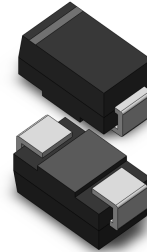


**VOLTAGE RANGE: 5.0 - 440 V**  
**POWER: 400Watts**

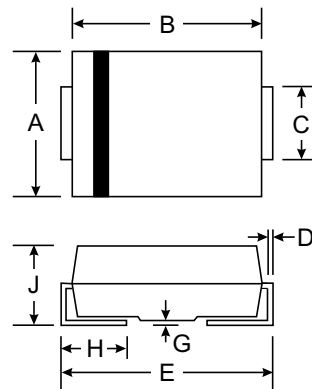


### Features

- Glass Passivated Die Construction
- Uni- and Bi-Directional Versions Available
- Excellent Clamping Capability
- Fast Response Time
- Plastic Material: UL Flammability Classification Rating 94V-0

### Mechanical Data

- Case: SMA/DO-214AC, Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number
- Weight: 0.064 grams (approx.)



SMA(DO-214AC)		
Dim	Min	Max
A	2.29	2.92
B	4.00	4.60
C	1.27	1.63
D	0.15	0.31
E	4.80	5.59
G	0.10	0.20
H	0.76	1.52
J	2.01	2.62
All Dimensions in mm		

### Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Pulse Power Dissipation (Non repetitive current pulse derated above $T_A = 25^\circ\text{C}$ ) (Note 1)	$P_{PK}$	400	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method) (Notes 1, 2, & 3)	$I_{FSM}$	40	A
Instantaneous Forward Voltage @ $I_{PP} = 35\text{A}$ (Notes 1, 2, & 3)	$V_F$	3.5	V
Operating and Storage Temperature Range	$T_j, T_{STG}$	-55 to +150	$^\circ\text{C}$

- Notes:
1. Valid provided that terminals are kept at ambient temperature.
  2. Measured with 8.3ms single half sine-wave. Duty cycle = 4 pulses per minute maximum.
  3. Unidirectional units only.



TYPE		Marking		Reverse Stand-Off Voltage	Breakdown Voltage Min. @I <sub>T</sub>	Breakdown Voltage Max. @ I <sub>T</sub>	Test Current	Maximum Clamping Voltage @I <sub>PP</sub>	Peak Pulse Current	Reverse Leakage @V <sub>RWM</sub>
(Uni)	(Bi)	(Uni)	(Bi)	V <sub>RWM</sub> (V)	V <sub>BR MIN</sub> (V)	V <sub>BR MAX</sub> (V)	I <sub>T</sub> (mA)	V <sub>C</sub> (V)	I <sub>PP</sub> (A)	I <sub>R</sub> (μA)
SMA5.0	SMA5.0C	HD	TD	5.0	6.40	7.55	10.0	9.6	41.7	800.0
SMA5.0A	SMA5.0CA	HE	TE	5.0	6.40	7.25	10.0	9.2	43.5	800.0
SMA6.0	SMA6.0C	HF	TF	6.0	6.67	8.45	10.0	11.4	35.1	800.0
SMA6.0A	SMA6.0CA	HG	TG	6.0	6.67	7.67	10.0	10.3	38.8	800.0
SMA6.5	SMA6.5C	HH	TH	6.5	7.22	9.14	10.0	12.3	32.5	500.0
SMA6.5A	SMA6.5CA	HK	TK	6.5	7.22	8.30	10.0	11.2	35.7	500.0
SMA7.0	SMA7.0C	HL	TL	7.0	7.78	9.86	10.0	13.3	30.1	200.0
SMA7.0A	SMA7.0CA	HM	TM	7.0	7.78	8.95	10.0	12.0	33.3	200.0
SMA7.5	SMA7.5C	HN	TN	7.5	8.33	10.67	1.0	14.3	28.0	100.0
SMA7.5A	SMA7.5CA	HP	TP	7.5	8.33	9.58	1.0	12.9	31.0	100.0
SMA8.0	SMA8.0C	HQ	TQ	8.0	8.89	11.3	1.0	15.0	26.7	50.0
SMA8.0A	SMA8.0CA	HR	TR	8.0	8.89	10.23	1.0	13.6	29.4	50.0
SMA8.5	SMA8.5C	HS	TS	8.5	9.44	11.92	1.0	15.9	25.2	20.0
SMA8.5A	SMA8.5CA	HT	TT	8.5	9.44	10.82	1.0	14.4	27.8	20.0
SMA9.0	SMA9.0C	HU	TU	9.0	10.0	12.6	1.0	16.9	23.7	10.0
SMA9.0A	SMA9.0CA	HV	TV	9.0	10.0	11.5	1.0	15.4	26.0	10.0
SMA10	SMA10C	HW	TW	10	11.1	14.1	1.0	18.8	21.3	5.0
SMA10A	SMA10CA	HX	TX	10	11.1	12.8	1.0	17.0	23.5	5.0
SMA11	SMA11C	HY	TY	11	12.2	15.4	1.0	20.1	19.9	5.0
SMA11A	SMA11CA	HZ	TZ	11	12.2	14.0	1.0	18.2	22.0	5.0
SMA12	SMA12C	ID	UD	12	13.3	16.9	1.0	22.0	18.2	5.0
SMA12A	SMA12CA	IE	UE	12	13.3	15.3	1.0	19.9	20.1	5.0
SMA13	SMA13C	IF	UF	13	14.4	18.2	1.0	23.8	16.8	5.0
SMA13A	SMA13CA	IG	UG	13	14.4	16.5	1.0	21.5	18.6	5.0
SMA14	SMA14C	IH	UH	14	15.6	19.8	1.0	25.8	15.5	5.0
SMA14A	SMA14CA	IK	UK	14	15.6	17.9	1.0	23.2	17.2	5.0
SMA15	SMA15C	IL	UL	15	16.7	21.1	1.0	26.9	14.9	5.0
SMA15A	SMA15CA	IM	UM	15	16.7	19.2	1.0	24.4	16.4	5.0
SMA16	SMA16C	IN	UN	16	17.8	22.6	1.0	28.8	13.9	5.0
SMA16A	SMA16CA	IP	UP	16	17.8	20.5	1.0	26.0	15.4	5.0
SMA17	SMA17C	IQ	UQ	17	18.9	23.9	1.0	30.5	13.1	5.0
SMA17A	SMA17CA	IR	UR	17	18.9	21.7	1.0	27.6	14.5	5.0
SMA18	SMA18C	IS	US	18	20.0	25.3	1.0	32.2	12.4	5.0
SMA18A	SMA18CA	IT	UT	18	20.0	23.3	1.0	29.2	13.7	5.0
SMA20	SMA20C	IU	UU	20	22.2	28.1	1.0	35.8	11.2	5.0
SMA20A	SMA20CA	IV	UV	20	22.2	25.5	1.0	32.4	12.3	5.0
SMA22	SMA22C	IW	UW	22	24.4	30.9	1.0	39.4	10.2	5.0
SMA22A	SMA22CA	IX	UX	22	24.4	28.0	1.0	35.5	11.3	5.0
SMA24	SMA24C	IY	UY	24	26.7	33.8	1.0	43.0	9.3	5.0
SMA24A	SMA24CA	IZ	UZ	24	26.7	30.7	1.0	38.9	10.3	5.0
SMA26	SMA26C	JD	VD	26	28.9	36.6	1.0	46.6	8.6	5.0
SMA26A	SMA26CA	JE	VE	26	28.9	33.2	1.0	42.1	9.5	5.0
SMA28	SMA28C	JF	VF	28	31.1	39.4	1.0	50.0	8.0	5.0
SMA28A	SMA28CA	JG	VG	28	31.1	35.8	1.0	45.4	8.8	5.0
SMA30	SMA30C	JH	VH	30	33.3	42.2	1.0	53.5	7.5	5.0
SMA30A	SMA30CA	JK	VK	30	33.3	38.3	1.0	48.4	8.3	5.0
SMA33	SMA33C	JL	VL	33	36.7	46.5	1.0	59.0	6.8	5.0
SMA33A	SMA33CA	JM	VM	33	36.7	42.2	1.0	53.3	7.5	5.0



TYPE		Marking		Reverse Stand-Off Voltage	Breakdown Voltage Min. @I <sub>T</sub>	Breakdown Voltage Max. @ I <sub>T</sub>	Test Current	Maximum Clamping Voltage @I <sub>PP</sub>	Peak Pulse Current	Reverse Leakage @V <sub>RWM</sub>
(Uni)	(Bi)	(Uni)	(Bi)	V <sub>RWM</sub> (V)	V <sub>BR MIN</sub> (V)	V <sub>BR MAX</sub> (V)	I <sub>T</sub> (mA)	V <sub>C</sub> (V)	I <sub>PP</sub> (A)	I <sub>R</sub> (uA)
SMA36	SMA36C	JN	VN	36	40.0	50.7	1.0	64.3	6.2	5.0
SMA36A	SMA36CA	JP	VP	36	40.0	46.0	1.0	58.1	6.9	5.0
SMA40	SMA40C	JQ	VQ	40	44.4	56.3	1.0	71.4	5.6	5.0
SMA40A	SMA40CA	JR	VR	40	44.4	51.1	1.0	64.5	6.2	5.0
SMA43	SMA43C	JS	VS	43	47.7	60.5	1.0	76.7	5.2	5.0
SMA43A	SMA43CA	JT	VT	43	47.8	54.9	1.0	69.4	5.8	5.0
SMA45	SMA45C	JU	VU	45	50.0	63.3	1.0	80.3	5.0	5.0
SMA45A	SMA45CA	JV	VV	45	50.0	57.5	1.0	72.7	5.5	5.0
SMA48	SMA48C	JW	VW	48	53.3	67.5	1.0	85.5	4.7	5.0
SMA48A	SMA48CA	JX	VX	48	53.3	61.3	1.0	77.4	5.2	5.0
SMA51	SMA51C	JY	VY	51	56.7	71.8	1.0	91.1	4.4	5.0
SMA51A	SMA51CA	JZ	VZ	51	56.7	65.2	1.0	82.4	4.9	5.0
SMA54	SMA54C	RD	WD	54	60.0	76.0	1.0	96.3	4.2	5.0
SMA54A	SMA54CA	RE	WE	54	60.0	69.0	1.0	87.1	4.6	5.0
SMA58	SMA58C	RF	WF	58	64.4	81.6	1.0	103	3.9	5.0
SMA58A	SMA58CA	RG	WG	58	64.4	74.1	1.0	93.6	4.3	5.0
SMA60	SMA60C	RH	WH	60	66.7	84.5	1.0	107	3.7	5.0
SMA60A	SMA60CA	RK	WK	60	66.7	76.7	1.0	96.8	4.1	5.0
SMA64	SMA64C	RL	WL	64	71.1	90.1	1.0	114	3.5	5.0
SMA64A	SMA64CA	RM	WM	64	71.1	81.8	1.0	103	3.9	5.0
SMA70	SMA70C	RN	WN	70	77.8	98.6	1.0	125	3.2	5.0
SMA70A	SMA70CA	RP	WP	70	77.8	89.5	1.0	113	3.5	5.0
SMA75	SMA75C	RQ	WQ	75	83.0	105.7	1.0	134	3.0	5.0
SMA75A	SMA75CA	RR	WR	75	83.0	95.8	1.0	121	3.3	5.0
SMA78	SMA78C	RS	WS	78	86.0	109.8	1.0	139	2.9	5.0
SMA78A	SMA78CA	RT	WT	78	86.0	99.7	1.0	126	3.2	5.0
SMA85	SMA85C	RU	WU	85	94.0	119.2	1.0	151	2.6	5.0
SMA85A	SMA85CA	RV	WV	85	94.0	108.2	1.0	137	2.9	5.0
SMA90	SMA90C	RW	WW	90	100	126.5	1.0	160	2.5	5.0
SMA90A	SMA90CA	RX	WX	90	100	115.5	1.0	146	2.7	5.0
SMA100	SMA100C	RY	WY	100	111	141.0	1.0	179	2.2	5.0
SMA100A	SMA100CA	RZ	WZ	100	111	128.0	1.0	162	2.5	5.0
SMA110	SMA110C	SD	XD	110	122	154.5	1.0	196	2.0	5.0
SMA110A	SMA110CA	SE	XE	110	122	140.5	1.0	177	2.3	5.0
SMA120	SMA120C	SF	XF	120	133	169.0	1.0	214	1.9	5.0
SMA120A	SMA120CA	SG	XG	120	133	153.0	1.0	193	2.1	5.0
SMA130	SMA130C	SH	XH	130	144	182.5	1.0	231	1.7	5.0
SMA130A	SMA130CA	SK	XK	130	144	165.5	1.0	209	1.9	5.0
SMA150	SMA150C	SL	XL	150	167	211.5	1.0	268	1.5	5.0
SMA150A	SMA150CA	SM	XM	150	167	192.5	1.0	243	1.6	5.0
SMA160	SMA160C	SN	XN	160	178	226.0	1.0	287	1.4	5.0
SMA160A	SMA160CA	SP	XP	160	178	205.0	1.0	259	1.5	5.0
SMA170	SMA170C	SQ	XQ	170	189	239.5	1.0	304	1.3	5.0
SMA170A	SMA170CA	SR	XR	170	189	217.5	1.0	275	1.5	5.0

TYPE		Marking		Reverse Stand-Off Voltage	Breakdown Voltage Min. @I <sub>T</sub>	Breakdown Voltage Max. @ I <sub>T</sub>	Test Current	Maximum Clamping Voltage @I <sub>PP</sub>	Peak Pulse Current	Reverse Leakage @V <sub>RWM</sub>
(Uni)	(Bi)	(Uni)	(Bi)	V <sub>RWM</sub> (V)	V <sub>BR MIN</sub> (V)	V <sub>BR MAX</sub> (V)	I <sub>T</sub> (mA)	V <sub>C</sub> (V)	I <sub>PP</sub> (A)	I <sub>R</sub> (uA)
SMA180	SMA180C	SS	XS	180	200	253.8	1.0	321	1.2	5.0
SMA180A	SMA180CA	ST	XT	180	200	230.4	1.0	290	1.4	5.0
SMA190	SMA190C	SU	XU	190	211	267.9	1.0	339	1.2	5.0
SMA190A	SMA190CA	SV	XV	190	211	243.2	1.0	306	1.3	5.0
SMA200	SMA200C	SW	XW	200	222	282.0	1.0	356	1.1	5.0
SMA200A	SMA200CA	SX	XX	200	222	256.0	1.0	322	1.2	5.0
SMA210	SMA210C	SY	XY	210	233	296.1	1.0	375	1.1	5.0
SMA210A	SMA210CA	SZ	XZ	210	233	268.8	1.0	339	1.2	5.0
SMA220	SMA220C	ZD	YD	220	244	310.2	1.0	392	1.0	5.0
SMA220A	SMA220CA	ZE	YE	220	244	281.6	1.0	355	1.1	5.0
SMA250	SMA250C	ZF	YF	250	278	342.5	1.0	447	0.9	5.0
SMA250A	SMA250CA	ZG	YG	250	278	309.0	1.0	403	1.0	5.0
SMA300	SMA300C	ZH	YH	300	333	411.0	1.0	535	0.7	5.0
SMA300A	SMA300CA	ZK	YK	300	333	371.0	1.0	484	0.8	5.0
SMA350	SMA350C	ZL	YL	350	389	479.5	1.0	624	0.6	5.0
SMA350A	SMA350CA	ZM	YM	350	389	432.0	1.0	565	0.7	5.0
SMA400	SMA400C	ZN	YN	400	444	548.0	1.0	687	0.6	5.0
SMA400A	SMA400CA	ZP	YP	400	444	494.0	1.0	645	0.6	5.0
SMA440	SMA440C	ZQ	YQ	440	489	602.8	1.0	786	0.5	5.0
SMA440A	SMA440CA	ZR	YR	440	489	543.0	1.0	710	0.6	5.0

## Ratings and Characteristic Curves $T_A=25^\circ\text{C}$ unless otherwise noted

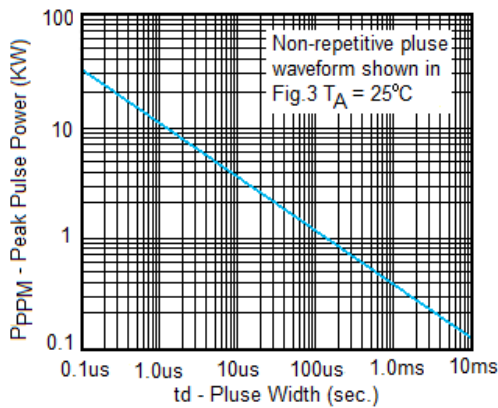


Fig. 1 Peak Pulse Power Rating

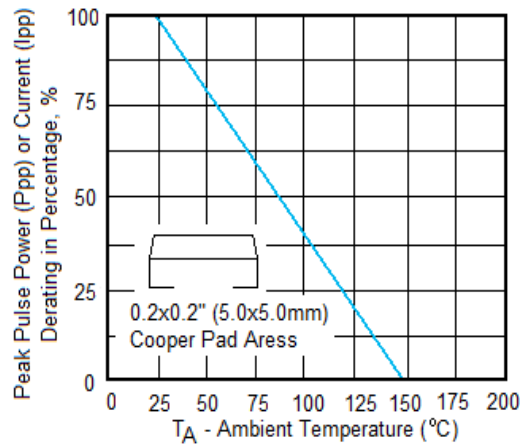


Fig. 2 Pulse Derating Curve

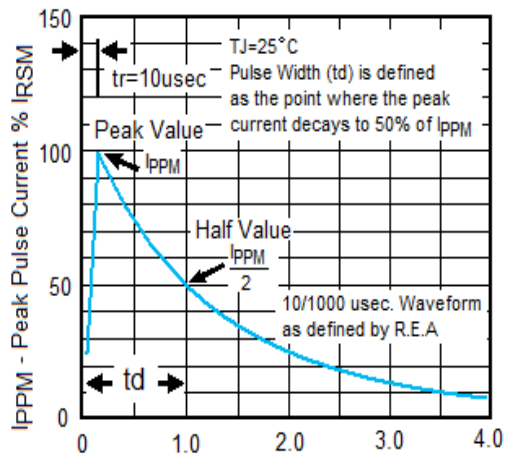


Fig. 3 Pulse Waveform

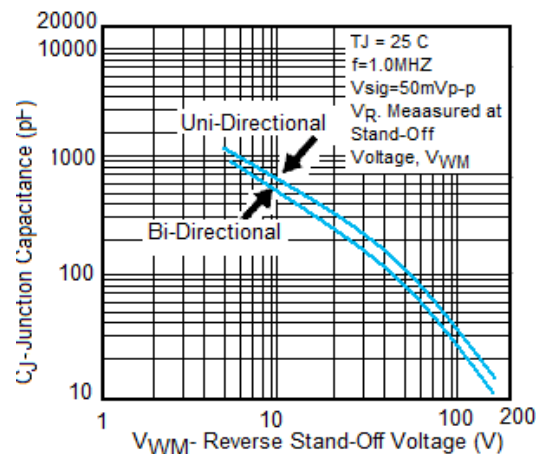


Fig. 4- Typical Junction Capacitance