

Features

- ◆ Glass passivated junction chip
- ◆ 5000w peak pulse power capability
- ◆ Excellent clamping capability
- ◆ Low incremental surge resistance
- ◆ Fast response time: typically less than 1.0ps from 0v to V_{BR} min
- ◆ High temperature soldering guaranteed:
260°C/10S at terminals

Mechanical Data

Case : Molded plastic body

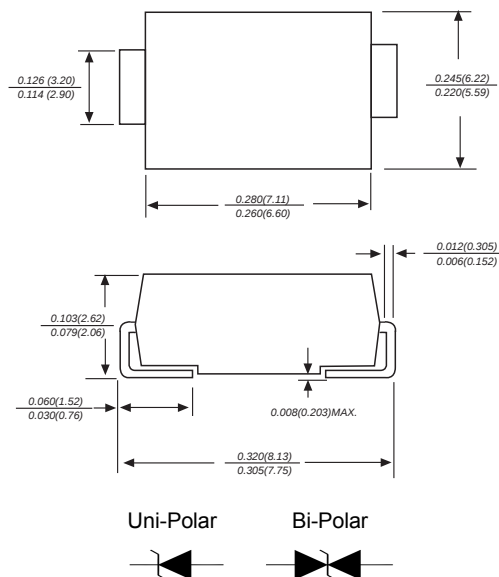
Terminals : Solder plated, solderable per MIL-STD-750, Method 2026

Polarity : Polarity symbol marking on body

Mounting Position : Any

Weight : 0.008 ounce, 0.225 grams

DO-214AB/SMC



Dimensions in inches and (millimeters)

Maximum Ratings And Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbols	Value	Unit
Peak power dissipation with a 10/1000 us waveform ⁽¹⁾	P_{PP}	5000	W
Peak pulse current with a 10/1000 us waveform ⁽¹⁾	I_{PP}	See Next Table	A
Power dissipation on infinite heatsink at $T_L=75^{\circ}\text{C}$	P_D	6.5	W
Peak forward surge current, 8.3 ms single half sinewave unidirectional only ⁽²⁾	I_{FSM}	300	A
Maximum instantaneous forward voltage at 100 A for unidirectional only	V_F	3.5	V
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150	°C

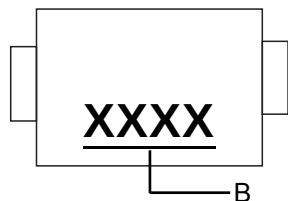
Note:

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 ;

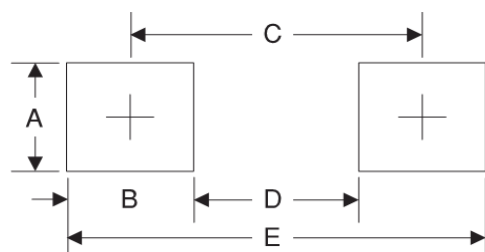
Type	Marking	Peak Pulse Power	Stand-off Voltage	Maximum Reverse Current at VR	Breakdown Voltage at IT		Test Current	Maximum Peak Pulse Current	Maximum Clamping Voltage at Ipp
Bi-Polar	Bi-Polar	PPP	V(R)	IR	V (BR) (V)		IT	Ipp	Vc
		(W)	(V)	(uA)	Min.	Max.	(mA)	(A)	(V)
5.0SMDJ12CA	5BEP	5000	12	800	13.3	14.7	10	252.0	19.9
5.0SMDJ13CA	5BEQ	5000	13	500	14.4	15.9	10	233.0	21.5
5.0SMDJ14CA	5BER	5000	14	200	15.6	17.2	10	216.0	23.2
5.0SMDJ15CA	5BES	5000	15	100	16.7	18.5	1	205.0	24.4
5.0SMDJ16CA	5BET	5000	16	50	17.8	19.7	1	193.0	26.0
5.0SMDJ17CA	5BEU	5000	17	20	18.9	20.9	1	181.0	27.6
5.0SMDJ18CA	5BEV	5000	18	10	20	22.1	1	172.0	29.2
5.0SMDJ20CA	5BEW	5000	20	5	22.2	24.5	1	155.0	32.4
5.0SMDJ22CA	5BEX	5000	22	5	24.4	26.9	1	141.0	35.5
5.0SMDJ24CA	5BEZ	5000	24	5	26.7	29.5	1	129.0	38.9
5.0SMDJ26CA	5BFE	5000	26	5	28.9	31.9	1	119.0	42.1
5.0SMDJ28CA	5BFG	5000	28	5	31.1	34.4	1	110.0	45.4
5.0SMDJ30CA	5BFK	5000	30	5	33.3	36.8	1	103.0	48.4
5.0SMDJ33CA	5BFM	5000	33	5	36.7	40.6	1	93.9	53.3
5.0SMDJ36CA	5BFP	5000	36	5	40	44.2	1	86.1	58.1
5.0SMDJ40CA	5BFR	5000	40	5	44.4	49.1	1	77.6	64.5
5.0SMDJ43CA	5BFT	5000	43	5	47.8	52.8	1	72.1	69.4
5.0SMDJ45CA	5BFV	5000	45	5	50	55.3	1	68.8	72.7
5.0SMDJ48CA	5BFX	5000	48	5	53.3	58.9	1	64.7	77.4
5.0SMDJ51CA	5BFZ	5000	51	5	56.7	62.7	1	60.7	82.4
5.0SMDJ54CA	5BGE	5000	54	5	60	66.3	1	57.5	87.1
5.0SMDJ58CA	5BGG	5000	58	5	64.4	71.2	1	53.5	93.6
5.0SMDJ60CA	5BGK	5000	60	5	66.7	73.7	1	51.7	96.8
5.0SMDJ64CA	5BGM	5000	64	5	71.1	78.6	1	48.6	103
5.0SMDJ70CA	5BGB	5000	70	5	77.8	86	1	44.3	113
5.0SMDJ75CA	5BGR	5000	75	5	83.3	92.1	1	41.4	121
5.0SMDJ78CA	5BGT	5000	78	5	86.7	95.8	1	39.7	126
5.0SMDJ85CA	5BGV	5000	85	5	94.4	104	1	36.5	137
5.0SMDJ90CA	5BGX	5000	90	5	100	111	1	34.3	146
5.0SMDJ100CA	5BGZ	5000	100	5	111	123	1	30.9	162
5.0SMDJ110CA	5BHE	5000	110	5	122	135	1	28.3	177
5.0SMDJ120CA	5BHG	5000	120	5	133	147	1	26.0	193
5.0SMDJ130CA	5BHK	5000	130	5	144	159	1	24.0	209
5.0SMDJ140CA	5BHL	5000	140	5	156	172	1	22.2	226.1
5.0SMDJ150CA	5BHM	5000	150	5	167	185	1	20.6	243
5.0SMDJ160CA	5BHB	5000	160	5	178	197	1	19.3	259
5.0SMDJ170CA	5BHR	5000	170	5	189	209	1	18.2	275

Marking For Bi-Polar



Symbol	Explanation
B	Marking Code, as above sheet

Suggested Pad Layout



Symbol	Unit (mm)	Unit (inch)
A	3.30	0.130
B	2.50	0.098
C	6.80	0.268
D	4.40	0.173
E	9.40	0.370

Ratings And Characteristic Curves

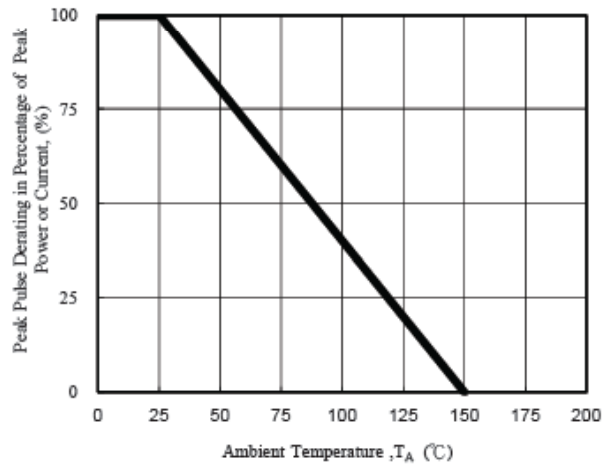


Fig. 1 - Pulse Derating Curve

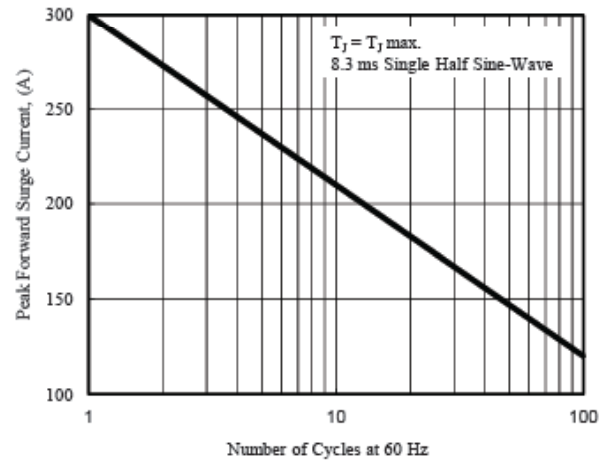


Fig. 2 - Maximum Non-Repetitive
Surge Current

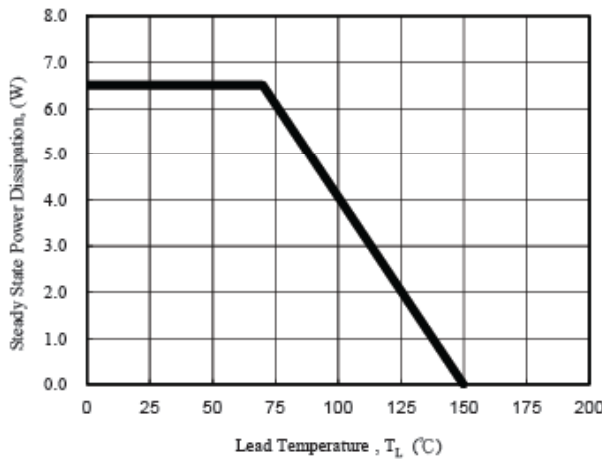


Fig. 3 - Steady State Power Derating Curve

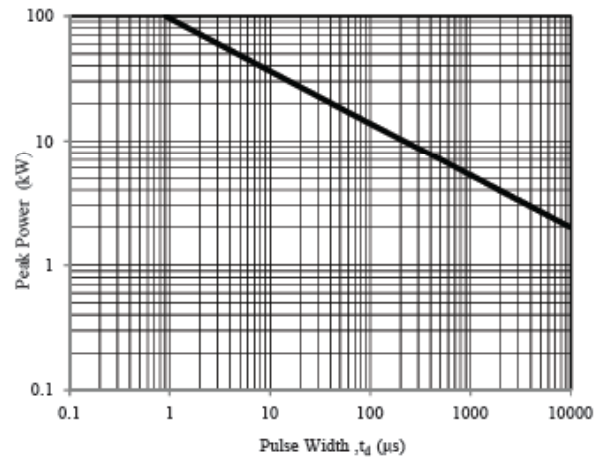


Fig. 4 - Peak Pulse Power Rating Curve

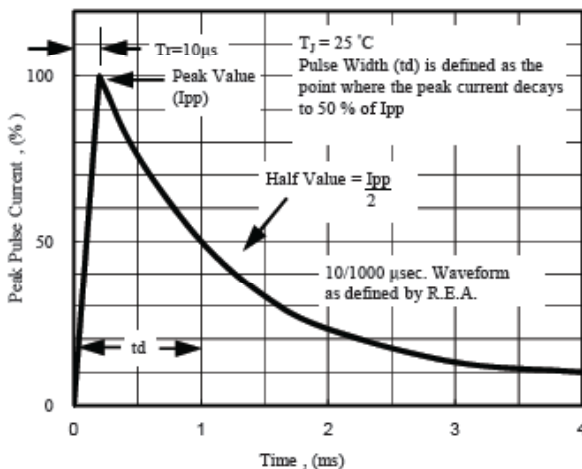


Fig. 5 - Pulse Waveform

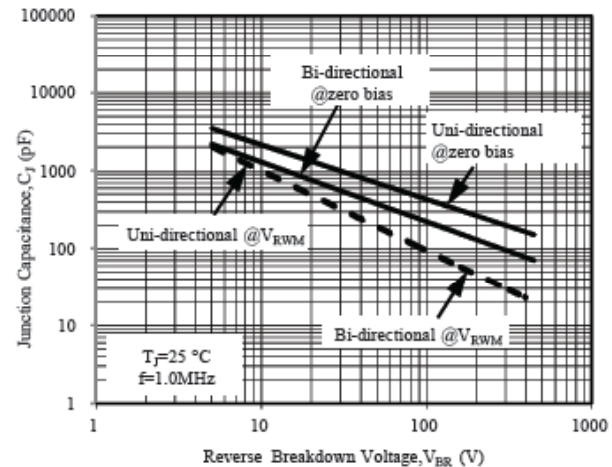
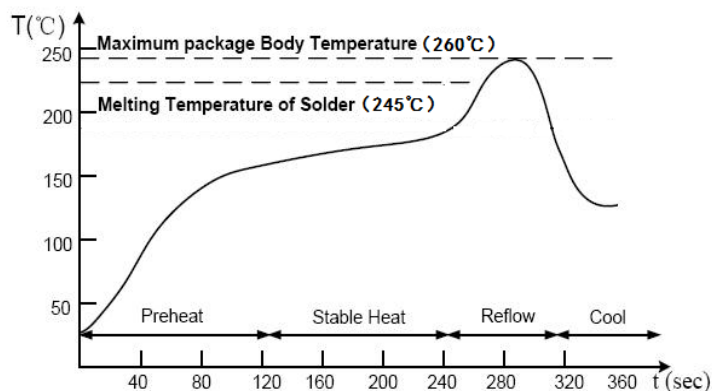


Fig. 6 - Typical Junction Capacitance

Suggested Soldering Temperature Profile

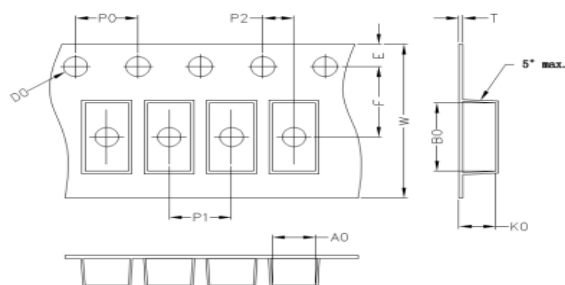


Note

- Recommended reflow methods: IR, vapor phase oven, hot air oven, wave solder.
- The device can be exposed to a maximum temperature of 260°C for 10 seconds.
- Devices can be cleaned using standard industry methods and solvents.
- If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

Package Information

Carrier Dimension(mm)



A0	B0	K0	D0	E	F
6.05	8.31	2.54	1.55	1.75	7.50
P0	P1	P2	T	W	Tolerance
4.0	8.0	2.0	0.25	16	0.1

Package Specifications

Package	Reel Size	Reel DIA. (mm)	Q'TY/Reel (Kpcs)	Box Size (mm)	QTY/Box (Kpcs)	Carton Size (mm)	Q'TY/Carton (Kpcs)
SMC	13'	330	3.0	340	6.0	360*360*360	48

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