

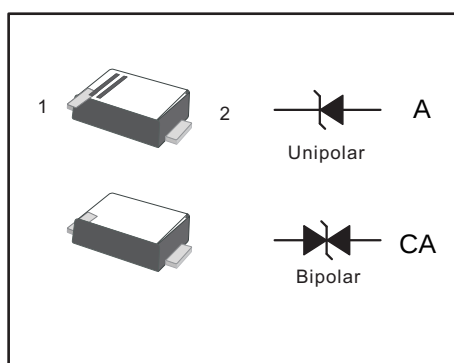
Surface Mount ESD Protection Diodes

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



Simplified outline SOD-123 and symbol



Absolute Maximum Ratings (TA=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation on TA=25°C (Note 1,2,5, Fig1)	P_{PPM}	200	W
Peak Forward Surge Current (Note 3)	I_{FSM} (UNI)	20	A
Peak Pulse Current on 10/1000 us waveform (Note 1) Fig 2	I_{PPM}	see Table 1	A
Steady State Power Dissipation (Note 4)	$P_{M(AV)}$	1	W
Operating Junction and Storage Range	T_J, T_{STG}	-55 to +150	°C
Typical Thermal Resistance	$R_{\theta JA}$	180	°C/W

SMFxxx(A) Equal to one-way SMFxxx(CA) equal to two-way

ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)											
PART NUMBER	TYPE CODE		REVERSE BREAKDOWN VOLTAGE at I_T , $t_p = 5\text{ ms}$		TEST CURRENT	STAND-OFF VOLTAGE	MAXIMUM REVERSE CURRENT at V_{RWM}	MAXIMUM PEAK PULSE CURRENT $t_p = 10/1000\text{ }\mu\text{s}$	MAXIMUM REVERSE CLAMPING VOLTAGE at I_{PPM}	TYPICAL CAP. at $V_R = 0\text{ V}$, $f = 1\text{ MHz}$	PROTECTION PATHS
	Uni	Bi	$V_{BR}\text{ MIN. (V)}$	$V_{BR}\text{ MAX. (V)}$	$I_T\text{ (mA)}$	$V_{RWM}\text{ (V)}$	$I_R\text{ (}\mu\text{A)}$	$I_{PPM}\text{ (A)}$	$V_C\text{ MAX. (V)}$	$C_D\text{ TYP. (pF)}$	$N_{channel}$
SMF5.0A	AE	NE	6.40	7.1	10	5	5	21.7	9.2	1120	1
SMF6.0A	AG	NG	6.67	7.4	10	6	26	19.4	10.3	1063	1
SMF6.5A	AK	NK	7.22	8	10	6.5	20	17.9	11.2	938	1
SMF7.0A	AM	NM	7.78	8.6	10	7	3	16.7	12	843	1
SMF7.5A	AP	NP	8.33	9.3	1	7.5	0.1	15.5	12.9	773	1
SMF8.0A	AR	NR	8.89	9.9	1	8	0.1	14.7	13.6	706	1
SMF8.5A	AT	NT	9.44	10.5	1	8.5	0.1	13.9	14.4	674	1
SMF9.0A	AV	NV	10	11.2	1	9	0.1	13.5	15.4	640	1
SMF10A	AX	NX	11.1	12.3	1	10	0.1	11.8	17	562	1
SMF11A	AZ	NZ	12.2	13.5	1	11	0.1	11	18.2	509	1
SMF12A	BE	OE	13.3	14.7	1	12	0.1	10.1	19.9	483	1
SMF13A	BG	OG	14.4	16	1	13	0.1	9.3	21.5	423	1
SMF14A	BK	OK	15.6	17.3	1	14	0.1	8.6	23.2	392	1
SMF15A	BM	OM	16.7	18.5	1	15	0.1	8.2	24.4	367	1
SMF16A	BP	OP	17.8	19.7	1	16	0.1	7.7	26	343	1
SMF17A	BR	OR	18.9	20.9	1	17	0.1	7.2	27.6	324	1
SMF18A	BT	OT	20	22.3	1	18	0.1	6.8	29.2	320	1
SMF20A	BV	OV	22.2	24.6	1	20	0.1	6.2	32.4	283	1
SMF22A	BX	OX	24.4	27	1	22	0.1	5.6	35.5	271	1
SMF24A	BZ	OZ	26.7	29.6	1	24	0.1	5.1	38.9	244	1
SMF26A	CE	PE	28.9	32	1	26	0.1	4.8	42.1	230	1
SMF28A	CG	PG	31.1	34.4	1	28	0.1	4.4	45.4	227	1
SMF30A	CK	PK	33.3	36.9	1	30	0.1	4.1	48.4	207	1
SMF33A	CM	PM	36.7	40.6	1	33	0.1	3.8	53.3	198	1
SMF36A	CP	PP	40	44.3	1	36	0.1	3.4	58.1	178	1
SMF40A	CR	PR	44.4	49.1	1	40	0.1	3.1	64.5	172	1
SMF43A	CT	PT	47.8	52.9	1	43	0.1	2.9	69.4	165	1
SMF45A	CV	PV	50	55.3	1	45	0.1	2.8	72.7	162	1
SMF48A	CX	PX	53.3	59	1	48	0.1	2.6	77.4	161	1
SMF51A	CZ	PZ	56.7	62.7	1	51	0.1	2.4	82.4	151	1
SMF54A	CA	PA	60	66	1	54	0.1	2.25	88	148	1
SMF58A	CC	PC	64.4	70.8	1	58	0.1	2.1	95	144	1

Typical Characteristics

Fig.1 Peak Pulse Power Rating Curve

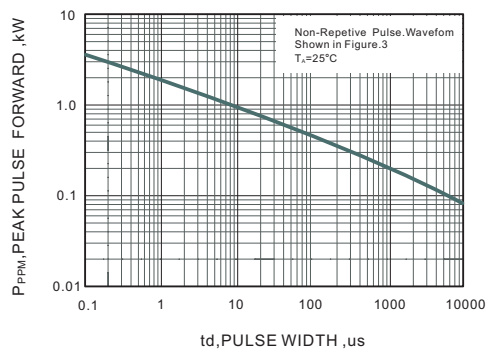


Fig.2 Forward Current Derating Curve

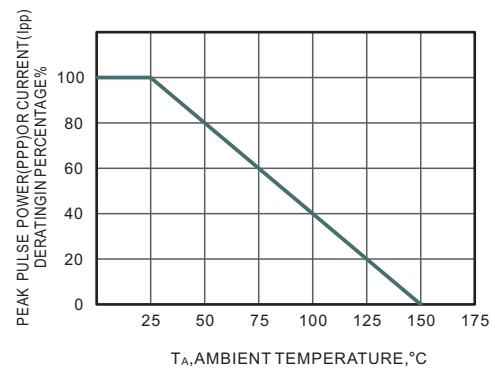


Fig.3 Pulse Waveform

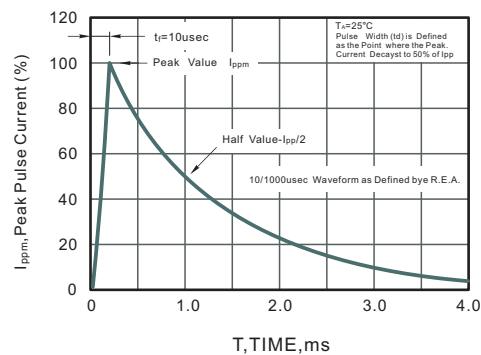
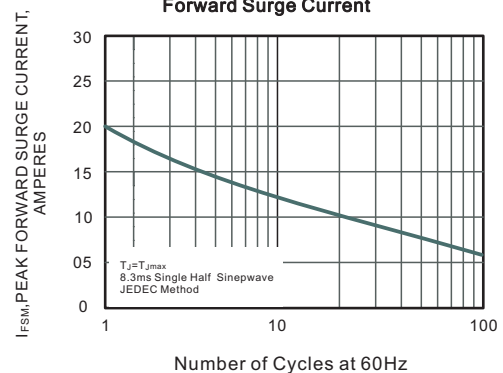
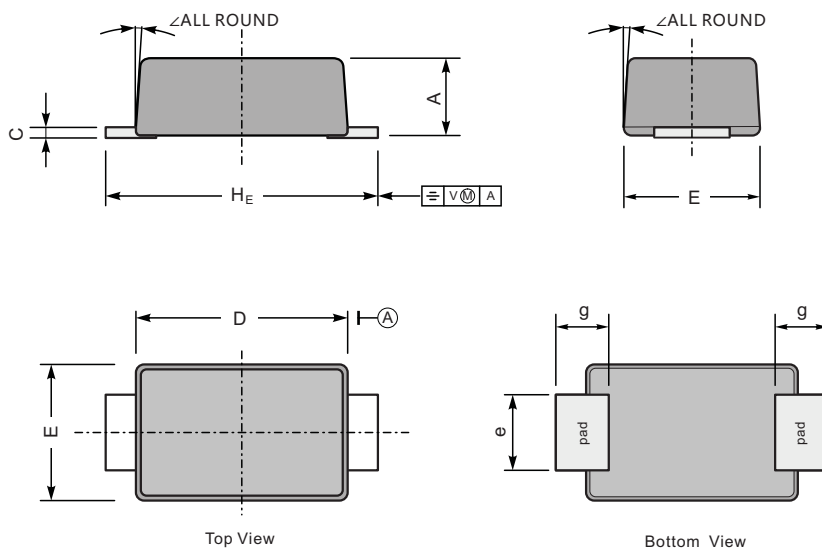


Fig.4 Maximum Non-Repetitive Peak Forward Surge Current



PACKAGE OUTLINE



UNIT		A	C	D	E	e	g	H _E	∠
mm	max	1.1	0.20	2.9	1.9	1.1	0.9	3.8	7°
	min	0.9	0.12	2.6	1.7	0.8	0.7	3.5	
mil	max	43	7.9	114	75	43	35	150	
	min	35	4.7	102	67	31	28	138	