

RoHS Compliant Product

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

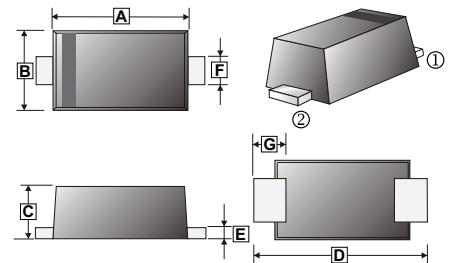
FEATURES

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

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
- Mounting Position : Any
- Weight : 0.0152 grams(approximate)

SOD-123FL



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.4	3.10	E	0.05	0.30
B	1.55	2.00	F	0.80	1.35
C	0.80	1.55	G	0.8 (Typ.)	
D	3.3	3.90			

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%.)

Rating	Symbol	Value	Unit
Peak power dissipation with a 10/1000 μ s waveform ^{1,3}	P _{PP}	400	W
Peak pulse current with a 10/1000 μ s waveform ¹	I _{PP}	See Next Table	A
Peak forward surge current, 8.3 ms single half sine-wave unidirectional only ²	I _{FSM}	30	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.3 and derated above T_A= 25°C per Fig.1.
2. Measured on 8.3 ms single half sine-wave or equivalent square wave for unidirectional device only.
3. S4FL5.0A~S4FL9.0A Peak Pulse Power Dissipation is 370W min, 400W typical @10/1000 μ s

ELECTRICAL CHARACTERISTICS (Rating $T_A=25^{\circ}\text{C}$ unless otherwise specified)

Part Number	Marking Code	Reverse Stand-Off Voltage	Breakdown Voltage V_{BR} @ I_T		Test Current	Reverse Leakage I_R @ V_{RWM}	Maximum Clamping Voltage V_C @ I_{PP}	Peak Pulse Current
			Min	Max				
		V_{RWM}	V_{BR}		I_T	I_R	V_C	I_{PP}
Uni	Uni	V	V	V	mA	μA	V	A
S4FL5.0A	KE	5	6.4	7	10	800	9.2	40.1
S4FL6.0A	KG	6	6.7	7.37	10	800	10.3	35.9
S4FL6.5A	KK	6.5	7.22	7.98	10	500	11.2	33.1
S4FL7.0A	KM	7	7.78	8.6	10	200	12	30.9
S4FL7.5A	KP	7.5	8.33	9.21	1	100	12.9	28.7
S4FL8.0A	KR	8	8.89	9.83	1	50	13.6	27.2
S4FL8.5A	KT	8.5	9.44	10.4	1	20	14.4	25.7
S4FL9.0A	KV	9	10	11.1	1	10	15.4	24.1
S4FL10A	KX	10	11.1	12.2	1	5	17	23.5
S4FL11A	KZ	11	12.2	13.5	1	1	18.2	22
S4FL12A	LE	12	13.3	14.7	1	1	19.9	20.1
S4FL13A	LG	13	14.4	15.9	1	1	21.5	18.6
S4FL14A	LK	14	15.6	17.2	1	1	23.2	17.2
S4FL15A	LM	15	16.7	18.5	1	1	24.4	16.4
S4FL16A	LP	16	17.8	19.7	1	1	26	15.4
S4FL17A	LR	17	18.9	20.9	1	1	27.6	14.5
S4FL18A	LT	18	20	22.1	1	1	29.2	13.7
S4FL20A	LV	20	22.2	24.5	1	1	32.4	12.3
S4FL22A	LX	22	24.4	26.9	1	1	35.5	11.3
S4FL24A	LZ	24	26.7	29.5	1	1	38.9	10.3
S4FL26A	ME	26	28.9	31.9	1	1	42.1	9.5
S4FL28A	MG	28	31.1	34.4	1	1	45.4	8.8
S4FL30A	MK	30	33.3	36.8	1	1	48.4	8.3
S4FL33A	MM	33	36.7	40.6	1	1	53.3	7.5
S4FL36A	MP	36	40	44.2	1	1	58.1	6.9
S4FL40A	MR	40	44.4	49.1	1	1	64.5	6.2
S4FL43A	MT	43	47.8	52.8	1	1	69.4	5.8
S4FL45A	MV	45	50	55.3	1	1	72.7	5.5

ELECTRICAL CHARACTERISTICS (Rating $T_A=25^{\circ}\text{C}$ unless otherwise specified)

Part Number	Marking Code	Reverse Stand-Off Voltage	Breakdown Voltage V_{BR} @ I_T		Test Current	Reverse Leakage I_R @ V_{RWM}	Maximum Clamping Voltage V_C @ I_{PP}	Peak Pulse Current
			Min	Max				
		V_{RWM}	V_{BR}		I_T	I_R	V_C	I_{PP}
Uni	Uni	V	V	V	μA	μA	V	A
S4FL48A	MX	48	53.3	58.9	1	1	77.4	5.2
S4FL51A	MZ	51	56.7	62.7	1	1	82.4	4.9
S4FL54A	NE	54	60	66.3	1	1	87.1	4.6
S4FL58A	NG	58	64.4	71.2	1	1	93.6	4.3
S4FL60A	NK	60	66.7	73.7	1	1	96.8	4.1
S4FL64A	NM	64	71.1	78.6	1	1	103	3.9
S4FL70A	NP	70	77.8	86	1	1	113	3.5
S4FL75A	NR	75	83.3	92.1	1	1	121	3.3
S4FL78A	NT	78	86.7	95.8	1	1	126	3.2
S4FL85A	NV	85	94.4	104	1	1	137	2.9

RATINGS AND CHARACTERISTIC CURVES

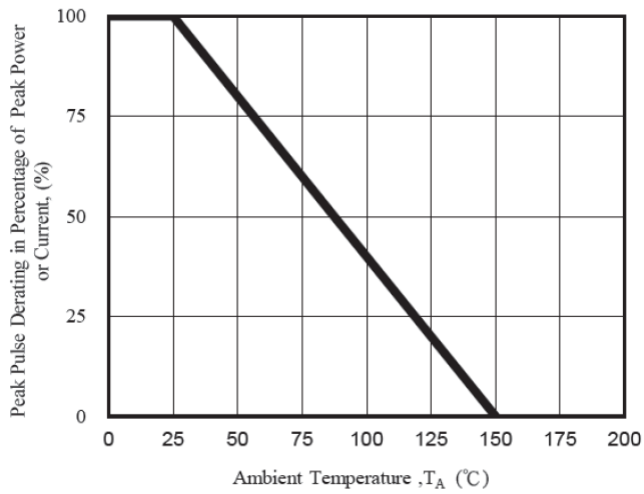


Fig. 1 - Pulse Derating Curve

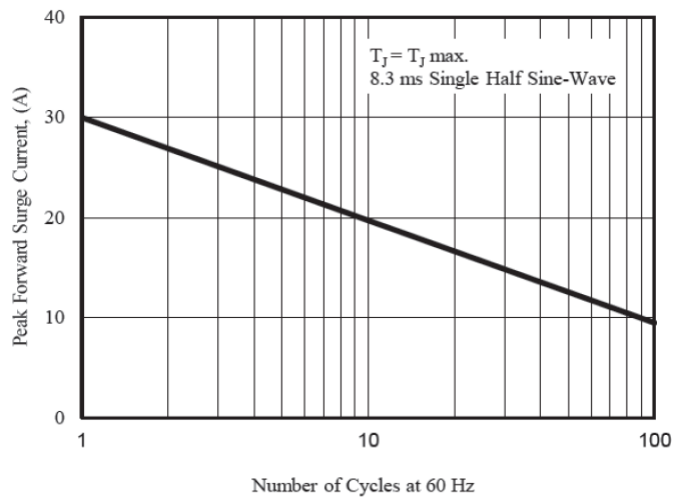


Fig. 2 - Maximum Non-Repetitive

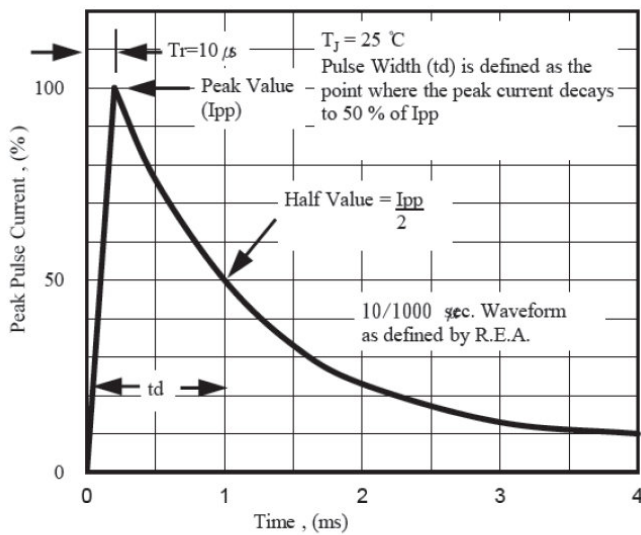


Fig. 3 - Pulse Waveform

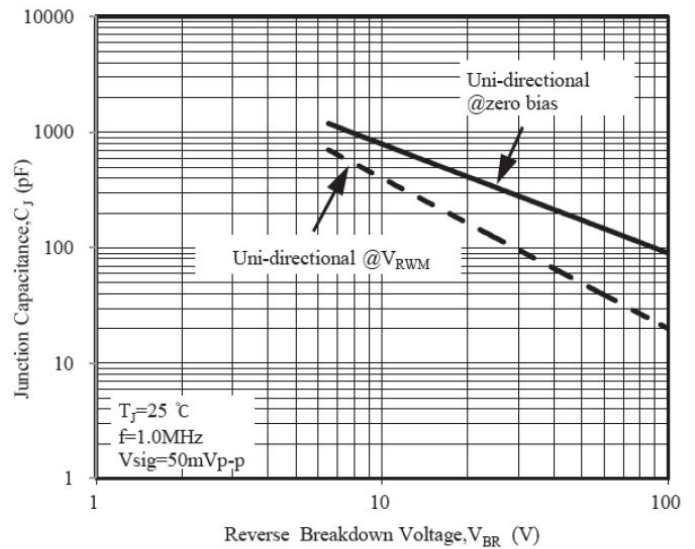


Fig. 4 - Typical Junction Capacitance

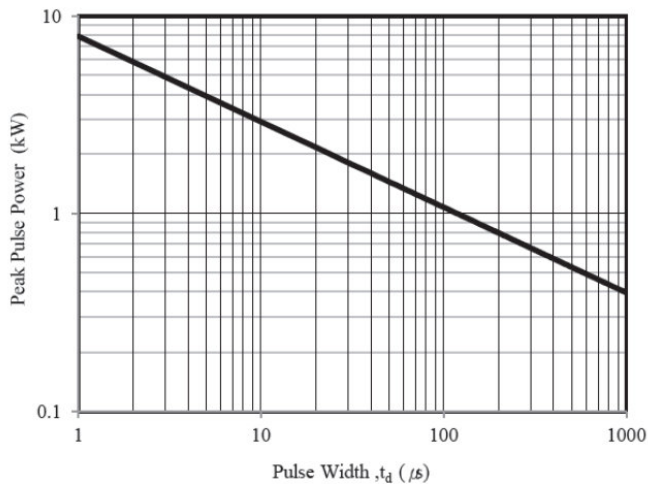


Fig. 5 - Steady State Power Derating Curve