



SMAJ5.0(C)A - SMAJ200(C)A

400W SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

Features

- 400W Peak Pulse Power Dissipation
- Glass Passivated Die Construction
- Unidirectional and Bidirectional Versions Available
- Excellent Clamping Capability
- Fast Response Time
- Lead-Free Finish; RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)

Mechanical Data

- Case: SMA
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Lead-Free Plating (Matte Tin Finish).
 Solderable per MIL-STD-202, Method 208 (3)
- Polarity Indicator: Cathode Band (Bi-directional devices do not have a polarity indicator.)
- Weight: 0.064 grams (Approximate)





Top View

Bottom View

Ordering Information (Note 4)

Part Number	Case	Packaging
SMAJXXX(C)A-13-F	SMA	5000/Tape & Reel

^{*}x = Device Voltage, Example: SMAJ170A-13-F

Notes

- 1. EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. All applicable RoHS exemptions applied.
- 2. See http://www.diodes.com/quality/lead_free.html for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
- 3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
- 4. For packaging details, go to our website at http"//www.diodes.com/products/packages.html.

Marking Information



xx = Product Type Marking Code
(See Electrical Characteristics Table)

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Maximum Ratings (@T_A = +25°C unless otherwise specified.)

Characteristic	Symbol	Value	Unit	
Peak Pulse Power Dissipation	D	400	W	
(Non-repetitive current pulse derated above T _A = +25°C) (Note 5)	P _{PK}	400	VV	
Peak Forward Surge Current, 8.3ms Single Half Sine Wave	I	40	٨	
Superimposed on Rated Load (Notes 5, 6 & 7)	IFSM	40	Α	
Steady State Power Dissipation @ T _L = +75°C	PM _(AV)	1.0	W	
Instantaneous Forward Voltage @ I _{PP} = 35A (Notes 5, 6, & 7)	V _F	3.5	V	

Notes:

- 5. Valid provided that terminals are kept at ambient temperature.
- 6. Measured with 8.3ms single half sine-wave. Duty cycle = 4 pulses per minute maximum. 7. Unidirectional units only.

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Operating Temperature Range	T_J	-55 to +150	°C
Storage Temperature Range	T _{STG}	-55 to +175	°C



Electrical Characteristics (@ $T_A = \pm 25$ °C unless otherwise specified.)

Part Number	Reverse	Break	down	Toot	Max. Reverse	Max. Clamping	Max. Peak Pulse		
Add C For	Standoff		age	Test Current	Leakage @ V _{RWM}	Voltage @ I _{pp}	Current	Markin	g Code
Bidirectional	Voltage	V _{BR} @ I _T			(Note 10)		I _{pp}		
(Note 8)	V _{RWM} (V)	Min (V)	Max (V)	I _T (mA)	I _R (μA)	V _C (V)	(A)	BI-	UNI-
SMAJ5.0(C)A	5.0	6.40	7.25	10	800	9.2	43.5	TE	HE
SMAJ6.0(C)A	6.0	6.67	7.37	10	800	10.3	38.8	TG	HG
SMAJ6.5(C)A	6.5	7.22	7.98	10	500	11.2	35.7	TK	HK
SMAJ7.0(C)A	7.0	7.78	8.60	10	200	12.0	33.3	TM	HM
SMAJ7.5(C)A	7.5	8.33	9.21	1.0	100	12.9	31.0	TP	HP
SMAJ8.0(C)A	8.0	8.89	9.83	1.0	50	13.6	29.4	TR	HR
SMAJ8.5(C)A	8.5	9.44	10.4	1.0	10	14.4	27.7	TT	HT
SMAJ9.0(C)A	9.0	10.0	11.1	1.0	5.0	15.4	26.0	TV	HV
SMAJ10(C)A	10	11.1	12.3	1.0	5.0	17.0	23.5	TX	HX
SMAJ11(C)A	11	12.2	13.5	1.0	5.0	18.2	22.0	TZ	HZ
SMAJ12(C)A	12	13.3	14.7	1.0	5.0	19.9	20.1	UE	IE
SMAJ13(C)A	13	14.4	15.9	1.0	5.0	21.5	18.6	UG	IG
SMAJ14(C)A	14	15.6	17.2	1.0	5.0	23.2	17.2	UK	IK
SMAJ15(C)A	15	16.7	18.5	1.0	5.0	24.4	16.4	UM	IM
SMAJ16(C)A	16	17.8	19.7	1.0	5.0	26.0	15.3	UP	IP
SMAJ17(C)A	17	18.9	20.9	1.0	5.0	27.6	14.5	UR	IR
SMAJ18(C)A	18	20.0	22.1	1.0	5.0	29.2	13.7	UT	IT
SMAJ20(C)A	20	22.2	24.5	1.0	5.0	32.4	12.3	UV	IV
SMAJ22(C)A	22	24.4	26.9	1.0	5.0	35.5	11.2	UX	IX
SMAJ24(C)A	24	26.7	29.5	1.0	5.0	38.9	10.3	UZ	ΙZ
SMAJ26(C)A	26	28.9	31.9	1.0	5.0	42.1	9.5	VE	JE
SMAJ28(C)A	28	31.1	34.4	1.0	5.0	45.4	8.8	VG	JG
SMAJ30(C)A	30	33.3	36.8	1.0	5.0	48.4	8.3	VK	JK
SMAJ33(C)A	33	36.7	40.6	1.0	5.0	53.3	7.5	VM	JM
SMAJ36(C)A	36	40.0	44.2	1.0	5.0	58.1	6.9	VP	JP
SMAJ40(C)A	40	44.4	49.1	1.0	5.0	64.5	6.2	VR	JR
SMAJ43(C)A	43	47.8	52.8	1.0	5.0	69.4	5.7	VT	JT
SMAJ45(C)A	45	50.0	55.3	1.0	5.0	72.7	5.5	VV	JV
SMAJ48(C)A	48	53.3	58.9	1.0	5.0	77.4	5.2	VX	JX
SMAJ51(C)A	51	56.7	62.7	1.0	5.0	82.4	4.9	VZ	JZ
SMAJ54(C)A	54	60.0	66.3	1.0	5.0	87.1	4.6	WE	RE
SMAJ58(C)A	58	64.4	71.2	1.0	5.0	93.6	4.3	WG	RG
SMAJ60(C)A	60	66.7	73.7	1.0	5.0	96.8	4.1	WK	RK
SMAJ64(C)A	64	71.1	78.6	1.0	5.0	103	3.9	WM	RM
SMAJ70(C)A	70	77.8	86.0	1.0	5.0	113	3.5	WP	RP
SMAJ75(C)A	75	83.3	92.1	1.0	5.0	121	3.3	WR	RR
SMAJ78(C)A	78	86.7	95.8	1.0	5.0	126	2.2	WT	RT
SMAJ85(C)A	85	94.4	104	1.0	5.0	137	2.9	WV	RV
SMAJ90(C)A	90	100	111	1.0	5.0	146	2.7	WX	RX
SMAJ100(C)A	100	111	123	1.0	5.0	162	2.5	WZ	RZ
SMAJ110(C)A	110	122	135	1.0	5.0	177	2.3	XE	SE
SMAJ120(C)A	120	133	147	1.0	5.0	193	2.0	XG	SG
SMAJ130(C)A	130	144	159	1.0	5.0	209	1.9	XK	SK
SMAJ150(C)A	150	167	185	1.0	5.0	243	1.6	XM	SM
SMAJ160(C)A	160	178	197	1.0	5.0	259	1.5	XP	SP
SMAJ170(C)A	170	189	209	1.0	5.0	275	1.4	XR	SR
SMAJ200(C)A	200	224	248	1.0	1.0	324	1.2	YT	ST

Notes:

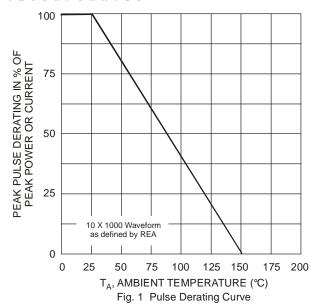
^{8.} Suffix C denotes Bi-directional device.

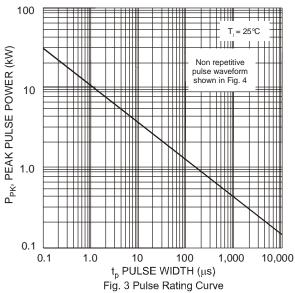
^{9.} V_{BR} measured with I_T current pulse = 10 ~ 15 ms.

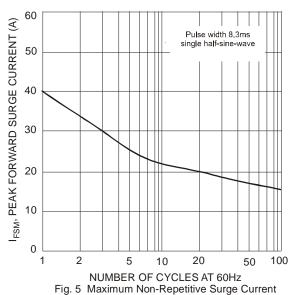
^{10.} For Bidirectional devices having V_{RWM} of 10V and under, the I_{R} is doubled.

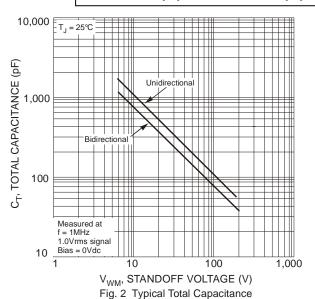


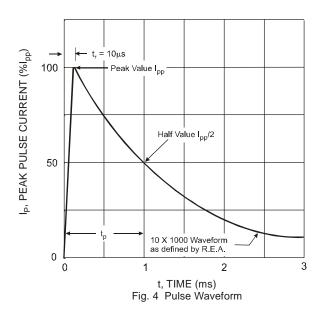
SMAJ5.0(C)A - SMAJ200(C)A











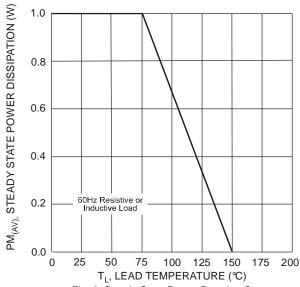
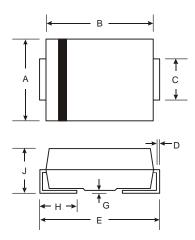


Fig. 6 Steady State Power Derating Curve



Package Outline Dimensions

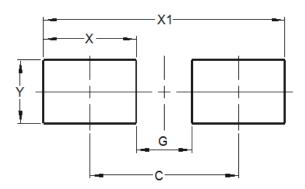
Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for the latest version.



SMA					
Dim	Min	Max			
Α	2.29	2.92			
В	4.00	4.60			
С	1.27	1.63			
D	0.15	0.31			
E	4.80	5.59			
G	0.05	0.20			
Н	0.76	1.52			
J	2.01	2.30			
All Dimensions in mm					

Suggested Pad Layout

Please see AP02001 at http://www.diodes.com/datasheets/ap02001.pdf for the latest version.



Dimensions	Value (in mm)
С	4.00
G	1.50
Х	2.50
X1	6.50
Y	1.70



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