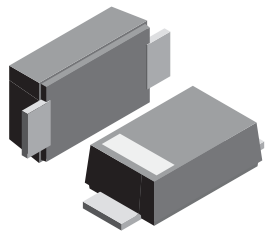
S2FL5.0A(CA) - S2FL170A(CA)

SURFACE MOUNT TRANSIENT VOLTAGE SUPPESSOR DIODE

VOLTAGE RANGE: 5.0 - 170V
POWER: 200Watts



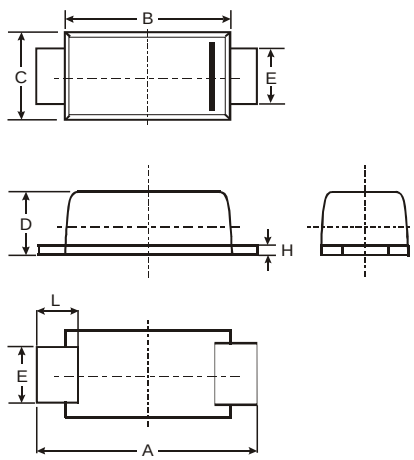
Features

- For surface mounted applications
- Low profile package
- Low incremental surge resistance, excellent clamping capability
- 200W peak pulse power capability with a10/1000μs wave from,repetition rate (dutycycle):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

RoHS COMPLIANT



SOD-123FL			
Dim	Min	Max	Typ
A	3.58	3.72	3.65
B	2.72	2.78	2.75
C	1.77	1.83	1.80
D	1.02	1.08	1.05
E	0.097	1.03	1.00
H	0.13	0.17	0.15
L	0.53	0.57	0.55
All Dimensions in mm			

Maximum Ratings T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Maximum P_{PK} Dissipation (PW - 10/1000 μs)	P_{PK}	200	W
Maximum P_{PK} Dissipation @ Ta = 25 °C (PW - 8/10 μs) (Note 2)	P_{PK}	1000	W
DC Power Dissipation @ Ta = 25 °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 Ta = 25°C, per waveform of Fig. 2.
(2) Non−repetitive current pulse at Ta = 25°C, per waveform of Fig. 5.
(3) Mounted with recommended minimum pad size, DC board FR4.

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(uA)	V_C(V)	I_{PP}(mA)
S2FL5.0A	S2FL5.0CA	KE	FE	5.0	6.40	7.00	10	400	9.2	21.7
S2FL6.0A	S2FL6.0CA	KG	FG	6.0	6.67	7.37	10	400	10.3	19.4
S2FL6.5A	S2FL6.5CA	KK	FK	6.5	7.22	7.98	10	250	11.2	17.9
S2FL7.0A	S2FL7.0CA	KM	FM	7.0	7.78	8.60	10	100	12.0	16.7
S2FL7.5A	S2FL7.5CA	KP	FP	7.5	8.33	9.21	1.0	50	12.9	15.5
S2FL8.0A	S2FL8.0CA	KR	FR	8.0	8.89	9.83	1.0	25	13.6	14.7
S2FL8.5A	S2FL8.5CA	KT	FT	8.5	9.44	10.4	1.0	10	14.4	13.9
S2FL9.0A	S2FL9.0CA	KV	FV	9.0	10.0	11.1	1.0	5.0	15.4	13.0
S2FL10A	S2FL10CA	KX	FX	10	11.1	12.3	1.0	2.5	17.0	11.8
S2FL11A	S2FL11CA	KZ	FZ	11	12.2	13.5	1.0	2.5	18.2	11.0
S2FL12A	S2FL12CA	LE	HE	12	13.3	14.7	1.0	2.5	19.9	10.1
S2FL13A	S2FL13CA	LG	HG	13	14.4	15.9	1.0	1.0	21.5	9.3
S2FL14A	S2FL14CA	LK	HK	14	15.6	17.2	1.0	1.0	23.2	8.6
S2FL15A	S2FL15CA	LM	HM	15	16.7	18.5	1.0	1.0	24.4	8.2
S2FL16A	S2FL16CA	LP	HP	16	17.8	19.7	1.0	1.0	26.0	7.7
S2FL17A	S2FL17CA	LR	HR	17	18.9	20.9	1.0	1.0	27.6	7.2
S2FL18A	S2FL18CA	LT	HT	18	20.0	22.1	1.0	1.0	29.2	6.8
S2FL20A	S2FL20CA	LV	HV	20	22.2	24.5	1.0	1.0	32.4	6.2
S2FL22A	S2FL22CA	LX	HX	22	24.4	26.9	1.0	1.0	35.5	5.6
S2FL24A	S2FL24CA	LZ	HZ	24	26.7	29.5	1.0	1.0	38.9	5.1
S2FL26A	S2FL26CA	ME	JE	26	28.9	31.9	1.0	1.0	42.1	4..8
S2FL28A	S2FL28CA	MG	JG	28	31.1	34.4	1.0	1.0	45.4	4.4
S2FL30A	S2FL30CA	MK	JK	30	33.3	36.8	1.0	1.0	48.4	4.1
S2FL33A	S2FL33CA	MM	JM	33	36.7	40.6	1.0	1.0	53.3	3.8
S2FL36A	S2FL36CA	MP	JP	36	40.0	44.2	1.0	1.0	58.1	3.4
S2FL40A	S2FL40CA	MR	JR	40	44.4	49.1	1.0	1.0	64.5	3.1
S2FL43A	S2FL43CA	MT	JT	43	47.8	52.8	1.0	1.0	69.4	2.9
S2FL45A	S2FL45CA	MV	JV	45	50.0	55.3	1.0	1.0	72.7	2.8
S2FL48A	S2FL48CA	MX	JX	48	53.3	58.9	1.0	1.0	77.4	2.6
S2FL51A	S2FL51CA	MZ	JZ	51	56.7	62.7	1.0	1.0	82.4	2.4
S2FL54A	S2FL54CA	NE	XE	54	60.0	66.3	1.0	1.0	87.1	2.3
S2FL58A	S2FL58CA	NG	XG	58	64.4	71.2	1.0	1.0	93.6	2.1
S2FL60A	S2FL60CA	NK	XK	60	66.7	73.7	1.0	1.0	96.8	1.8
S2FL64A	S2FL64CA	NM	XM	64	71.1	78.6	1.0	1.0	103	1.7
S2FL70A	S2FL70CA	NP	XP	70	77.8	86.0	1.0	1.0	113	1.5
S2FL75A	S2FL75CA	NR	XR	75	83.3	92.1	1.0	1.0	121	1.4
S2FL78A	S2FL78CA	NT	XT	78	86.7	95.8	1.0	1.0	126	1.4
S2FL85A	S2FL85CA	NV	XB	85	94.4	104	1.0	1.0	137	1.3
S2FL90A	S2FL90CA	NX	XX	90	100	111	1.0	1.0	146	1.2
S2FL100A	S2FL100CA	NZ	XZ	100	111	123	1.0	1.0	162	1.1
S2FL110A	S2FL110CA	PE	TE	110	122	135	1.0	1.0	177	1.0
S2FL120A	S2FL120CA	PG	TG	120	133	147	1.0	1.0	193	0.9
S2FL130A	S2FL130CA	PK	TK	130	144	159	1.0	1.0	209	0.8
S2FL150A	S2FL150CA	PM	TM	150	167	185	1.0	1.0	243	0.7
S2FL160A	S2FL160CA	PP	TP	160	178	197	1.0	1.0	259	0.7
S2FL170A	S2FL170CA	PR	TR	170	189	209	1.0	1.0	275	0.6

FIG.1 - PULSE DERATING CURVE

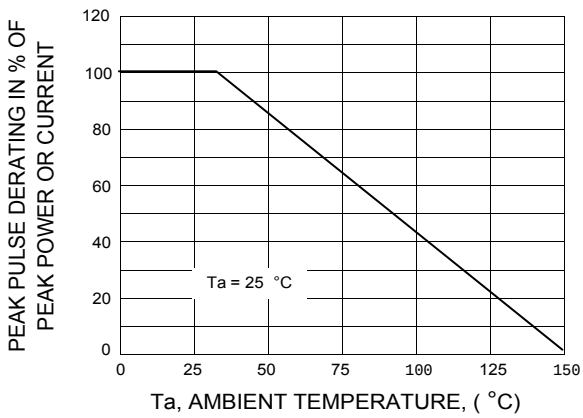


FIG.2 - 10 x 1000 µs PULSE WAVEFORM

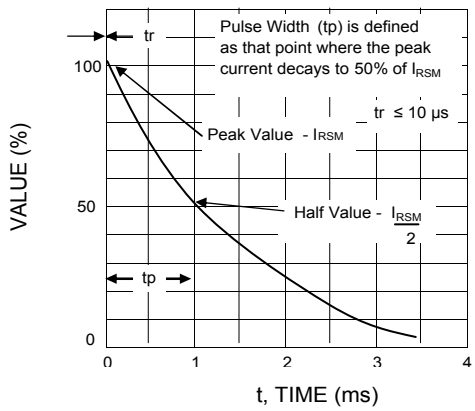


FIG.3 - STEADY STATE POWER DERATING

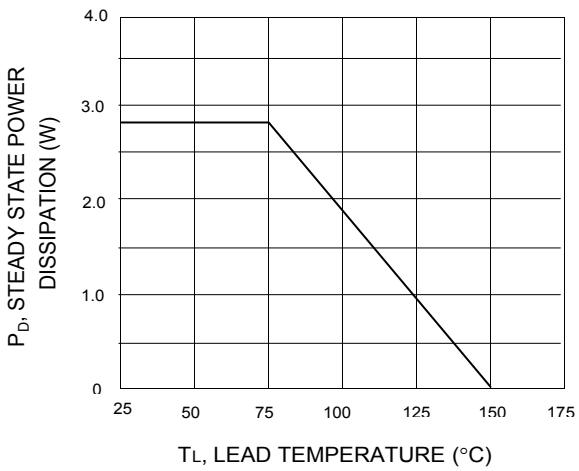


FIG.4 - PULSE RATING CURVE

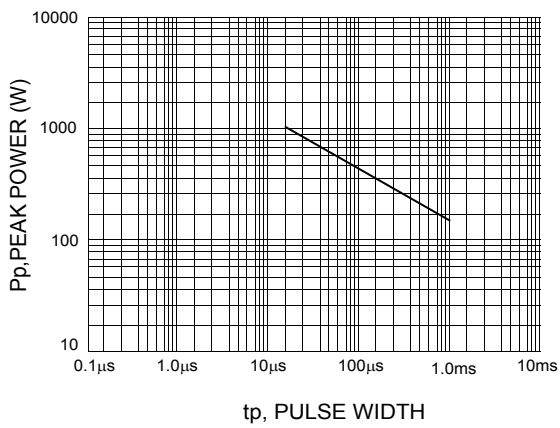


FIG.5 - 8 x 20 µs PULSE WAVEFORM

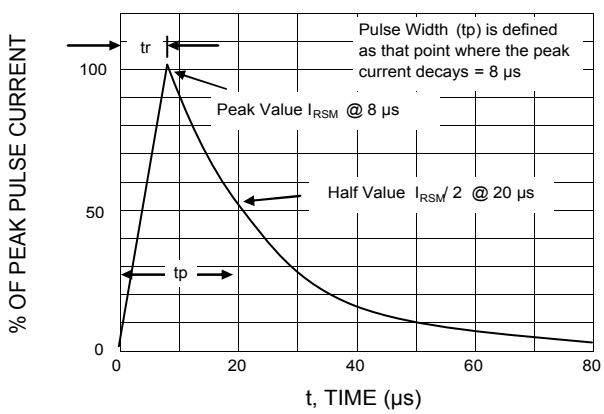


FIG. 6 - CAPACITANCE VS. WORKING PEAK REVERSE VOLTAGE