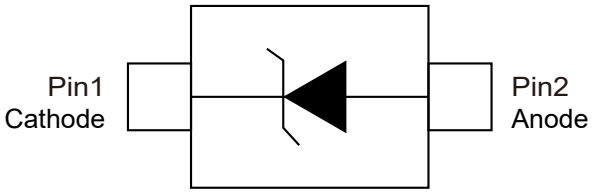
1.Features

- For surface mounted applications
- Low-profile package
- Optimized for LAN protection applications
- Ideal for ESD protection of data lines in accordance with IEC 61000-4-2 (IEC 801-2)
- Ideal for EFT protection of data lines in accordance with IEC 61000-4-4 (IEC 801-4)
- ESD-protection acc. IEC 61000-4-2
  ± 30 kV contact discharge
  ± 30 kV air discharge
- Low incremental surge resistance, excellent clamping capability
- 200 W peak pulse power capability with a 10/1000 µs waveform, repetition rate (duty cycle): 0.01 %
- “Low-Noise” technology - very fast response time
- High temperature soldering guaranteed: 260 °C/10 s at terminals
- e3 - Sn

2.Pinning Information

Bi-directional



SOD-123FL

3.Absolute Maximum Ratings (T_{amb}=25°C, unless otherwise specified)

Parameter	Symbol	Conditions	Value	Units
Peak pulse current	I_{PPM}	t_p=10/1000 μs waveform	see "Electrical Characteristics"	A
Peak pulse power	P_{PP}	t_p=10/1000 μs waveform	200	W
Peak forward surge current	I_{FSM}	8.3 ms single half sine-wave	50	A
ESD immunity	V_{ESD}	Contact discharge acc.IEC61000-4-2;10 pulses	±30	kV
		Air discharge acc.IEC61000-4-2;10 pulses	±30	kV
Junction Temperature	T_J	Junction temperature	-55 to 150	°C
Storage temperature	T_{STG}		-55 to 150	°C

4.Electrical Characteristics (T_A=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_{RMW}	V_C@I_{PP}	I_{PP}
					Min	Max				
Uni	Bi	Uni	Bi	V	V	V	mA	μA	V	A
SMF5.0A	SMF5.0CA	AE	NE	5	6.4	7	10	400	9.2	21.7
SMF6.0A	SMF6.0CA	AG	NG	6	6.67	7.37	10	400	10.3	19.4
SMF6.5A	SMF6.5CA	AK	NK	6.5	7.22	7.98	10	250	11.2	17.9
SMF7.0A	SMF7.0CA	AM	NM	7	8.33	8.6	10	100	12	16.7
SMF7.5A	SMF7.5CA	AP	NP	7.5	8.89	9.21	1	50	12.9	15.5
SMF8.0A	SMF8.0CA	AR	NR	8	9.44	9.83	1	25	13.6	14.7
SMF8.5A	SMF8.5CA	AT	NT	8.5	10	10.4	1	10	14.4	13.9
SMF9.0A	SMF9.0CA	AV	NV	9	11.1	11.1	1	5	15.4	13
SMFI0A	SMFI0CA	AX	NX	10	12.2	12.3	1	2.5	17	11.8
SMF11A	SMF11CA	AZ	NZ	11	13.3	13.5	1	2.5	18.2	11
SMF12A	SMF12CA	BE	OE	12	14.4	14.7	1	2.5	19.9	10.1
SMF13A	SMF13CA	BG	OG	13	15.6	15.9	1	1	21.5	9.3
SMF14A	SMF14CA	BK	OK	14	16.7	17.2	1	1	23.2	8.6
SMF15A	SMF15CA	BM	OM	15	17.8	18.5	1	1	24.4	8.2
SMF16A	SMF16CA	BP	OP	16	18.9	19.7	1	1	26	7.7
SMF17A	SMF17CA	BR	OR	17	20	20.9	1	1	27.6	7.2
SMF18A	SMF18CA	BT	OT	18	22.2	22.1	1	1	29.2	6.8
SMF20A	SMF20CA	BV	OV	20	24.4	24.5	1	1	32.4	6.2
SMF22A	SMF22CA	BX	OX	22	26.7	26.9	1	1	35.5	5.6
SMF24A	SMF24CA	BZ	OZ	24	28.9	29.5	1	1	38.9	5.1
SMF26A	SMF26CA	CE	PE	26	31.1	31.9	1	1	42.1	4.8
SMF28A	SMF28CA	CG	PG	28	33.3	34.4	1	1	45.4	4.4

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_{RMW}	V_C@I_{PP}	I_{PP}
					Min	Max				
Uni	Bi	Uni	Bi	V	V	V	mA	μA	V	A
SMF30A	SMF30CA	CK	PK	30	33.3	36.8	1	1	48.4	4.1
SMF33A	SMF33CA	CM	PM	33	36.7	40.6	1	1	53.3	3.8
SMF36A	SMF36CA	CP	PP	36	40	44.2	1	1	58.1	3.4
SMF40A	SMF40CA	CR	PR	40	44.4	49.1	1	1	64.5	3.1
SMF43A	SMF43CA	CT	PT	43	47.8	52.8	1	1	69.4	2.9
SMF45A	SMF45CA	CV	PV	45	50	55.3	1	1	72.7	2.8
SMF48A	SMF48CA	CX	PX	48	53.3	58.9	1	1	77.4	2.6
SMF51A	SMF51CA	CZ	PZ	51	56.7	62.7	1	1	82.4	2.4
SMF54A	SMF54CA	DE	PA	54	60	66.3	1	1	87.1	2.3
SMF58A	SMF58CA	DG	PC	58	64.4	71.2	1	1	93.6	2.1
SMF60A	SMF60CA	DK	CDK	60	66.7	73.7	1	1	96.8	1.8
SMF64A	SMF64CA	DM	CDM	64	71.1	78.6	1	1	103	1.7
SMF70A	SMF70CA	DP	CDP	70	77.8	86	1	1	113	1.5
SMF75A	SMF75CA	DR	CDR	75	83.3	92.1	1	1	121	1.4
SMF78A	SMF78CA	DT	CDT	78	86.7	95.8	1	1	126	1.4
SMF85A	SMF85CA	DV	CDV	85	94.4	104	1	1	137	1.3
SMF90A	SMF90CA	DX	CDX	90	100	111	1	1	146	1.2
SMF100A	SMF100CA	DZ	CDZ	100	111	123	1	1	162	1.1
SMF110A	SMF110CA	EE	CEE	110	122	135	1	1	177	1
SMF120A	SMF120CA	EG	CEG	120	133	147	1	1	193	0.9
SMF130A	SMF130CA	EK	CEK	130	144	159	1	1	209	0.8
SMF150A	SMF150CA	EM	CEM	150	167	185	1	1	243	0.7
SMF160A	SMF160CA	EP	CEP	160	178	197	1	1	259	0.7
SMF170A	SMF170CA	ER	CER	170	189	209	1	1	275	0.6

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_{RMW}	V_C@I_{PP}	I_{PP}
					Min	Max				
Uni	Bi	Uni	Bi	V	V	V	mA	μA	V	A
SMF180A	SMF180CA	ET	CET	180	201	222	1	1	292	0.5
SMF190A	SMF190CA	EV	CEV	190	211	232	1	1	308	0.5
SMF200A	SMF200CA	EX	CEX	200	224	247	1	1	324	0.5
SMF220A	SMF220CA	E22	CE22	220	246	272	1	1	356	0.5
SMF250A	SMF250CA	E25	CE25	250	279	309	1	1	405	0.5
SMF300A	SMF300CA	E30	CE30	300	335	371	1	1	486	0.45
SMF350A	SMF350CA	E35	CE35	350	391	432	1	1	567	0.4
SMF400A	SMF400CA	E40	CE40	400	447	494	1	1	648	0.35
SMF440A	SMF440CA	E44	CE44	440	492	543	1	1	713	0.3

5.Typical characteristic

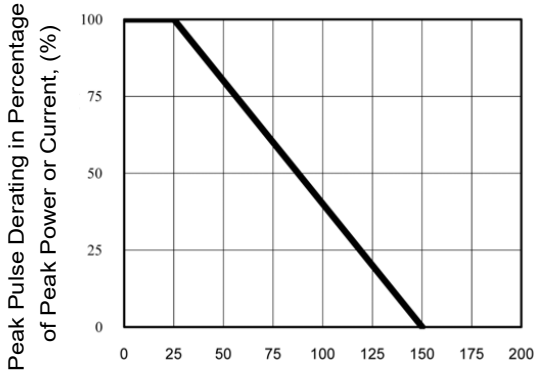


Figure 1: Pulse Derating Curve

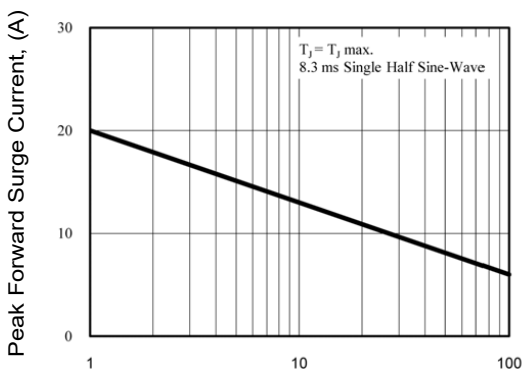


Figure 2: Maximum Non-Repetitive Surge Current

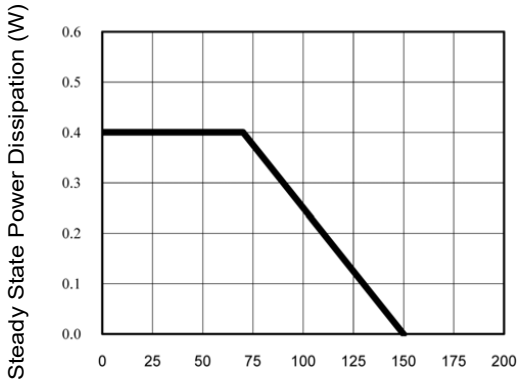


Figure 3: Steady State Power Derating Curve

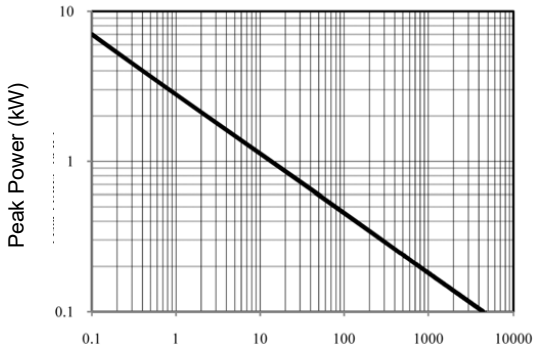


Figure 4: Peak Pulse Power Rating Curve

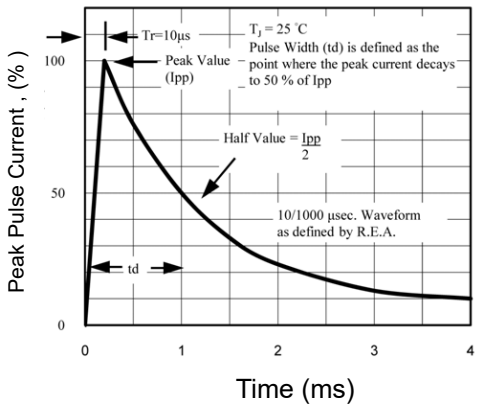


Figure 5: Pulse Waveform

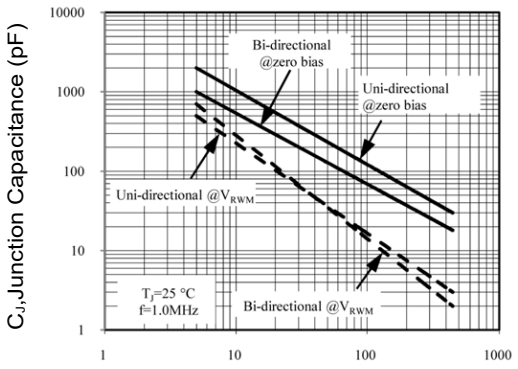
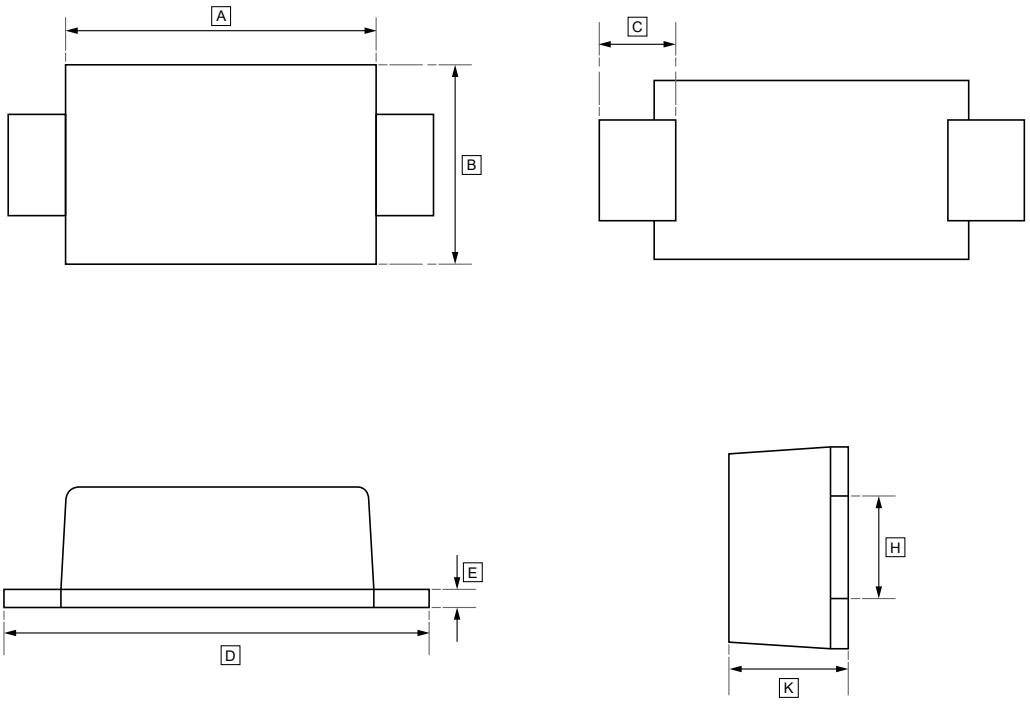


Figure 6: Typical Junction Capacitance

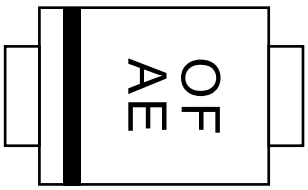
6.SOD-123FL Package Outline Dimensions



DIMENSIONS (mm are the original dimensions)

Symbol	A	B	C	D	E	H	K
Min	2.70	1.70	0.45	3.50	0.10	0.80	0.98
Max	2.90	1.90	0.75	3.70	0.20	1.10	1.30

7.Ordering information



Order Code	Package	Base QTY	Delivery Mode
UMW SMFxxA	SOD-123FL	3000	Tape and reel
UMW SMFxxCA	SOD-123FL	3000	Tape and reel

8.Disclaimer

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