circ\text{C}$, continued

TYPE		Marking		Reverse Stand-Off Voltage	Breakdown Voltage Min. @ I_T	Breakdown Voltage Max. @ I_T	Test Current	Reverse Leakage @ V_{RWM}	Maximum Clamping Voltage @ I_{PP}	Peak Pulse Current
(Uni)	(Bi)	(Uni)	(Bi)	$V_{RWM}(V)$	$V_{BR\ MIN}(V)$	$V_{BR\ MAX}(V)$	$I_T(mA)$	$I_R(\mu A)$	$V_C(V)$	$I_{PP}(A)$
SMF5.0A	SMF5.0CA	KE	FE	5.0	6.40	7.00	10	400	9.2	21.7
SMF6.0A	SMF6.0CA	KG	FG	6.0	6.67	7.37	10	400	10.3	19.4
SMF6.5A	SMF6.5CA	KK	FK	6.5	7.22	7.98	10	250	11.2	17.9
SMF7.0A	SMF7.0CA	KM	FM	7.0	7.78	8.60	10	100	12.0	16.7
SMF7.5A	SMF7.5CA	KP	FP	7.5	8.33	9.21	1.0	50	12.9	15.5
SMF8.0A	SMF8.0CA	KR	FR	8.0	8.89	9.83	1.0	25	13.6	14.7
SMF8.5A	SMF8.5CA	KT	FT	8.5	9.44	10.4	1.0	10	14.4	13.9
SMF9.0A	SMF9.0CA	KV	FV	9.0	10.0	11.1	1.0	5.0	15.4	13.0
SMF10A	SMF10CA	KX	FX	10	11.1	12.3	1.0	2.5	17.0	11.8
SMF11A	SMF11CA	KZ	FZ	11	12.2	13.5	1.0	2.5	18.2	11.0
SMF12A	SMF12CA	LE	HE	12	13.3	14.7	1.0	2.5	19.9	10.1
SMF13A	SMF13CA	LG	HG	13	14.4	15.9	1.0	1.0	21.5	9.3
SMF14A	SMF14CA	LK	HK	14	15.6	17.2	1.0	1.0	23.2	8.6
SMF15A	SMF15CA	LM	HM	15	16.7	18.5	1.0	1.0	24.4	8.2
SMF16A	SMF16CA	LP	HP	16	17.8	19.7	1.0	1.0	26.0	7.7
SMF17A	SMF17CA	LR	HR	17	18.9	20.9	1.0	1.0	27.6	7.2
SMF18A	SMF18CA	LT	HT	18	20.0	22.1	1.0	1.0	29.2	6.8
SMF20A	SMF20CA	LV	HV	20	22.2	24.5	1.0	1.0	32.4	6.2
SMF22A	SMF22CA	LX	HX	22	24.4	26.9	1.0	1.0	35.5	5.6
SMF24A	SMF24CA	LZ	HZ	24	26.7	29.5	1.0	1.0	38.9	5.1
SMF26A	SMF26CA	ME	JE	26	28.9	31.9	1.0	1.0	42.1	4.8
SMF28A	SMF28CA	MG	JG	28	31.1	34.4	1.0	1.0	45.4	4.4
SMF30A	SMF30CA	MK	JK	30	33.3	36.8	1.0	1.0	48.4	4.1
SMF33A	SMF33CA	MM	JM	33	36.7	40.6	1.0	1.0	53.3	3.8
SMF36A	SMF36CA	MP	JP	36	40.0	44.2	1.0	1.0	58.1	3.4
SMF40A	SMF40CA	MR	JR	40	44.4	49.1	1.0	1.0	64.5	3.1
SMF43A	SMF43CA	MT	JT	43	47.8	52.8	1.0	1.0	69.4	2.9
SMF45A	SMF45CA	MV	JV	45	50.0	55.3	1.0	1.0	72.7	2.8
SMF48A	SMF48CA	MX	JX	48	53.3	58.9	1.0	1.0	77.4	2.6
SMF51A	SMF51CA	MZ	JZ	51	56.7	62.7	1.0	1.0	82.4	2.4
SMF54A	SMF54CA	NE	XE	54	60.0	66.3	1.0	1.0	87.1	2.3
SMF58A	SMF58CA	NG	XG	58	64.4	71.2	1.0	1.0	93.6	2.1
SMF60A	SMF60CA	NK	XK	60	66.7	73.7	1.0	1.0	96.8	1.8
SMF64A	SMF64CA	NM	XM	64	71.1	78.6	1.0	1.0	103	1.7
SMF70A	SMF70CA	NP	XP	70	77.8	86.0	1.0	1.0	113	1.5
SMF75A	SMF75CA	NR	XR	75	83.3	92.1	1.0	1.0	121	1.4
SMF78A	SMF78CA	NT	XT	78	86.7	95.8	1.0	1.0	126	1.4
SMF85A	SMF85CA	NV	XB	85	94.4	104	1.0	1.0	137	1.3
SMF90A	SMF90CA	NX	XX	90	100	111	1.0	1.0	146	1.2
SMF100A	SMF100CA	NZ	XZ	100	111	123	1.0	1.0	162	1.1
SMF110A	SMF110CA	PE	TE	110	122	135	1.0	1.0	177	1.0
SMF120A	SMF120CA	PG	TG	120	133	147	1.0	1.0	193	0.9
SMF130A	SMF130CA	PK	TK	130	144	159	1.0	1.0	209	0.8
SMF150A	SMF150CA	PM	TM	150	167	185	1.0	1.0	243	0.7
SMF160A	SMF160CA	PP	TP	160	178	197	1.0	1.0	259	0.7
SMF170A	SMF170CA	PR	TR	170	189	209	1.0	1.0	275	0.6

Characteristic Curves $T_A = 25^\circ\text{C}$ unless otherwise noted

Fig.1 Peak Pulse Power Rating Curve

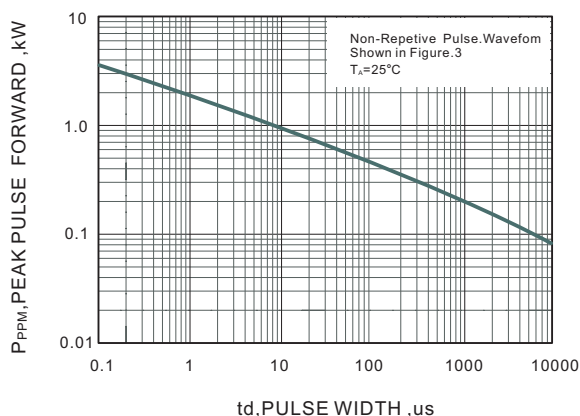


Fig.2 Forward Current Derating Curve

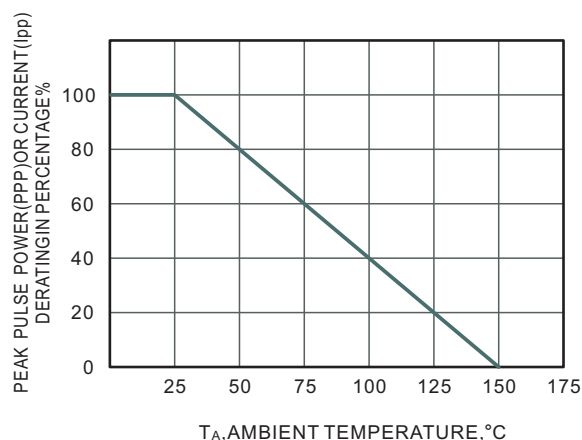


Fig.3 Pulse Waveform

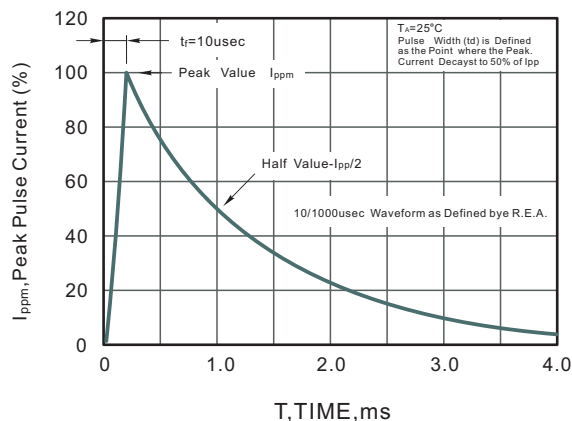
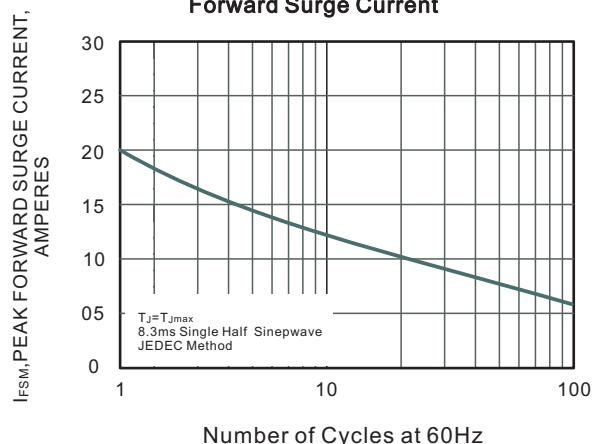


Fig.4 Maximum Non-Repetitive Peak Forward Surge Current



Ordering Information

SMF	XX	C	A
200W SOD-123FL Series			5% VBR Voltage tolerance
	voltage	C: Bi-directional	

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