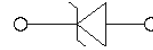
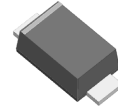
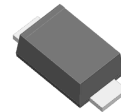


Features

- For surface mounted applications
- Low-profile package
- Ideal for automated placement
- Available in Unidirectional and Bidirectional
- 200 W peak pulse power capability with a 10/1000 μ s waveform
- Low incremental surge resistance, excellent clamping capability
- Very fast response time
- High temperature soldering guaranteed: 260 °C/10 s at terminals
- Meets MSL level 1
- Component in accordance to RoHS



Uni-directional



Bi-directional

Mechanical Date

- **Package:** SOD-123FL
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** For uni-directional types the band denotes cathode end, no marking on bi-directional types

■ Maximum Ratings ($T_a=25^\circ\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	Conditions	Max
Peak power dissipation ^{(1) (2)} (Fig.1)	P_{PPM}	W	with a 10/1000us waveform	200
Peak pulse current ⁽¹⁾	I_{PPM}	A	with a 10/1000us waveform	(See Next Table)
Power dissipation, on infinite heat sink	P_D	W	$T_L=75^\circ\text{C}$	0.4
Peak forward surge current, 8.3 ms single half sine-wave unidirectional only ⁽³⁾	I_{FSM}	A		20
Operating junction and storage temperature range	T_J, T_{STG}	$^\circ\text{C}$		-55 to +150
Thermal resistance	$R_{\theta JL}$	$^\circ\text{C/W}$	Between junction and lead	26
	$R_{\theta JA}$		Between junction and Ambient	300
	$R_{\theta JC}$		Between junction and Curve	40

Notes:

- (1). Non repetitive current pulse, per Fig2 and derated above $T_a=25^\circ\text{C}$ per Fig3.
- (2). $T_L=30^\circ\text{C}$ unless otherwise noted, $V_F \leq 1.25\text{V}@200\text{mA}$.
- (3). Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum

Characteristics at Ta = 25°C

Type		Marking		V _{RWM}	Breakdown Voltage		Test Current	Reverse Leakage	Max. Clamp Voltage	Peak Pulse Current
					V _{BR} @ I _T					
					Min	Max	I _T	I _R @ V _{RWM}	V _C @ I _{PP}	I _{PP}
Uni	Bi	Uni	Bi	V	V	V	mA	µA	V	A
SMFJ5.0A	SMFJ5.0CA	AE	CAE	5	6.4	7	10	200	9.2	21.7
SMFJ6.0A	SMFJ6.0CA	AG	CAG	6	6.67	7.37	10	100	10.3	19.4
SMFJ6.5A	SMFJ6.5CA	AK	CAK	6.5	7.22	7.98	10	75	11.2	17.9
SMFJ7.0A	SMFJ7.0CA	AM	CAM	7	7.78	8.6	10	50	12	16.7
SMFJ7.5A	SMFJ7.5CA	AP	CAP	7.5	8.33	9.21	1	50	12.9	15.5
SMFJ8.0A	SMFJ8.0CA	AR	CAR	8	8.89	9.83	1	25	13.6	14.7
SMFJ8.5A	SMFJ8.5CA	AT	CAT	8.5	9.44	10.4	1	10	14.4	13.9
SMFJ9.0A	SMFJ9.0CA	AV	CAV	9	10	11.1	1	5	15.4	13
SMFJ10A	SMFJ10CA	AX	CAX	10	11.1	12.3	1	2.5	17	11.8
SMFJ11A	SMFJ11CA	AZ	CAZ	11	12.2	13.5	1	2.5	18.2	11
SMFJ12A	SMFJ12CA	BE	CBE	12	13.3	14.7	1	2.5	19.9	10.1
SMFJ13A	SMFJ13CA	BG	CBG	13	14.4	15.9	1	1	21.5	9.3
SMFJ14A	SMFJ14CA	BK	CBK	14	15.6	17.2	1	1	23.2	8.6
SMFJ15A	SMFJ15CA	BM	CBM	15	16.7	18.5	1	1	24.4	8.2
SMFJ16A	SMFJ16CA	BP	CBP	16	17.8	19.7	1	1	26	7.7
SMFJ17A	SMFJ17CA	BR	CBR	17	18.9	20.9	1	1	27.6	7.2
SMFJ18A	SMFJ18CA	BT	CBT	18	20	22.1	1	1	29.2	6.8
SMFJ20A	SMFJ20CA	BV	CBV	20	22.2	24.5	1	1	32.4	6.2
SMFJ22A	SMFJ22CA	BX	CBX	22	24.4	26.9	1	1	35.5	5.6
SMFJ24A	SMFJ24CA	BZ	CBZ	24	26.7	29.5	1	1	38.9	5.1
SMFJ26A	SMFJ26CA	CE	CCE	26	28.9	31.9	1	1	42.1	4.8
SMFJ28A	SMFJ28CA	CG	CCG	28	31.1	34.4	1	1	45.4	4.4
SMFJ30A	SMFJ30CA	CK	CCK	30	33.3	36.8	1	1	48.4	4.1
SMFJ33A	SMFJ33CA	CM	CCM	33	36.7	40.6	1	1	53.3	3.8
SMFJ36A	SMFJ36CA	CP	CCP	36	40	44.2	1	1	58.1	3.4
SMFJ40A	SMFJ40CA	CR	CCR	40	44.4	49.1	1	1	64.5	3.1
SMFJ43A	SMFJ43CA	CT	CCT	43	47.8	52.8	1	1	69.4	2.9
SMFJ45A	SMFJ45CA	CV	CCV	45	50	55.3	1	1	72.7	2.8
SMFJ48A	SMFJ48CA	CX	CCX	48	53.3	58.9	1	1	77.4	2.6
SMFJ51A	SMFJ51CA	CZ	CCZ	51	56.7	62.7	1	1	82.4	2.4
SMFJ54A	SMFJ54CA	DE	CDE	54	60	66.3	1	1	87.1	2.3
SMFJ58A	SMFJ58CA	DG	CDG	58	64.4	71.2	1	1	93.6	2.1
SMFJ60A	SMFJ60CA	DK	CDK	60	66.7	73.7	1	1	96.8	1.8
SMFJ64A	SMFJ64CA	DM	CDM	64	71.1	78.6	1	1	103	1.7
SMFJ70A	SMFJ70CA	DP	CDP	70	77.8	86	1	1	113	1.5
SMFJ75A	SMFJ75CA	DR	CDR	75	83.3	92.1	1	1	121	1.4
SMFJ78A	SMFJ78CA	DT	CDT	78	86.7	95.8	1	1	126	1.4
SMFJ85A	SMFJ85CA	DV	CDV	85	94.4	104	1	1	137	1.3
SMFJ90A	SMFJ90CA	DX	CDX	90	100	111	1	1	146	1.2
SMFJ100A	SMFJ100CA	DZ	CDZ	100	111	123	1	1	162	1.1
SMFJ110A	SMFJ110CA	EE	CEE	110	122	135	1	1	177	1
SMFJ120A	SMFJ120CA	EG	CEG	120	133	147	1	1	193	0.9
SMFJ130A	SMFJ130CA	EK	CEK	130	144	159	1	1	209	0.8
SMFJ150A	SMFJ150CA	EM	CEM	150	167	185	1	1	243	0.7
SMFJ160A	SMFJ160CA	EP	CEP	160	178	197	1	1	259	0.7
SMFJ170A	SMFJ170CA	ER	CER	170	189	209	1	1	275	0.6
SMFJ180A	SMFJ180CA	ET	CET	180	201	222	1	1	292	0.5
SMFJ190A	SMFJ190CA	EX	CEX	200	224	247	1	1	324	0.5
SMFJ220A	SMFJ220CA	E22	CE22	220	246	272	1	1	356	0.5

■ Characteristics(Typical)

FIG1:Peak Pulse Power Rating Curve

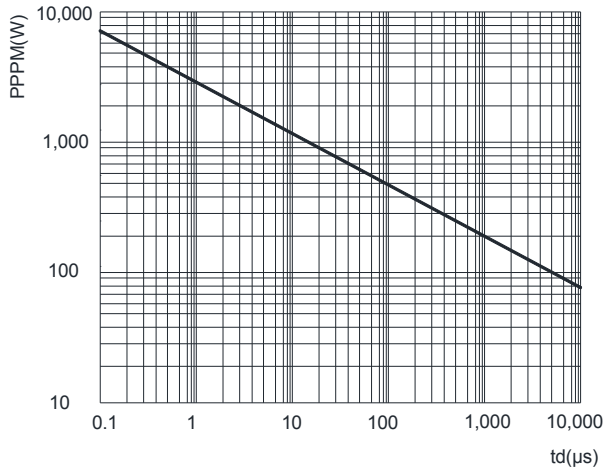


FIG2: Pulse Waveform

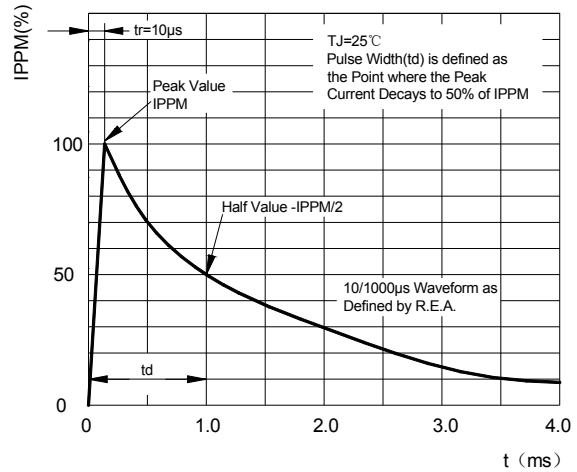


FIG3: Pulse Power or Current vs. Initial Junction Temperature

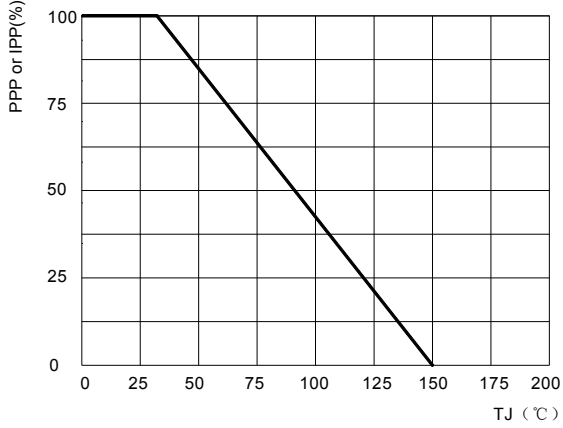
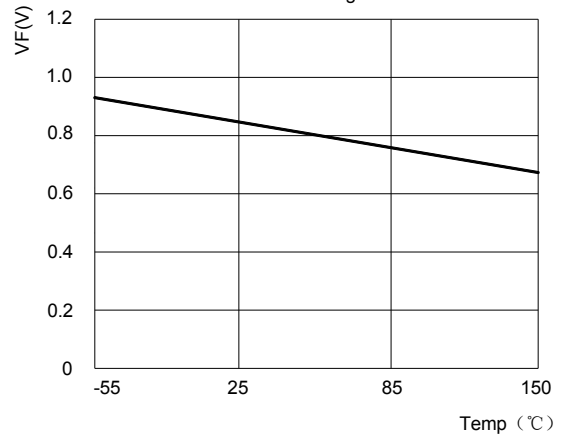
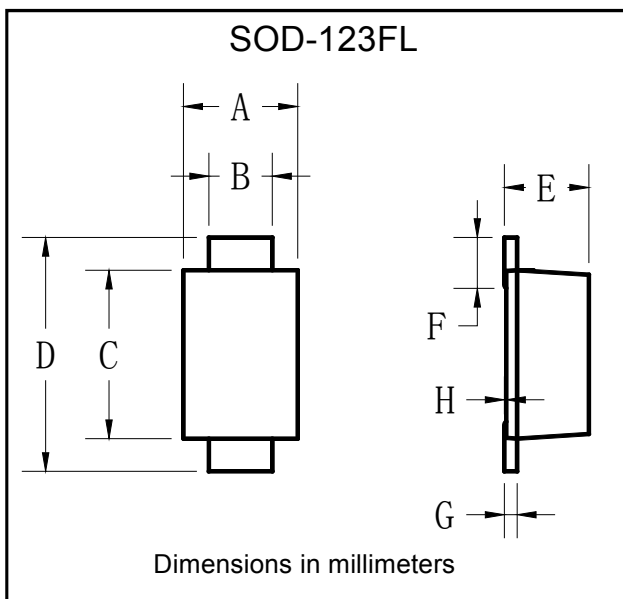


FIG4: Forward Voltage Curve



■ Outline Dimensions



SOD-123FL		
Dim	Min	Max
A	1.60	1.90
B	0.90	1.10
C	2.55	2.85
D	3.60	3.90
E	1.00	1.20
F	0.40	0.90
G	0.10	0.25
H	0.02	0.05