Elektronische Bauelemente

S2FL SERIES

5V ~ 220V

200W Peak Power Surface Mount TVS

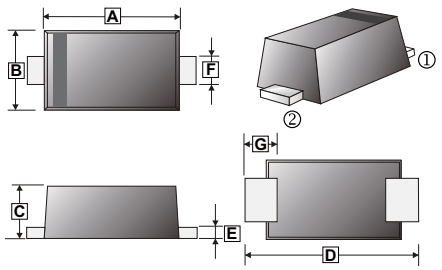
RoHS Compliant Product

A suffix of "-C" specifies halogen-free and lead-free

FEATURES

- Glass passivated chip
- Low leakage
- Uni and Bidirectional unit
- Excellent clamping capability
- Very fast response time
- RoHS compliant
- 200 W peak pulse power capability with a 10/1000 μs waveform, repetitive rate (duty cycle):0.01 %

SOD-123FL



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.60	3.10	E	0.10	0.30
B	1.60	2.00	F	0.80	1.35
C	0.81	1.55	G	0.35	0.85
D	3.50	3.90			

MECHANICAL DATA

- Epoxy : UL94V-0 rate flame retardant
- Case : SOD-123FL
- Lead: Solderable per MIL-STD-750,method 2026
- Polarity : Color band denotes cathode end except Bipolar
- Mounting Position : Any
- Weight : 0.0152 grams(approximate)

PACKAGE INFORMATION

Package	MPQ	Leader Size
SOD-123FL	3K	7 inch

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

(Rating 25°C ambient temperature unless otherwise specified. Single phase half wave, 60Hz, resistive or inductive load.
For capacitive load, de-rate current by 20%.)

Ratings	Symbol	Value	Units
Peak power dissipation with a 10/1000μs waveform [1]	P_{PP}	200	W
Peak pulse current wih a 10/1000μs waveform [1]	I_{PP}	See Next Table	A
Power dissipation on infinite heatsink at T_L = 70 °C	P_D	0.4	W
Peak forward surge current, 8.3 ms single half sine-wave unidirectional only [2]	I_{FSM}	20	A
Maximum instantaneous forward voltage at 25 A for unidirectional only	V_F	3.5	V
Operating junction and storage temperature range	T_J, T_{STG}	-55 ~ 150	°C

Notes:

1. Non-repetitive current pulse per Fig.5 and derated above T_A= 25 °C per Fig.1.
2. Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.

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ELECTRICAL CHARACTERISTICS (Rating TA=25°C unless otherwise specified)

Part Number		Marking Code		Reverse Stand-Off Voltage	Breakdown Voltage V_{BR} @ I_T		Test Current	Maximum Clamping Voltage V_C @I_{PP}	Peak Pulse Current	Reverse Leakage I_R @V_{RWM}
					Min	Max				
Directional		Directional		V_{RWM}	V_{BR}		I_T	V_C	I_{PP}	I_R
Uni	Bi	Uni	Bi	V	V	V	mA	V	A	μA
S2FL5.0A	S2FL 5.0CA	FE	KE	5.0	6.4	7	10	9.2	21.74	400
S2FL 6.0A	S2FL6.0CA	FG	KG	6.0	6.67	7.37	10	10.3	19.42	400
S2FL6.5A	S2FL6.5CA	FK	KK	6.5	7.22	7.98	10	11.2	17.86	250
S2FL7.0A	S2FL7.0CA	FM	KM	7.0	7.78	8.6	10	12	16.67	100
S2FL7.5A	S2FL7.5CA	FP	KP	7.5	8.33	9.21	1	12.9	15.5	50
S2FL8.0A	S2FL8.0CA	FR	KR	8.0	8.89	9.83	1	13.6	14.71	25
S2FL8.5A	S2FL8.5CA	FT	KT	8.5	9.44	10.4	1	14.4	13.89	10
S2FL9.0A	S2FL9.0CA	FV	KV	9.0	10	11.1	1	15.4	12.99	5
S2FL10A	S2FL10CA	FX	KX	10	11.1	12.3	1	17	11.76	2.5
S2FL11A	S2FL11CA	FZ	KZ	11	12.2	13.5	1	18.2	10.99	2.5
S2FL12A	S2FL12CA	HE	LE	12	13.3	14.7	1	19.9	10.05	2.5
S2FL13A	S2FL13CA	HG	LG	13	14.4	15.9	1	21.5	9.3	1
S2FL14A	S2FL14CA	HK	LK	14	15.6	17.2	1	23.2	8.62	1
S2FL15A	S2FL15CA	HM	LM	15	16.7	18.5	1	24.4	8.2	1
S2FL16A	S2FL16CA	HP	LP	16	17.8	19.7	1	26	7.69	1
S2FL17A	S2FL17CA	HR	LR	17	18.9	20.9	1	27.6	7.25	1
S2FL18A	S2FL18CA	HT	LT	18	20	22.1	1	29.2	6.85	1
S2FL19A	S2FL19CA	HB	LB	19	21.1	23.3	1	30.6	6.54	1
S2FL20A	S2FL20CA	HV	LV	20	22.2	24.5	1	32.4	6.17	1
S2FL22A	S2FL22CA	HX	LX	22	24.4	26.9	1	35.5	5.63	1
S2FL24A	S2FL24CA	HZ	LZ	24	26.7	29.5	1	38.9	5.14	1
S2FL26A	S2FL26CA	JE	ME	26	28.9	31.9	1	42.1	4.75	1
S2FL28A	S2FL28CA	JG	MG	28	31.1	34.4	1	45.4	4.41	1
S2FL30A	S2FL30CA	JK	MK	30	33.3	36.8	1	48.4	4.13	1
S2FL33A	S2FL33CA	JM	MM	33	36.7	40.6	1	53.3	3.75	1
S2FL36A	S2FL36CA	JP	MP	36	40	44.2	1	58.1	3.44	1
S2FL40A	S2FL40CA	JR	MR	40	44.4	49.1	1	64.5	3.1	1
S2FL43A	S2FL43CA	JT	MT	43	47.8	52.8	1	69.4	2.88	1
S2FL45A	S2FL45CA	JV	MV	45	50	55.3	1	72.7	2.75	1

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					Min	Max				
Directional		Directional		V_{RWM}	V_{BR}		I_T	V_C	I_{PP}	I_R
Uni	Bi	Uni	Bi	V	V	V	mA	V	A	μA
S2FL48A	S2FL48CA	JX	MX	48	53.3	58.9	1	77.4	2.58	1
S2FL51A	S2FL51CA	JZ	MZ	51	56.7	62.7	1	82.4	2.43	1
S2FL54A	S2FL54CA	XE	NE	54	60	66.3	1	87.1	2.3	1
S2FL58A	S2FL58CA	XG	NG	58	64.4	71.2	1	93.6	2.14	1
S2FL60A	S2FL60CA	XK	NK	60	66.7	73.7	1	96.8	2.07	1
S2FL64A	S2FL64CA	XM	NM	64	71.1	78.6	1	103	1.94	1
S2FL70A	S2FL70CA	XP	NP	70	77.8	86	1	113	1.77	1
S2FL75A	S2FL75CA	XR	NR	75	83.3	92.1	1	121	1.65	1
S2FL78A	S2FL78CA	XT	NT	78	86.7	95.8	1	126	1.59	1
S2FL80A	S2FL80CA	XB	NB	80	88.8	97.6	1	129	1.55	1
S2FL85A	S2FL85CA	XV	NV	85	94.4	104	1	137	1.46	1
S2FL90A	S2FL90CA	XX	NX	90	100	111	1	146	1.37	1
S2FL100A	S2FL100CA	XZ	NZ	100	111	123	1	162	1.23	1
S2FL110A	S2FL110CA	TE	PE	110	122	135	1	177	1.13	1
S2FL120A	S2FL120CA	TG	PG	120	133	147	1	193	1.04	1
S2FL130A	S2FL130CA	TK	PK	130	144	159	1	209	0.96	1
S2FL140A	S2FL140CA	TB	PB	140	155	171	1	224	0.89	1
S2FL150A	S2FL150CA	TM	PM	150	167	185	1	243	0.82	1
S2FL160A	S2FL160CA	TP	PP	160	178	197	1	259	0.77	1
S2FL170A	S2FL170CA	TR	PR	170	189	209	1	275	0.73	1
S2FL180A	S2FL180CA	TT	PT	180	200	220	1	292	0.68	1
S2FL190A	S2FL190CA	TV	PV	190	211	232	1	308	0.65	1
S2FL200A	S2FL200CA	TX	PX	200	224	247	1	324	0.62	1
S2FL220A	S2FL220CA	TZ	PZ	220	246	272	1	356	0.56	1

Note:

1. The available parts are 'A' type only, the parts without A(V_{BR} is ± 10%) is not available.
2. Add suffix' CA ' after part number to specify Bi-directional devices.
3. For Bi-Directional devices having V_R of 10 volts and under, the I_R limit is double .

RATINGS AND CHARACTERISTIC CURVES

Fig. 1 - Pulse Derating Curve

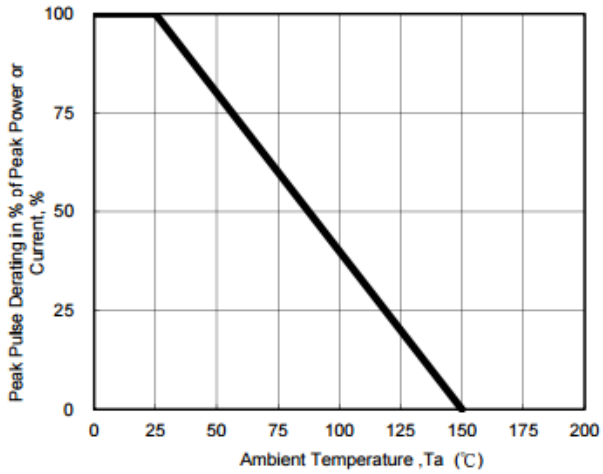


Fig. 2 - Maximum Non-RepetitiveSurge Current

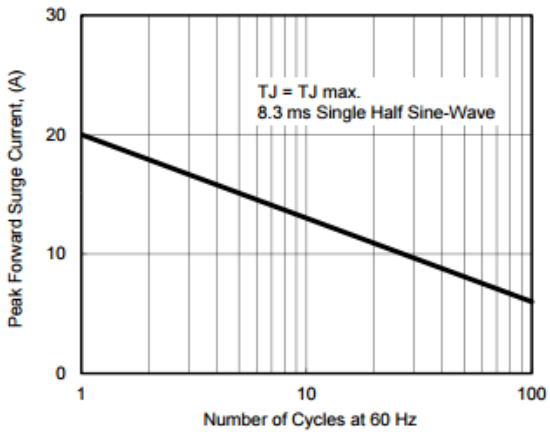


Fig. 3 - Steady State Power Derating Curve

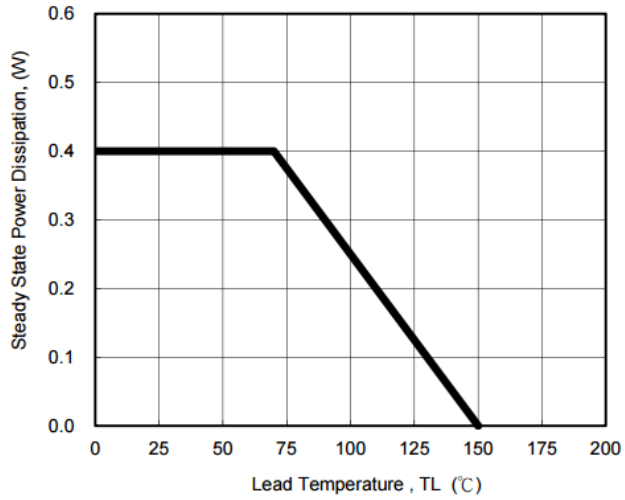


Fig. 4 - Peak Pulse Power Rating Curve

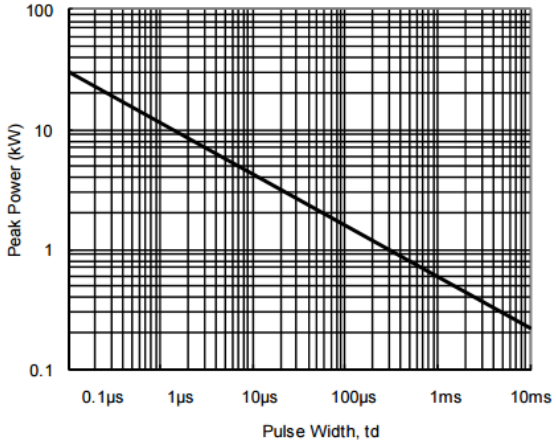


Fig. 5 - Pulse Waveform

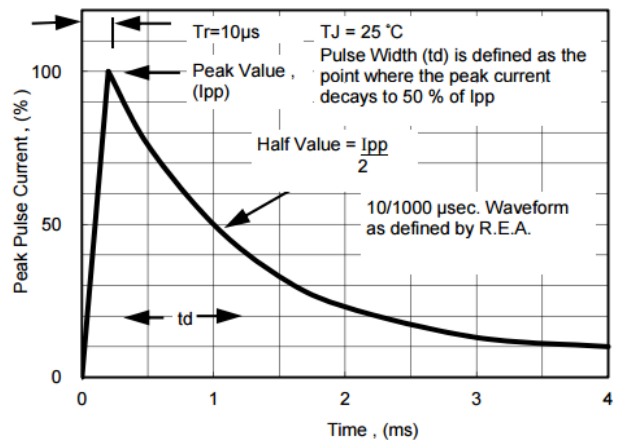


Fig. 6 - Typical Junction Capacitance

