

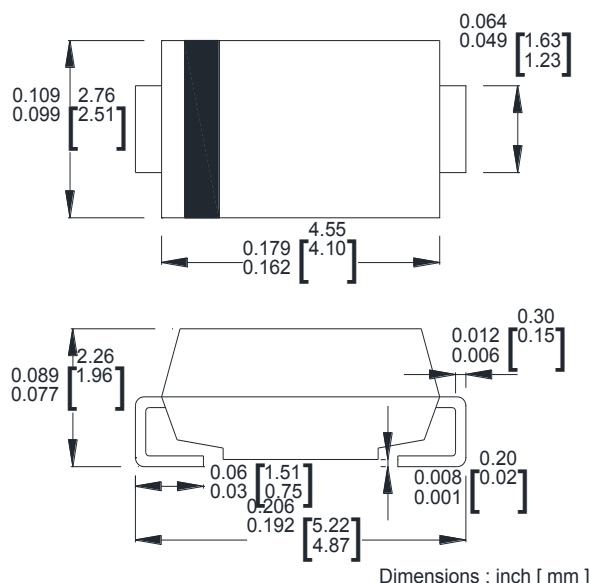
Working Voltage: 8.5 V
SMA/ DO-214AC
Peak Pulse Power: 400 W

Features

- Glass passivated chip
- 400 W peak pulse power capability with a 10/1000 μ s waveform, repetitive rate (duty cycle):0.01 %
- Low leakage
- Uni and Bidirectional unit
- Excellent clamping capability
- Very fast response time
- RoHS compliant

Mechanical Data

- Case: Molded plastic
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Solderable per MIL-STD-750, method 2026
- Polarity: Color band denotes cathode end except Bipolar
- Mounting position: Any



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

Parameter	Symbol	Value	Unit
Peak power dissipation with a 10/1000 μ s waveform ⁽¹⁾	P_{PP}	400	W
Peak pulse current with a 10/1000 μ s waveform ⁽¹⁾	I_{PP}	See Next Table	A
Power dissipation on infinite heatsink at $T_L = 75^{\circ}\text{C}$	P_D	1.0	W
Peak forward surge current, 8.3 ms single half sine-wave unidirectional only ⁽²⁾	I_{FSM}	40	A
Maximum instantaneous forward voltage at 25 A for unidirectional only ⁽³⁾	V_F	3.5/5.0	V
Operating junction and storage temperature range	T_J, T_{STG}	- 55 to +150	$^{\circ}\text{C}$

Note:

(1)Non-repetitive current pulse per Fig.5 and derated above $T_A = 25^{\circ}\text{C}$ per Fig.1

(2)Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum

(3) $V_F < 3.5\text{V}$ for devices of $V_{BR} < 200\text{V}$ and $V_F < 5.0\text{V}$ for devices of $V_{BR} > 201\text{V}$

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

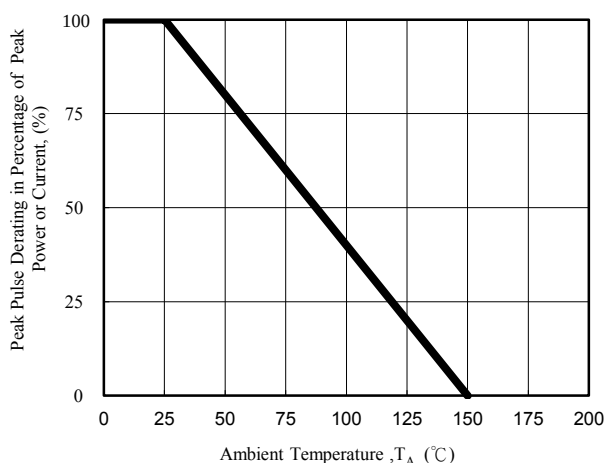


Fig. 1 - Pulse Derating Curve

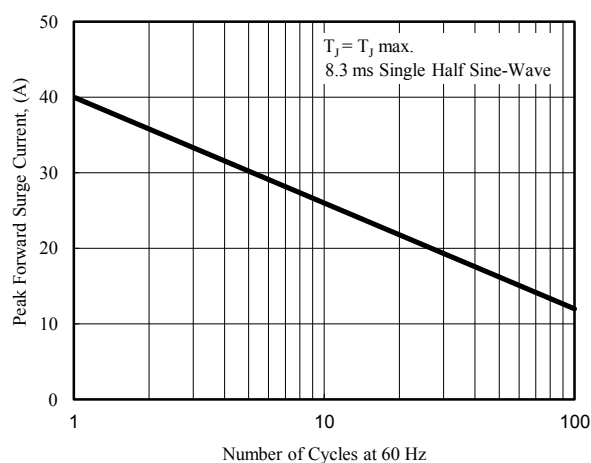


Fig. 2 - Maximum Non-Repetitive Surge Current

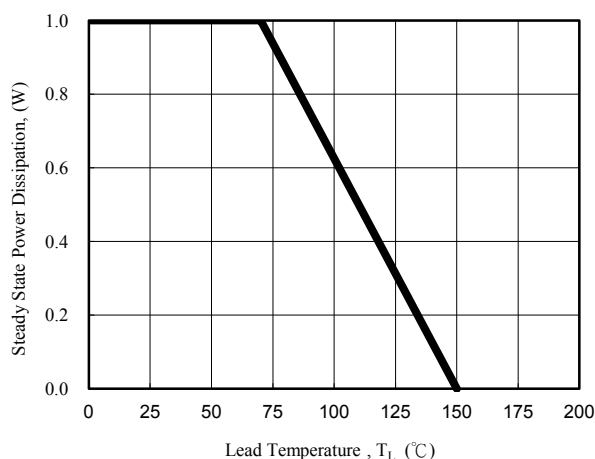


Fig. 3 - Steady State Power Derating Curve

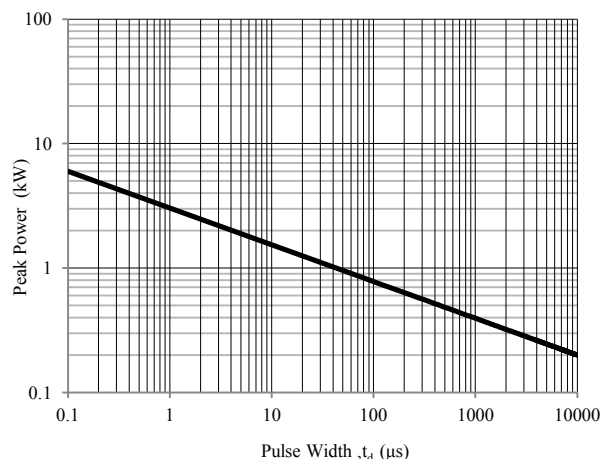


Fig. 4 - Peak Pulse Power Rating Curve

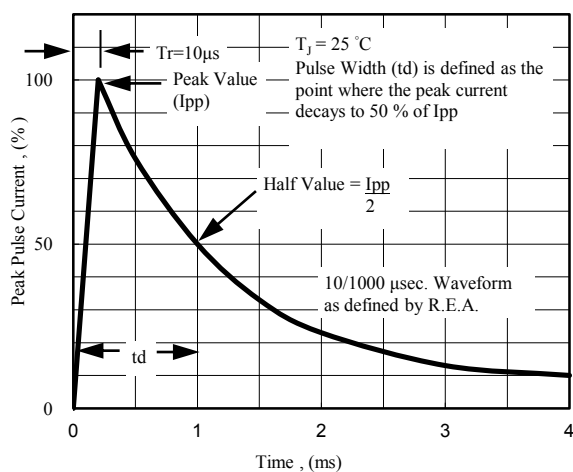


Fig. 5 - Pulse Waveform

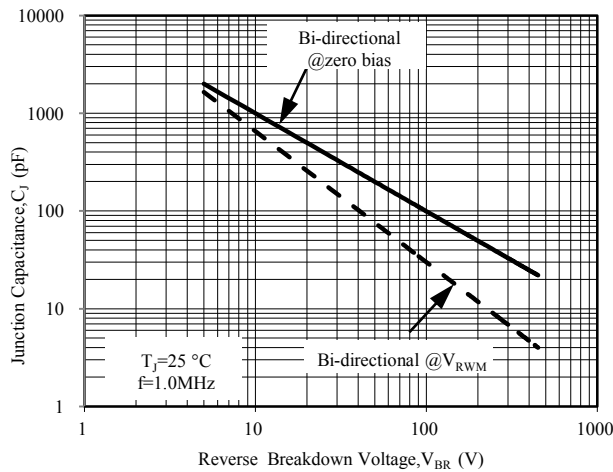


Fig. 6 - Typical Junction Capacitance

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

Part Number (Bi)	Device Marking Code	Breakdown Voltage V_{BR} @ I_T			Maximum Reverse Leakage I_R @ V_{RWM} (μA)	Working Peak Reverse Voltage V_{RWM} (V)	Maximum Reverse Surge Current I_{PP} (A)	Maximum Clamping Voltage V_C @ I_{PP} (V)
	Bi	Min (V)	Max (V)	I_T (mA)				
SMAJ5.0CA	WE	6.40	7.00	10	800	5.0	43.48	9.2
SMAJ6.0CA	WG	6.67	7.37	10	800	6.0	38.83	10.3
SMAJ6.5CA	WK	7.22	7.98	10	500	6.5	35.71	11.2
SMAJ7.0CA	WM	7.78	8.60	10	200	7.0	33.33	12.0
SMAJ7.5CA	WP	8.33	9.21	1	100	7.5	31.01	12.9
SMAJ8.0CA	WR	8.89	9.83	1	50	8.0	29.41	13.6
SMAJ8.5CA	WT	9.44	10.40	1	10	8.5	27.78	14.4
SMAJ9.0CA	WV	10.00	11.10	1	5	9.0	25.97	15.4
SMAJ10CA	WX	11.10	12.30	1	5	10.0	23.53	17.0
SMAJ11CA	WZ	12.20	13.50	1	1	11.0	21.98	18.2
SMAJ12CA	XE	13.30	14.70	1	1	12.0	20.10	19.9
SMAJ13CA	XG	14.40	15.90	1	1	13.0	18.60	21.5
SMAJ14CA	XK	15.60	17.20	1	1	14.0	17.24	23.2
SMAJ15CA	XM	16.70	18.50	1	1	15.0	16.39	24.4
SMAJ16CA	XP	17.80	19.70	1	1	16.0	15.38	26.0
SMAJ17CA	XR	18.90	20.90	1	1	17.0	14.49	27.6
SMAJ18CA	XT	20.00	22.10	1	1	18.0	13.70	29.2
SMAJ19CA	XB	21.10	23.30	1	1	19.0	13.00	30.8
SMAJ20CA	XV	22.20	24.50	1	1	20.0	12.35	32.4
SMAJ22CA	XX	24.40	26.90	1	1	22.0	11.27	35.5
SMAJ24CA	XZ	26.70	29.50	1	1	24.0	10.28	38.9
SMAJ26CA	YE	28.90	31.90	1	1	26.0	9.50	42.1
SMAJ28CA	YG	31.10	34.40	1	1	28.0	8.81	45.4
SMAJ30CA	YK	33.30	36.80	1	1	30.0	8.26	48.4
SMAJ33CA	YM	36.70	40.60	1	1	33.0	7.50	53.3
SMAJ36CA	YP	40.00	44.20	1	1	36.0	6.88	58.1

Note:

1. Suffix 'A' denotes 5% tolerance device. Without 'A' denotes 10% tolerance device
2. Add suffix 'CA' after part number to specify Bi-directional devices
3. For Bi-Directional devices having V_R of 10 volts and under, the I_R limit is double

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

Part Number (Bi)	Device Marking Code	Breakdown Voltage V_{BR} @ I_T			Maximum Reverse Leakage I_R @ V_{RWM} (μA)	Working Peak Reverse Voltage V_{RWM} (V)	Maximum Reverse Surge Current I_{PP} (A)	Maximum Clamping Voltage V_C @ I_{PP} (V)
	Bi	Min (V)	Max (V)	I_T (mA)				
SMAJ40CA	YR	44.40	49.10	1	1	40.0	6.20	64.5
SMAJ43CA	YT	47.80	52.80	1	1	43.0	5.76	69.4
SMAJ45CA	YV	50.00	55.30	1	1	45.0	5.50	72.7
SMAJ48CA	YX	53.30	58.90	1	1	48.0	5.17	77.4
SMAJ51CA	YZ	56.70	62.70	1	1	51.0	4.85	82.4
SMAJ54CA	ZE	60.00	66.30	1	1	54.0	4.59	87.1
SMAJ58CA	ZG	64.40	71.20	1	1	58.0	4.27	93.6
SMAJ60CA	ZK	66.70	73.70	1	1	60.0	4.13	96.8
SMAJ64CA	ZM	71.10	78.60	1	1	64.0	3.88	103.0
SMAJ70CA	ZP	77.80	86.00	1	1	70.0	3.54	113.0
SMAJ75CA	ZR	83.30	92.10	1	1	75.0	3.31	121.0
SMAJ78CA	ZT	86.70	95.80	1	1	78.0	3.17	126.0
SMAJ80CA	ZB	88.80	97.60	1	1	80.0	3.09	129.6
SMAJ85CA	ZV	94.40	104.00	1	1	85.0	2.92	137.0
SMAJ90CA	ZX	100.00	111.00	1	1	90.0	2.74	146.0
SMAJ100CA	ZZ	111.00	123.00	1	1	100.0	2.47	162.0
SMAJ110CA	VE	122.00	135.00	1	1	110.0	2.26	177.0
SMAJ120CA	VG	133.00	147.00	1	1	120.0	2.07	193.0
SMAJ130CA	VK	144.00	159.00	1	1	130.0	1.91	209.0
SMAJ140CA	VB	155.00	171.00	1	1	140.0	1.76	226.8
SMAJ150CA	VM	167.00	185.00	1	1	150.0	1.65	243.0
SMAJ160CA	VP	178.00	197.00	1	1	160.0	1.54	259.0
SMAJ170CA	VR	189.00	209.00	1	1	170.0	1.45	275.0
SMAJ180CA	VT	200.00	220.00	1	1	180.0	1.37	291.6
SMAJ190CA	VV	211.00	232.00	1	1	190.0	1.30	307.8
SMAJ200CA	VW	224.00	247.00	1	1	200.0	1.23	324.0
SMAJ220CA	VX	246.00	272.00	1	1	220.0	1.12	356.0
SMAJ250CA	VZ	279.00	309.00	1	1	250.0	0.99	405.0
SMAJ300CA	HE	335.00	371.00	1	1	300.0	0.82	486.0
SMAJ350CA	HG	391.00	432.00	1	1	350.0	0.71	567.0
SMAJ400CA	HK	447.00	494.00	1	1	400.0	0.62	648.0
SMAJ440CA	HM	492.00	543.00	1	1	440.0	0.56	713.0

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