

FEATURES

- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- Available in uni-directional and bi-directional
- 400W peak pulse power capability with
- Excellent clamping capability
- Very fast response time

TYPICAL APPLICATIONS

Use in sensitive electronics protection against voltage transients induced by inductive load switching and for consumer, computer, industrial, automotive and telecommunication.

DO-214AC (SMA)



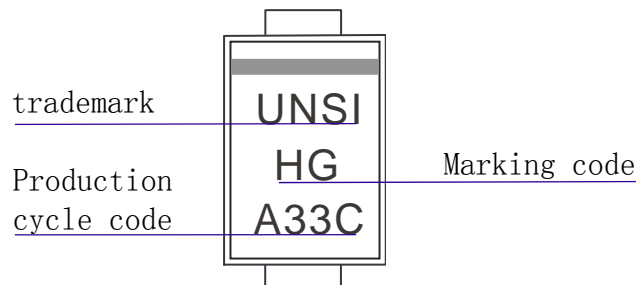
MECHANICAL DATA

Case: DO-214AC (SMA)

Epoxy meets UL 94V-0 flammability rating reliability grade (AEC Q101 qualified)

Polarity: Color band denotes cathode end

Printing description



MAXIMUM RATINGS (TA=25°C unless otherwise noted)

PARAMETER	SYMBOL	VALUE	UNIT
Peak pulse power dissipation with a 10/1000 μ s waveform	PPPM	400	W
Peak pulse current with a waveform	IPPM	See next table	A
Peak forward surge current 8.3 ms single half sine-wave uni-directional only	IFSM	40	A
Operating junction and storage temperature range	T _J , T _{STG}	-55 to +150	°C

Notes:

- (1) Non-repetitive current pulse, per Fig. 3 and derated above TA = 25°C per
- (2) (2) Mounted on 0.2 x 0.2" (5.0 x 5.0 mm) copper pads to each terminal

ELECTRICAL CHARACTERISTICS (TA = 25°C unless otherwise noted)

Part Number		Marking code		Breakdown voltage VBR@IT		Test Current IT	Reverse Stand off Voltage RWMV	Max. Reverse Leakage@VRWM	Max. Clamping Voltage@IPP	Max. Peak Pulse Current
UNI	Bi	UNI	Bi	MIN (V)	MAX (V)	(mA)	V	uA	V	A
SMAJ5.0A	SMAJ5.0CA	HE	TE	6.4	7	10	5	800	9.2	43.5
SMAJ6.0A	SMAJ6.0CA	HG	TG	6.67	7.37	10	6	800	10.3	38.8
SMAJ6.5A	SMAJ6.5CA	HK	TK	7.22	7.98	10	6.5	500	11.2	35.7
SMAJ7.0A	SMAJ7.0CA	HM	TM	7.78	8.6	10	7	200	12	33.3
SMAJ7.5A	SMAJ7.5CA	HP	TP	8.33	9.21	1	7.5	100	12.9	31
SMAJ8.0A	SMAJ8.0CA	HR	TR	8.89	9.83	1	8	50	13.6	29.4
SMAJ8.5A	SMAJ8.5CA	HT	TT	9.44	10.4	1	8.5	20	14.4	27.8
SMAJ9.0A	SMAJ9.0CA	HV	TV	10	11.1	1	9	10	15.4	26
SMAJ10A	SMAJ10CA	HX	TX	11.1	12.3	1	10	5	17	23.5
SMAJ11A	SMAJ11CA	HZ	TZ	12.2	13.5	1	11	1	18.2	22
SMAJ12A	SMAJ12CA	IE	UE	13.3	14.7	1	12	1	19.9	20.1
SMAJ13A	SMAJ13CA	IG	UG	14.4	15.9	1	13	1	21.5	18.6
SMAJ14A	SMAJ14CA	IK	UK	15.6	17.2	1	14	1	23.2	17.2
SMAJ15A	SMAJ15CA	IM	UM	16.7	18.5	1	15	1	24.4	16.4
SMAJ16A	SMAJ16CA	IP	UP	17.8	19.7	1	16	1	26	15.4
SMAJ17A	SMAJ17CA	IR	UR	18.9	20.9	1	17	1	27.6	14.5
SMAJ18A	SMAJ18CA	IT	UT	20	22.1	1	18	1	29.2	13.7
SMAJ20A	SMAJ20CA	IV	UV	22.2	24.5	1	20	1	32.4	12.3
SMAJ22A	SMAJ22CA	IX	UX	24.4	26.9	1	22	1	35.5	11.3
SMAJ24A	SMAJ24CA	IZ	UZ	26.7	29.5	1	24	1	38.9	10.3
SMAJ26A	SMAJ26CA	JE	VE	28.9	31.9	1	26	1	42.1	9.5
SMAJ28A	SMAJ28CA	JG	VG	31.1	34.4	1	28	1	45.4	8.8
SMAJ30A	SMAJ30CA	JK	VK	33.3	36.8	1	30	1	48.4	8.3
SMAJ33A	SMAJ33CA	JM	VM	36.7	40.6	1	33	1	53.3	7.5
SMAJ36A	SMAJ36CA	JP	VP	40	44.2	1	36	1	58.1	6.9
SMAJ40A	SMAJ40CA	JR	VR	44.4	49.1	1	40	1	64.5	6.2
SMAJ43A	SMAJ43CA	JT	VT	47.8	52.8	1	43	1	69.4	5.8
SMAJ45A	SMAJ45CA	JV	VV	50	55.3	1	45	1	72.7	5.5
SMAJ48A	SMAJ48CA	JX	VX	53.3	58.9	1	48	1	77.4	5.2
SMAJ51A	SMAJ51CA	JZ	VZ	56.7	62.7	1	51	1	82.4	4.9
SMAJ54A	SMAJ54CA	RE	WE	60	66.3	1	54	1	87.1	4.6
SMAJ58A	SMAJ58CA	RG	WG	64.4	71.2	1	58	1	93.6	4.3
SMAJ60A	SMAJ60CA	RK	WK	66.7	73.7	1	60	1	96.8	4.1
SMAJ64A	SMAJ64CA	RM	WM	71.1	78.6	1	64	1	103	3.9
SMAJ70A	SMAJ70CA	RP	WP	77.8	86	1	70	1	113	3.5
SMAJ75A	SMAJ75CA	RR	WR	83.3	92.1	1	75	1	121	3.3
SMAJ78A	SMAJ78CA	RT	WT	86.7	95.8	1	78	1	126	3.2
SMAJ85A	SMAJ85CA	RV	WV	94.4	104	1	85	1	137	2.9
SMAJ90A	SMAJ90CA	RX	WX	100	111	1	90	1	146	2.7
SMAJ100A	SMAJ100CA	RZ	WZ	111	123	1	100	1	162	2.5
SMAJ110A	SMAJ110CA	SE	XE	122	135	1	110	1	177	2.3
SMAJ120A	SMAJ120CA	SG	XG	133	147	1	120	1	193	2.1
SMAJ130A	SMAJ130CA	SK	XK	144	159	1	130	1	209	1.9
SMAJ150A	SMAJ150CA	SM	XM	167	185	1	150	1	243	1.6
SMAJ160A	SMAJ160CA	SP	XP	178	197	1	160	1	259	1.5
SMAJ170A	SMAJ170CA	SR	XR	189	209	1	170	1	275	1.5
SMAJ180A	SMAJ180CA	ST	XT	200	230	1	180	1	290	1.4
SMAJ190A	SMAJ190CA	SV	XV	209	231	1	190	1	306	1.3
SMAJ200A	SMAJ200CA	SX	XX	222	256	1	200	1	322	1.2
SMAJ210A	SMAJ210CA	SZ	XZ	233	268	1	210	1	339	1.2
SMAJ220A	SMAJ220CA	ZE	YE	244	281	1	220	1	355	1.1
SMAJ250A	SMAJ250CA	ZG	YG	278	309	1	250	1	403	1
SMAJ300A	SMAJ300CA	ZK	YK	333	371	1	300	1	484	0.8
SMAJ350A	SMAJ350CA	ZM	YM	389	432	1	350	1	565	0.7
SMAJ400A	SMAJ400CA	ZP	YP	444	494	1	400	1	645	0.6
SMAJ440A	SMAJ440CA	ZR	YR	489	543	1	440	1	710	0.6

RATINGS AND CHARACTERISTICS CURVES

($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

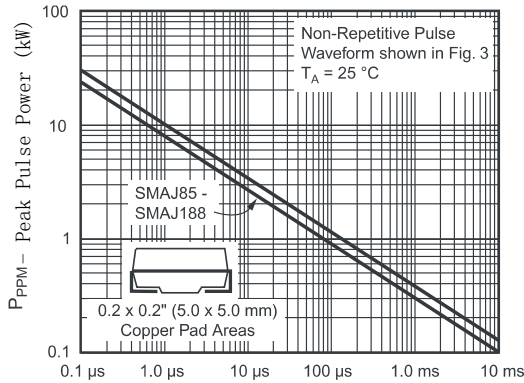


Figure 1. Peak Pulse Power Rating Curve

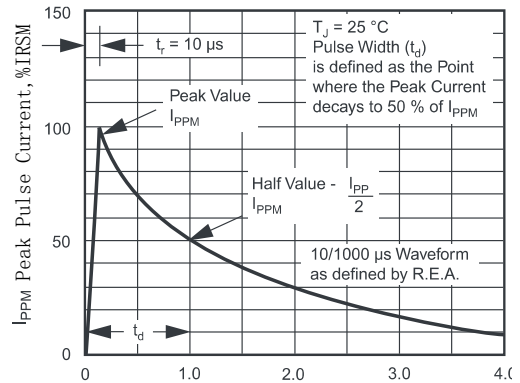


Figure 3. Pulse Waveform

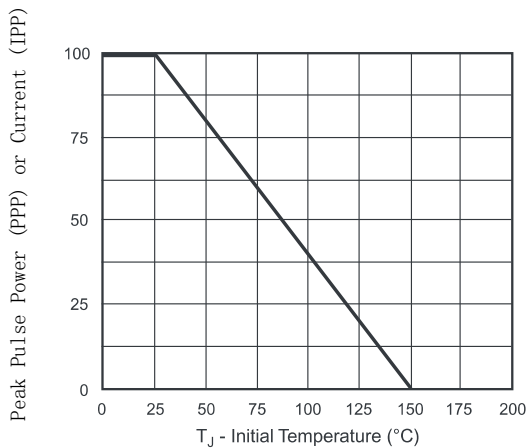


Figure 2. Pulse Power or Current vs. Initial Junction Temperature

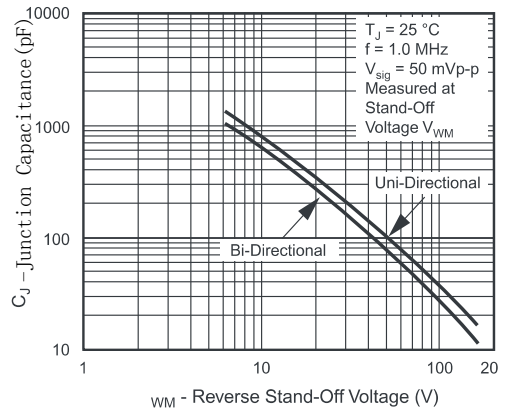


Figure 4. Typical Junction Capacitance

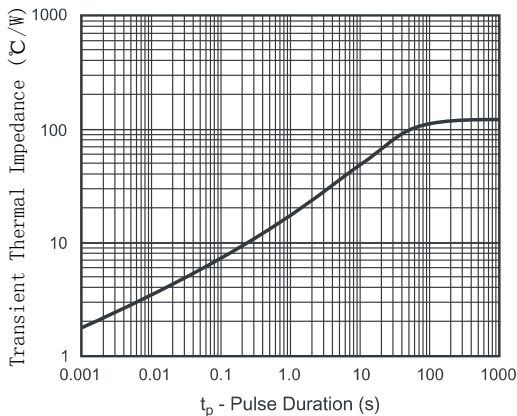


Figure 5. Typical Transient Thermal Impedance

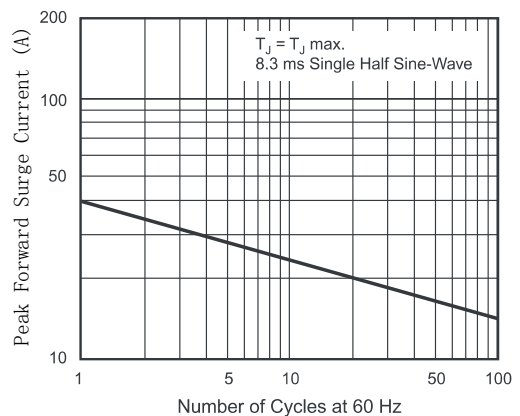
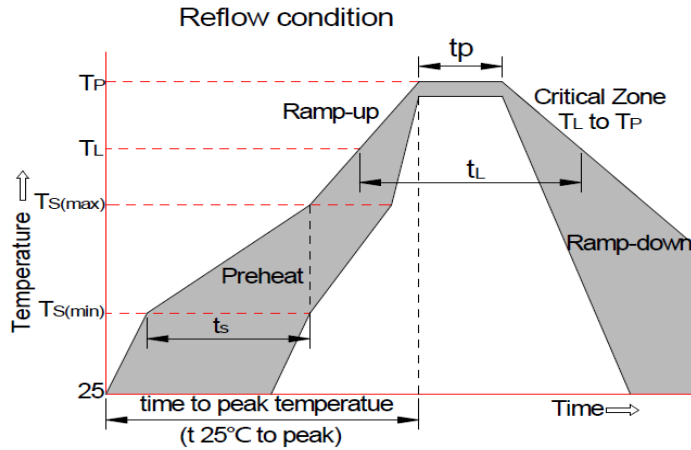


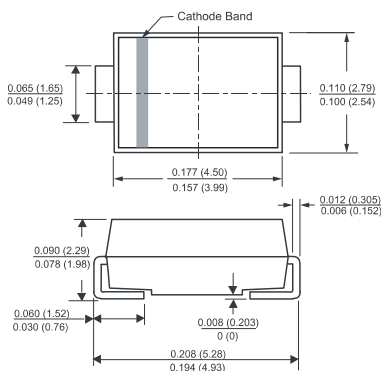
Figure 6. Maximum Non-Repetitive Forward Surge Current Uni-Directional Only

Soldering Parameters

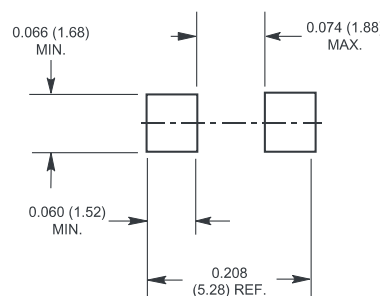


Reflow Condition		PbFree assembly (see asbelow)
Pre Heat	-Temperature Min (Ts(Min))	+150°C
	-Temperature Max(Ts(max))	+200°C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (TL) to peak)		3°C/sec. Max
	Ts(max) to TL -Ramp-up Rate	3°C/sec. Max
Reflow	-Temperature(TL)(Liquid us)	+217°C
	-Temperature(tL)	60-150 secs.
Peak Temp (Tp)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (tp)		30 secs. Max
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp (Tp)		8 min. Max
Do not exceed		+260°C

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



Mounting Pad Layout



Unmarked tolerance: +0.2mm