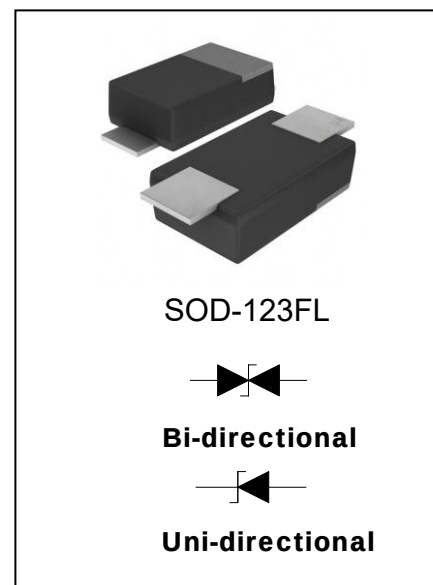


Features

- 200 watts Peak Pulse Power (10/1000 μ s)
- Unidirectional and Bidirectional Protection
- Fast Response Time : Typically < 1ns
- Excellent Clamping Capability
- Glass Passivated Junction
- Built-in Strain relief
- Low inductance
- Low profile package
- High temperature solder:260 $^{\circ}$ C/10 seconds at terminal



Mechanical Characteristics

- SOD-123 package
- Matte tin lead – free plated
- Marking: Marking Code
- RoHS Compliant

Applications

- I/O Interfaces
- Power lines
- Automotive and Telecommunication
- Industrial Electronics

Absolute Maximum Rating			
Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 10/1000\mu s$) (see Note1&2)	P_{PPM}	200	Watts
Peak pulse current (10/1000 μ s) (see Note2)	I_{PPM}	See Electrical Characteristics	A
Peak Forward surge current (see Note3)	I_{FSM}	20	A
Power Dissipation on infinite heat sink $T_A = 50^{\circ}C$ (Fig5)	P_D	1.0	W
Operating Junction Temperature range	T_J	-55 to + 150	$^{\circ}C$
Thermal Resistance Junction-to-Ambient	$R_{\theta JA}$	180	$^{\circ}C/W$

Note1: Peak Pulse Power Rating as Pulse Width ,per Fig1.

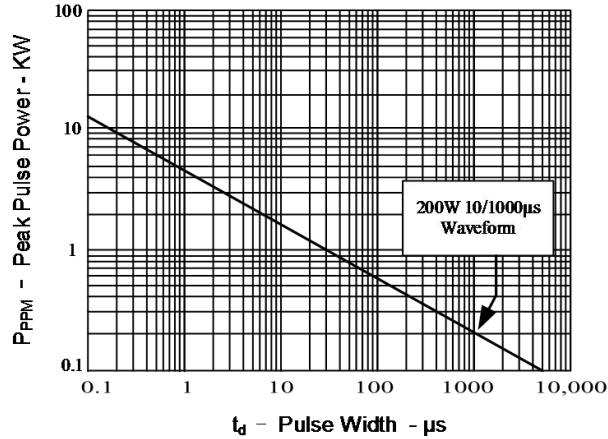
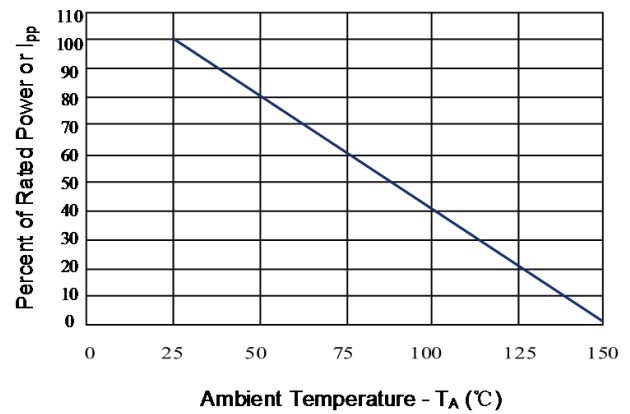
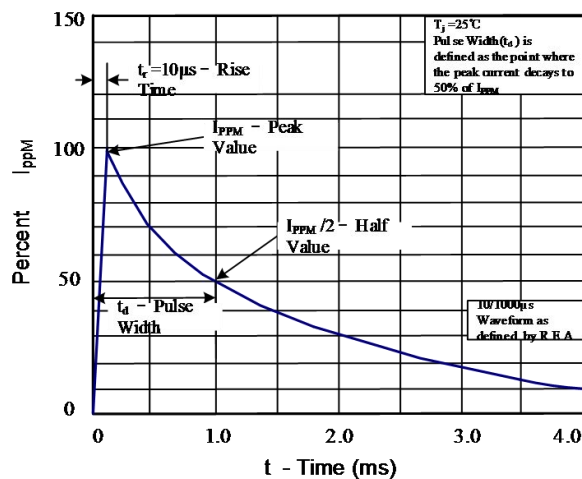
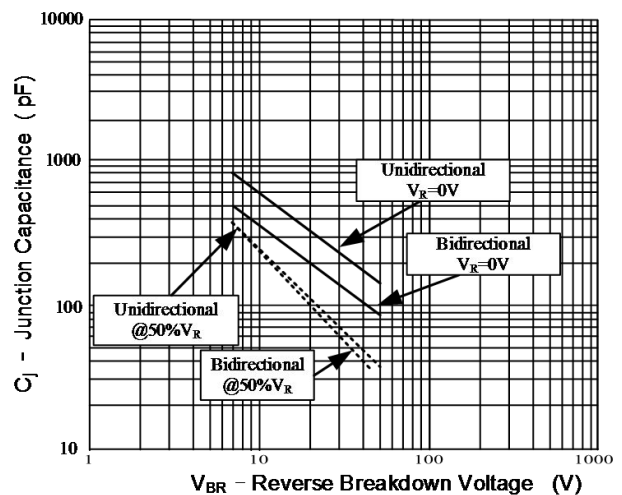
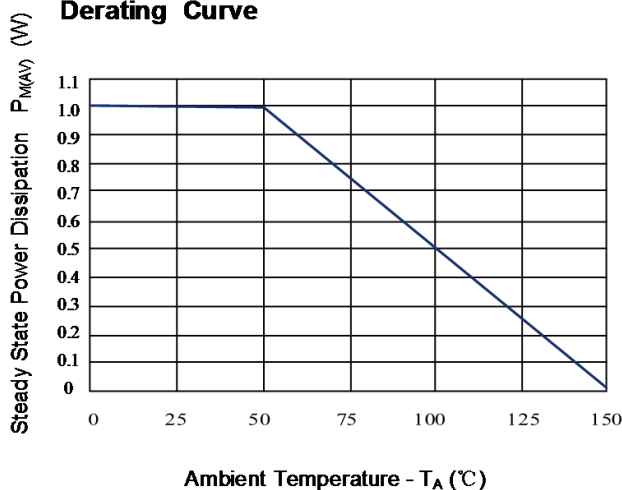
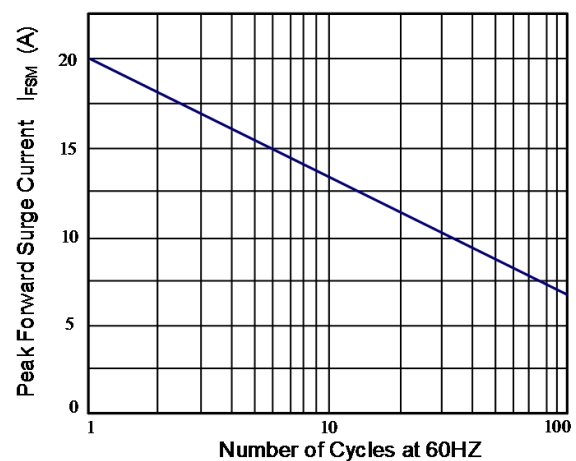
Note2: Peak Pulse Power or Current Derated above $T_A=25^{\circ}C$ Per Fig. 2 and Non-Repetitive Current Pulse,Per Fig.3.

Note3: 8.3ms Single Half Sine Wave or Equivalent Square Wave unidirectional device only.

Characteristics at Ta = 25°C

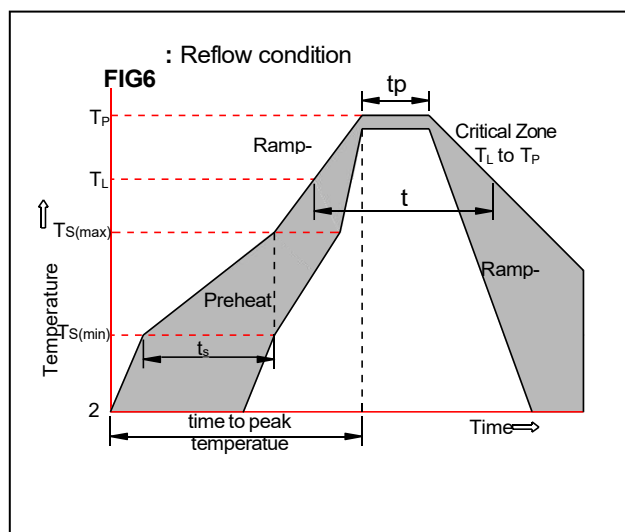
Type		Marking		V _{RMW}	Breakdown Voltage		Test Current	Reverse Leakage	Max. Clamp Voltage	Peak Pulse Current
					V _{BR} @ I _T		I _T	I _R @ V _{RWM}	V _C @ I _{PP}	I _{PP}
					Min	Max				
Uni	Bi	Uni	Bi	V	V	V	mA	μA	V	A
SE5VFD122F	SE5VFBD122F	AE	CAE	5	6.4	7	10	200	9.2	21.7
SE6VFD122F	SE6VFBD122F	AG	CAG	6	6.67	7.37	10	100	10.3	19.4
SE6V5FD122F	SE6V5FBD122F	AK	CAK	6.5	7.22	7.98	10	75	11.2	17.9
SE7VFD122F	SE7VFBD122F	AM	CAM	7	7.78	8.6	10	50	12	16.7
SE7V5FD122F	SE7V5FBD122F	AP	CAP	7.5	8.33	9.21	1	50	12.9	15.5
SE8VFD122F	SE8VFBD122F	AR	CAR	8	8.89	9.83	1	25	13.6	14.7
SE8V5FD122F	SE8V5FBD122F	AT	CAT	8.5	9.44	10.4	1	10	14.4	13.9
SE9VFD122F	SE9VFBD122F	AV	CAV	9	10	11.1	1	5	15.4	13
SE10VFD122F	SE10VFBD122F	AX	CAX	10	11.1	12.3	1	2.5	17	11.8
SE11VFD122F	SE11VFBD122F	AZ	CAZ	11	12.2	13.5	1	2.5	18.2	11
SE12VFD122F	SE12VFBD122F	BE	CBE	12	13.3	14.7	1	2.5	19.9	10.1
SE13VFD122F	SE13VFBD122F	BG	CBG	13	14.4	15.9	1	1	21.5	9.3
SE14VFD122F	SE14VFBD122F	BK	CBK	14	15.6	17.2	1	1	23.2	8.6
SE15VFD122F	SE15VFBD122F	BM	CBM	15	16.7	18.5	1	1	24.4	8.2
SE16VFD122F	SE16VFBD122F	BP	CBP	16	17.8	19.7	1	1	26	7.7
SE17VFD122F	SE17VFBD122F	BR	CBR	17	18.9	20.9	1	1	27.6	7.2
SE18VFD122F	SE18VFBD122F	BT	CBT	18	20	22.1	1	1	29.2	6.8
SE20VFD122F	SE20VFBD122F	BV	CBV	20	22.2	24.5	1	1	32.4	6.2
SE22VFD122F	SE22VFBD122F	BX	CBX	22	24.4	26.9	1	1	35.5	5.6
SE24VFD122F	SE24VFBD122F	BZ	CBZ	24	26.7	29.5	1	1	38.9	5.1
SE26VFD122F	SE26VFBD122F	CE	CCE	26	28.9	31.9	1	1	42.1	4.8
SE28VFD122F	SE28VFBD122F	CG	CCG	28	31.1	34.4	1	1	45.4	4.4
SE30VFD122F	SE30VFBD122F	CK	CCK	30	33.3	36.8	1	1	48.4	4.1
SE33VFD122F	SE33VFBD122F	CM	CCM	33	36.7	40.6	1	1	53.3	3.8
SE36VFD122F	SE36VFBD122F	CP	CCP	36	40	44.2	1	1	58.1	3.4
SE40VFD122F	SE40VFBD122F	CR	CCR	40	44.4	49.1	1	1	64.5	3.1
SE43VFD122F	SE43VFBD122F	CT	CCT	43	47.8	52.8	1	1	69.4	2.9
SE45VFD122F	SE45VFBD122F	CV	CCV	45	50	55.3	1	1	72.7	2.8
SE48VFD122F	SE48VFBD122F	CX	CCX	48	53.3	58.9	1	1	77.4	2.6
SE51VFD122F	SE51VFBD122F	CZ	CCZ	51	56.7	62.7	1	1	82.4	2.4
SE54VFD122F	SE54VFBD122F	DE	CDE	54	60	66.3	1	1	87.1	2.3
SE58VFD122F	SE58VFBD122F	DG	CDG	58	64.4	71.2	1	1	93.6	2.1
SE60VFD122F	SE60VFBD122F	DK	CDK	60	66.7	73.7	1	1	96.8	1.8
SE64VFD122F	SE64VFBD122F	DM	CDM	64	71.1	78.6	1	1	103	1.7
SE70VFD122F	SE70VFBD122F	DP	CDP	70	77.8	86	1	1	113	1.5
SE75VFD122F	SE75VFBD122F	DR	CDR	75	83.3	92.1	1	1	121	1.4
SE78VFD122F	SE78VFBD122F	DT	CDT	78	86.7	95.8	1	1	126	1.4
SE85VFD122F	SE85VFBD122F	DV	CDV	85	94.4	104	1	1	137	1.3
SE90VFD122F	SE90VFBD122F	DX	CDX	90	100	111	1	1	146	1.2
SE100VFD122F	SE100VFBD122F	DZ	CDZ	100	111	123	1	1	162	1.1
SE110VFD122F	SE110VFBD122F	EE	CEE	110	122	135	1	1	177	1
SE120VFD122F	SE120VFBD122F	EG	CEG	120	133	147	1	1	193	0.9
SE130VFD122F	SE130VFBD122F	EK	CEK	130	144	159	1	1	209	0.8
SE150VFD122F	SE150VFBD122F	EM	CEM	150	167	185	1	1	243	0.7
SE160VFD122F	SE160VFBD122F	EP	CEP	160	178	197	1	1	259	0.7
SE170VFD122F	SE170VFBD122F	ER	CER	170	189	209	1	1	275	0.6
SE180VFD122F	SE180VFBD122F	ET	CET	180	201	222	1	1	292	0.5
SE200VFD122F	SE200VFBD122F	EX	CEX	200	224	247	1	1	324	0.5
SE220VFD122F	SE220VFBD122F	E22	CE22	220	246	272	1	1	356	0.5
SE250VFD122F	SE250VFBD122F	E25	CE25	250	279	309	1	1	405	0.5
SE300VFD122F	SE300VFBD122F	E30	CE30	300	335	371	1	1	486	0.45
SE350VFD122F	SE350VFBD122F	E35	CE35	350	391	432	1	1	567	0.4
SE400VFD122F	SE400VFBD122F	E40	CE40	400	447	494	1	1	648	0.35
SE440VFD122F	SE440VFBD122F	E44	CE44	440	492	543	1	1	713	0.3

Typical Characteristics

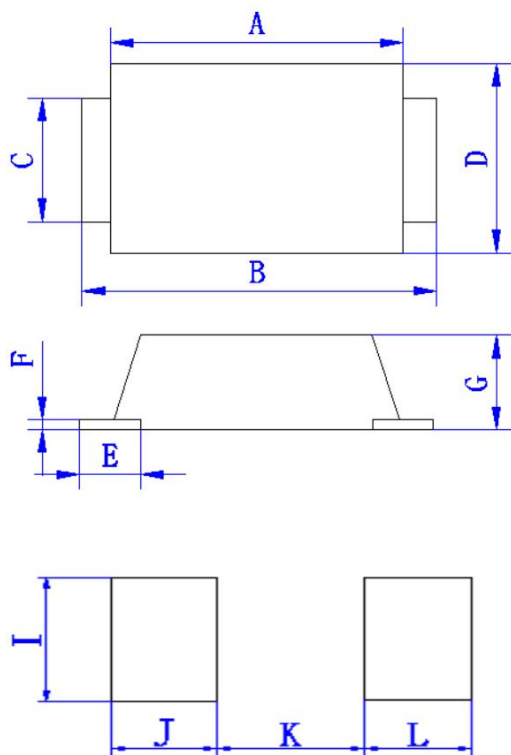
Figure 1: Peak Pulse Power Rating Curve

Figure 2: Pulse Derating Curve

Figure 3: Pulse Waveform

Figure 4: Typical Junction Capacitance

Figure 5: Steady State Power Dissipation Derating Curve

Figure 6: Maximum Non-Repetitive Forward Surge Current Only Unidirectional


Soldering parameters

Reflow Condition		Pb-Free assembly (see as bellow)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150°C
	-Temperature Max($T_{s(max)}$)	+200°C
	-Time (Min to Max) (t_s)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3°C/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature(T_L)(Liquid us)	+217°C
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_p)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp (T_p)		8 min. Max
Do not exceed		+260°C

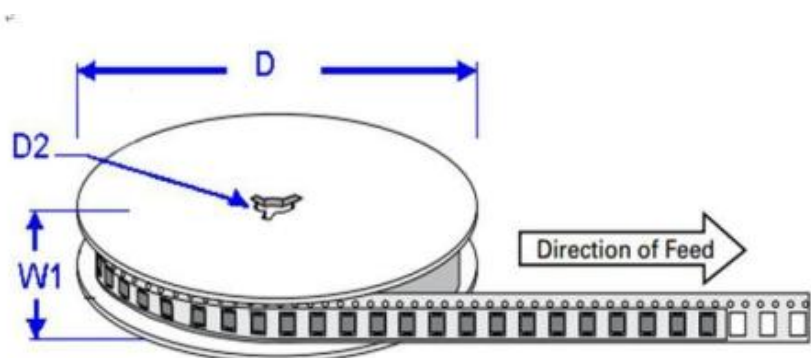
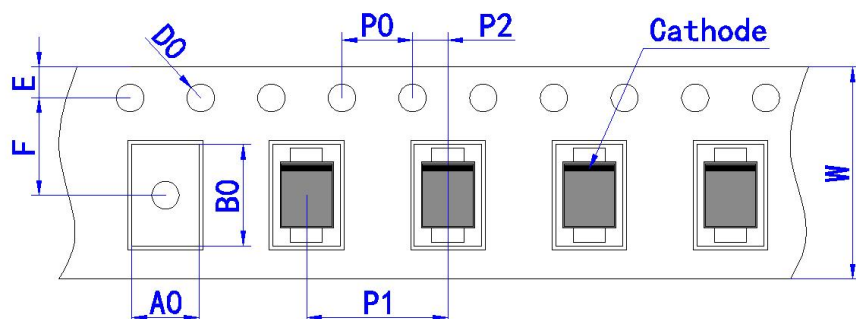


Package mechanical data & Suggested Land Pattern



Ref.(mm)	Millimeters	
	Min.	Max.
A	2.5	3.0
B	3.4	4.0
C	0.7	1.1
D	1.5	1.9
E	0.45	0.95
F	0.05	0.26
G	0.9	1.1
I	1.2	
J	0.85	
K		2.3
L	0.85	

Tape & reel specification - SOD-123FL



Ref.	Millimeters
A0	2.15±0.20
B0	3.95±0.20
C	178.00
D0	1.55±0.10
E	1.75±0.20
E1	13.50±1.00
F	3.50±0.10
P0	4.00±0.20
P1	4.00±0.20
P2	2.00±0.20
W	8.00±0.30
W1	9.00±4.00
D	177.8±4.00
D2	13.5±0.2