WEE Technology Company Limited

TRANSIENT VOLTAGE SUPPRESSOR

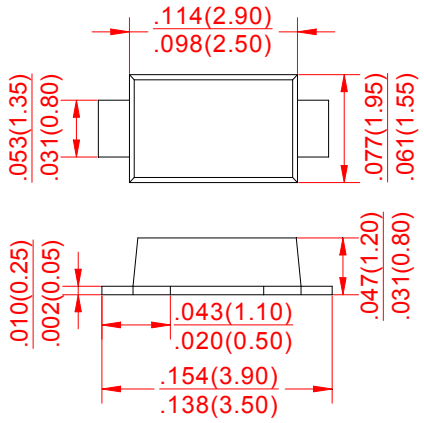
SMF5.0CA THRU SMF220CA

Stand-off Voltage 5.0 to 220 Volts
Peak Pulse Power 200 Watts

Features

- For surface mounted applications in order to optimize board space
- Low profile package
- Built-in strain relief
- Glass passivated junction
- Low inductance
- Excellent clamping capability
- Repetition Rate (duty cycle): 0.01%
- Fast response time: typical less than 1.0ps from 0 volts to BV for unidirectional types
- Typical ID less than 1μA above 10V
- High temperature soldering: 250℃/W seconds at terminals
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O

SOD-123FL



Dimensions in inches and (millimeters)

Mechanical Data

- Cass: JEDEC DO-214 AC, low profile molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Indicated by cathode band except bi-directional types
- Weight: 0.00063 ounces, 0.018 gram
- Standard Packaging: 12mm tape per (EIA-481)

Maximum Ratings and Electrical Characteristics

- Ratings at 25℃ ambient temperature unless otherwise specified

Ratings	Symbols	Value	Unit
Peak Pulse Power Dissipation at T_A=25℃(NOTE1,2,5)Fig.1	P_{PPM}	Minimum 200	Watts
Peak Forward Surge Current per Figure 5 (NOTE 3)	I_{FSM}	30.0	Amps
Peak Pulse Current on 10/10000μs wave from (NOTE1,FIG.2)	I_{PPM}	See Table 1	Amps
Forw ard voltage @ I_F =12A	V_F	3.5	V
Thermal resistance junction to ambient	$R_{\theta JA}$	180	K/W
Steady Stage Power Dissipation (Note 4)	$P_{M(AV)}$	1.0	Watts
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-50 to + 150	℃

Notes:

1. Non-repetitive current pulse, per Fog.3 and derated above TA=25℃ per Fig.2
2. mounted on 5.0mm^2 copper pads to each terminal.
3. 8.3ms single half sine-wave duty cycle = 4 pulses per minutes maximum.
4. Lead temperature at 75℃ = TL.
5. Peak pulse power waveform is 10/1000μS.

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Stand-off Voltage **5.0 to 220 Volts**

Peak Pulse Power **200 Watts**

Electrical Characteristic (TA =25℃ unless otherwise noted)

Part Number (Uni)	Part Number (Bi)	Device Marking Code		Breakdown Voltage V_{BR} @I_T			Maximum Reverse Leakage I_R @V_{RWM} (uA)	Working Peak Reverse Voltage V_{RWM} (V)	Maximum Reverse Surge Current I_{PP} (A)	Maximum Clamping Voltage V_C @I_{PP} (V)
		Uni	Bi	Min (V)	Max (V)	I_T (mA)				
SMF5.0A	SMF5.0CA	FE	KE	6.40	7.00	10	400	5.0	21.74	9.2
SMF6.0A	SMF6.0CA	FG	KG	6.67	7.37	10	400	6.0	19.42	10.3
SMF6.5A	SMF6.5CA	FK	KK	7.22	7.98	10	250	6.5	17.86	11.2
SMF7.0A	SMF7.0CA	FM	KM	7.78	8.60	10	100	7.0	16.67	12.0
SMF7.5A	SMF7.5CA	FP	KP	8.33	9.21	1	50	7.5	15.50	12.9
SMF8.0A	SMF8.0CA	FR	KR	8.89	9.83	1	25	8.0	14.71	13.6
SMF8.5A	SMF8.5CA	FT	KT	9.44	10.4	1	10	8.5	13.89	14.4
SMF9.0A	SMF9.0CA	FV	KV	10.0	11.1	1	5	9.0	12.99	15.4
SMF10A	SMF10CA	FX	KX	11.1	12.3	1	5	10	11.76	17.0
SMF11A	SMF11CA	FZ	KZ	12.2	13.5	1	5	11	10.99	18.2
SMF12A	SMF12CA	HE	LE	13.3	14.7	1	5	12	10.05	19.9
SMF13A	SMF13CA	HG	LG	14.4	15.9	1	5	13	9.30	21.5
SMF14A	SMF14CA	HK	LK	15.6	17.2	1	5	14	8.62	23.2
SMF15A	SMF15CA	HM	LM	16.7	18.5	1	5	15	8.20	24.4
SMF16A	SMF16CA	HP	LP	17.8	19.7	1	5	16	7.69	26.0
SMF17A	SMF17CA	HR	LR	18.9	20.9	1	5	17	7.25	27.6
SMF18A	SMF18CA	HT	LT	20.0	22.1	1	5	18	6.85	29.2
SMF19A	SMF19CA	HB	LB	21.1	23.3	1	5	19	6.54	30.6
SMF20A	SMF20CA	HV	LV	22.2	24.5	1	5	20	6.17	32.4
SMF22A	SMF22CA	HX	LX	24.4	26.9	1	5	22	5.63	35.5
SMF24A	SMF24CA	HZ	LZ	26.7	29.5	1	5	24	5.14	38.9
SMF26A	SMF26CA	JE	ME	28.9	31.9	1	5	26	4.75	42.1
SMF28A	SMF28CA	JG	MG	31.1	34.4	1	5	28	4.41	45.4
SMF30A	SMF30CA	JK	MK	33.3	36.8	1	5	30	4.13	48.4
SMF33A	SMF33CA	JM	MM	36.7	40.6	1	5	33	3.75	53.3
SMF36A	SMF36CA	JP	MP	40.0	44.2	1	5	36	3.44	58.1
SMF40A	SMF40CA	JR	MR	44.4	49.1	1	5	40	3.70	64.5
SMF43A	SMF43CA	JT	MT	47.8	52.8	1	5	43	2.88	69.4
SMF45A	SMF45CA	JV	MV	50.0	55.3	1	5	45	2.75	72.7
SMF48A	SMF48CA	JX	MX	53.3	58.9	1	5	48	2.58	77.4
SMF51A	SMF51CA	JZ	MZ	56.7	62.7	1	5	51	2.43	82.4
SMF54A	SMF54CA	XE	NE	60.0	66.3	1	5	54	2.30	87.1
SMF58A	SMF58CA	XG	NG	64.4	71.2	1	5	58	2.14	93.6
SMF60A	SMF60CA	XK	NK	66.7	73.7	1	5	60	2.07	96.8
SMF64A	SMF64CA	XM	NM	71.1	78.6	1	5	64	1.94	103
SMF70A	SMF70CA	XP	NP	77.8	86.0	1	5	70	1.77	113
SMF75A	SMF75CA	XR	NR	83.3	92.1	1	5	75	1.65	121
SMF78A	SMF78CA	XT	NT	86.7	95.8	1	5	78	1.59	126
SMF80A	SMF80CA	XB	NB	88.8	97.6	1	5	80	1.55	129
SMF85A	SMF85CA	XV	NV	94.4	104	1	5	85	1.46	137
SMF90A	SMF90CA	XX	NX	100	111	1	5	90	1.37	146
SMF100A	SMF100CA	XZ	NZ	111	123	1	5	100	1.23	162
SMF110A	SMF110CA	TE	PE	122	135	1	5	110	1.13	177
SMF120A	SMF120CA	TG	PG	133	147	1	5	120	1.04	193
SMF130A	SMF130CA	TK	PK	144	159	1	5	130	0.96	209
SMF140A	SMF140CA	TB	PB	155	171	1	5	140	0.89	224
SMF150A	SMF150CA	TM	PM	167	185	1	5	150	0.82	243
SMF160A	SMF160CA	TP	PP	178	197	1	5	160	0.77	259
SMF170A	SMF170CA	TR	PR	189	209	1	5	170	0.73	275
SMF180A	SMF180CA	TT	PT	200	220	1	5	180	0.68	292
SMF190A	SMF190CA	TV	PV	211	232	1	5	190	0.65	308
SMF200A	SMF200CA	TX	PX	224	247	1	5	200	0.62	324
SMF220A	SMF220CA	TZ	PZ	246	272	1	5	220	0.56	356

Notes:

*Peak Pulse power waveform in 10/1000 us

1. Suffix A denotes 5% tolerance device, no suffix A denotes 10% tolerance device
2. V(BR) measured after IT applied for 300μs IT=square wave pulse or equivalent
3. For bidirectional type having VWM of 10 volts and less, the ID limit is doubled
4. For bidirectional use C or CA suffixs for all types, electrical characteris apply in both directions

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Ratings and Characteristic Curves (TA=25℃ unless otherwise noted)

FIG.1—PEAK PULSE POWER RATING CURVE

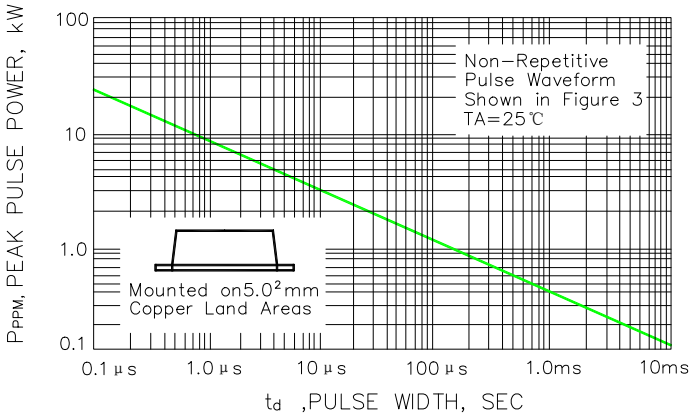

FIG.2—PULSE RATING CURVE

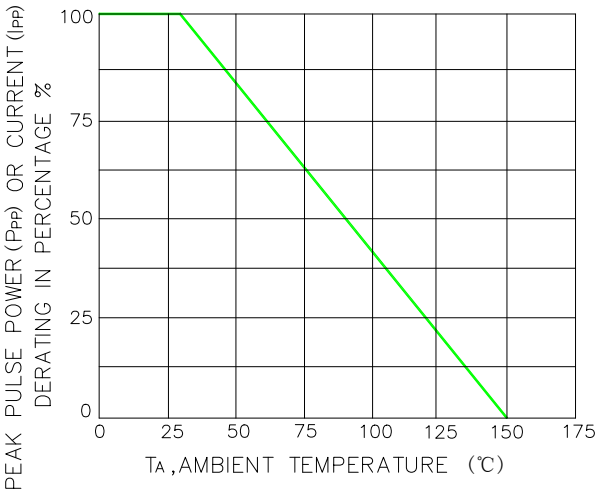

FIG.3—PULSE WAVEFORM

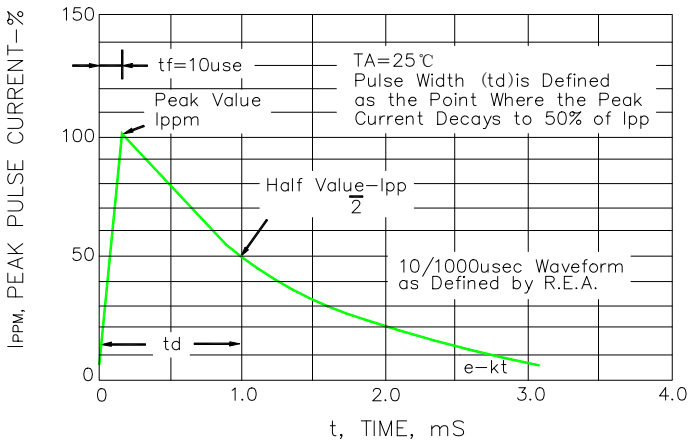

FIG.4—TYPICAL JUNCTION CAPACITANCE

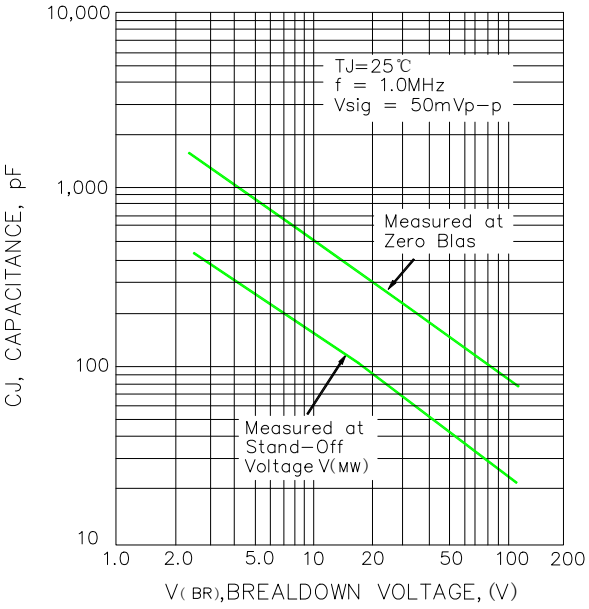

FIG.5—MAXIMUM NON—REPETITIVE
PEAK FOWARD SURGE CURRENT