

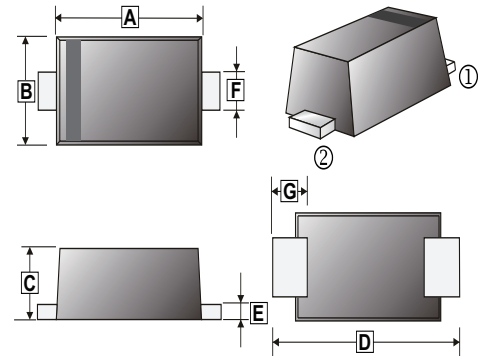
RoHS Compliant Product

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

FEATURES

- Glass passivated junction
- Solder dip 260°C, 10s
- Low profile, typical thickness 1.0mm
- Moisture sensitivity: level 1, per J-STD-020
- Excellent clamping capability
- Fast response time
- 200W peak pulse power capability with a 10/1000µs waveform
- Polarity: Uni-directional

SOD-123FL



PACKAGE INFORMATION

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

REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.9	3.1	E	0.1	0.25
B	1.7	2	F	0.85	1.05
C	0.9	1.08	G	0.43	0.83
D	3.5	3.9			

ORDER INFORMATION

Part Number	Type
SFL2J10A-C~SFL2J190A-C	Lead (Pb)-free and Halogen-free

MAXIMUM RATINGS (T_A=25 °C unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak power dissipation with a 10/1000µs waveform ¹	P _{PP}	200	W
Peak pulse current with a 10/1000µs waveform ¹	I _{PP}	See Next Table	A
power dissipation ²	Steady state	P _D	0.5
Peak forward surge current, 8.3ms single half sine-wave unidirectional only	I _{FSM}	30	A
Maximum instantaneous forward clamping voltage at 25A	V _F	3.5	V
Thermal resistance junction to ambient air	R _{θJA}	85	°C/W
Operating junction and storage temperature range	T _J , T _{STG}	-65 ~ 150	°C

Notes:

1. Non-repetitive current pulse per Fig.3 and derated above T_A = 25°C per Fig.4.
2. Power dissipation mounted on recommended pad layout.
3. Thermal resistance from junction to ambient, mounted on PCB with 5.0×5.0mm copper pads.

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	Maximum Reverse Leakage I_R @ V_{RWM}	Maximum Peak Pulse Current	Maximum Clamping Voltage V_C @ I_{PP}
			Min	Max				
		V_{RWM}	V_{BR}		I_T	I_R	I_{PP}	V_C
Uni	Uni	V	V	V	mA	μA	A	V
SFL2J10A-C	10A	10	11.1	12.3	1	5	11.8	17
SFL2J11A-C	11A	11	12.2	13.5	1	5	11	18.2
SFL2J12A-C	12A	12	13.3	14.7	1	5	10.1	19.9
SFL2J13A-C	13A	13	14.4	15.9	1	5	9.3	21.5
SFL2J14A-C	14A	14	15.6	17.2	1	5	8.62	23.2
SFL2J15A-C	15A	15	16.7	18.5	1	5	8.2	24.4
SFL2J16A-C	16A	16	17.8	19.7	1	5	7.69	26
SFL2J17A-C	17A	17	18.9	20.9	1	5	7.25	27.6
SFL2J18A-C	18A	18	20	22.1	1	5	6.85	29.2
SFL2J20A-C	20A	20	22.2	24.5	1	5	6.17	32.4
SFL2J22A-C	22A	22	24.4	26.9	1	5	5.63	35.5
SFL2J24A-C	24A	24	26.7	29.5	1	5	5.14	38.9
SFL2J26A-C	26A	26	28.9	31.9	1	5	4.75	42.1
SFL2J28A-C	28A	28	31.1	34.4	1	5	4.41	45.4
SFL2J30A-C	30A	30	33.3	36.8	1	5	4.13	48.4
SFL2J33A-C	33A	33	36.7	40.6	1	5	3.75	53.3
SFL2J36A-C	36A	36	40	44.2	1	5	3.44	58.1
SFL2J40A-C	40A	40	44.4	49.1	1	5	3.1	64.5
SFL2J43A-C	43A	43	47.8	52.8	1	5	2.88	69.4
SFL2J45A-C	45A	45	50	55.3	1	5	2.75	72.7
SFL2J48A-C	48A	48	53.3	58.9	1	5	2.58	77.4
SFL2J51A-C	51A	51	56.7	62.7	1	5	2.43	82.4
SFL2J54A-C	54A	54	60	66.3	1	5	2.3	87.1
SFL2J58A-C	58A	58	64.4	71.2	1	5	2.14	93.6
SFL2J60A-C	60A	60	66.7	73.7	1	5	2.07	96.8
SFL2J64A-C	64A	64	71.1	78.6	1	5	1.94	103
SFL2J70A-C	70A	70	77.8	86	1	5	1.77	113
SFL2J75A-C	75A	75	83.3	92.1	1	5	1.65	121
SFL2J78A-C	78A	78	86.7	95.8	1	5	1.59	126
SFL2J80A-C	80A	80	88.8	97.6	1	5	1.55	129
SFL2J85A-C	85A	85	94.4	104	1	5	1.46	137
SFL2J90A-C	90A	90	100	111	1	5	1.37	146

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	Maximum Reverse Leakage I_R @ V_{RWM}	Maximum Peak Pulse Current	Maximum Clamping Voltage V_C @ I_{PP}
			Min	Max				
		V_{RWM}	V_{BR}		I_T	I_R	I_{PP}	V_C
Uni	Uni	V	V	V	mA	μA	A	V
SFL2J100A-C	100A	100	111	123	1	5	1.23	162
SFL2J110A-C	110A	110	122	135	1	5	1.13	177
SFL2J120A-C	120A	120	133	147	1	5	1.04	193
SFL2J130A-C	130A	130	144	159	1	5	0.96	209
SFL2J140A-C	140A	140	155	171	1	5	0.89	224
SFL2J150A-C	150A	150	167	185	1	5	0.82	243
SFL2J160A-C	160A	160	178	197	1	5	0.77	259
SFL2J170A-C	170A	170	189	209	1	5	0.73	275
SFL2J180A-C	180A	180	201	222	1	5	0.69	292
SFL2J190A-C	190A	190	211	232	1	5	0.62	324

RATINGS AND CHARACTERISTIC CURVES

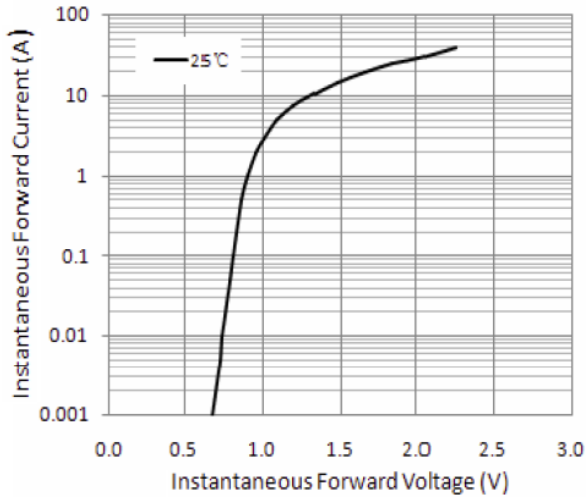


Figure 1.

Typical Instantaneous Forward Characteristics

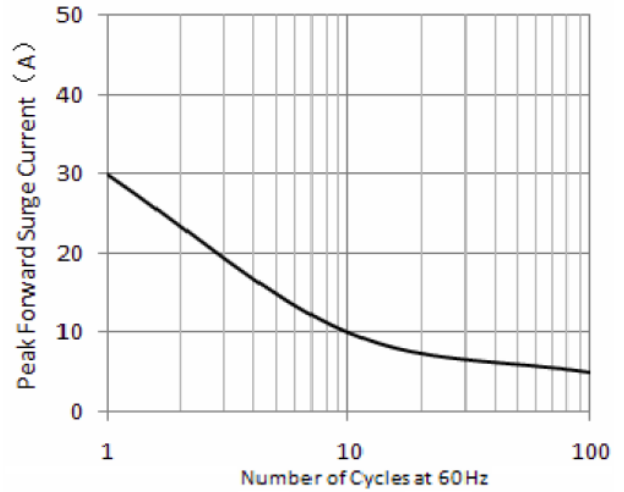


Figure 2.

Maximum Non-Repetitive Peak Forward Surge Current

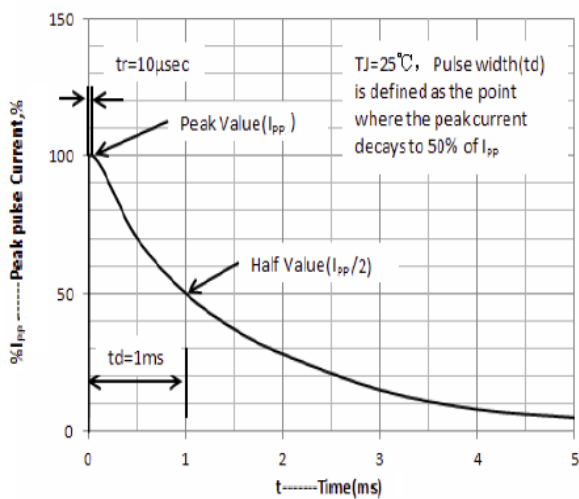


Figure 3. Pulse Waveform

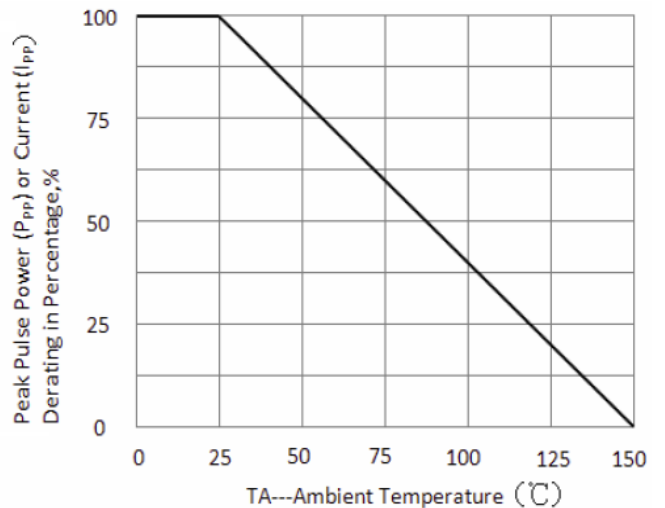


Figure 4. Peak Pulse Power Derating Curve

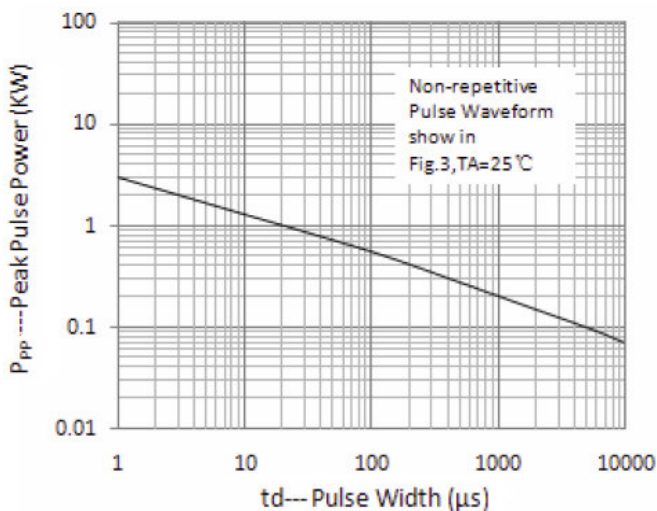


Figure 5. Peak Pulse Power Derating Curve