

Features

- ◆ Glass passivated junction chip
- ◆ 3000w 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

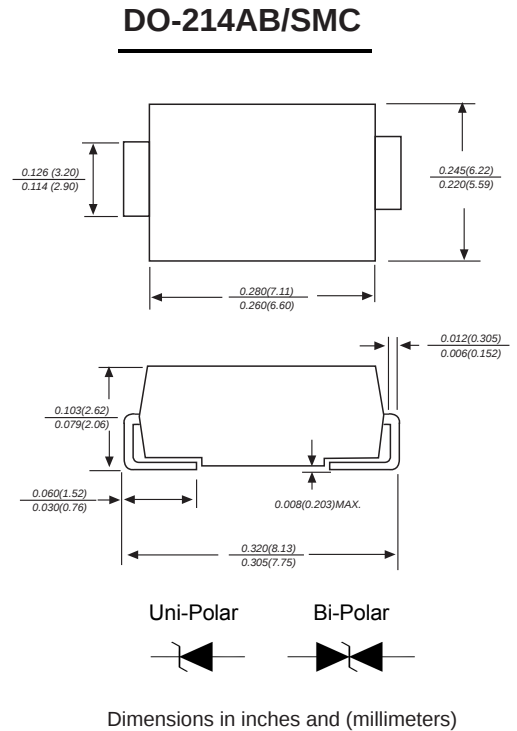
Case : Molded plastic body

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



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}	3000	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 ⁽³⁾	V_F	3.5/6.5	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 ;

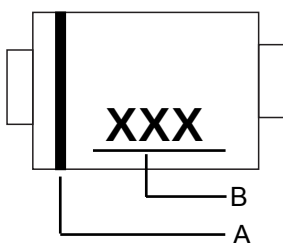
2) Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum ;

3) $V_F < 3.5\text{V}$ for devices of $V_{BR} < 220\text{V}$ and $V_F < 6.5\text{V}$ for devices of $V_{BR} > 250\text{V}$.

Type		Marking		Peak Pulse Power	Stand-off Voltage	Maximum Reverse Current at V _R	Breakdown Voltage at IT		Test Current	Maximum Peak Pulse Current	Maximum Clamping Voltage at I _{pp}
Uni-Polar	Bi-Polar	Uni- Polar	Bi- Polar	PPP	V(R)	IR	V (BR) (V)		IT	I _{pp}	V _c
				(W)	(V)	(μ A)	Min.	Max.			
SMDJ5.0A	SMDJ5.0CA	RDE	DDE	3000	5	800	6.4	7	10	326.1	9.2
SMDJ6.0A	SMDJ6.0CA	RDG	DDG	3000	6	800	6.67	7.37	10	291.3	10.3
SMDJ6.5A	SMDJ6.5CA	RDK	DDK	3000	6.5	500	7.22	7.98	10	267.9	11.2
SMDJ7.0A	SMDJ7.0CA	PDM	DDM	3000	7	200	7.78	8.6	10	250.0	12.0
SMDJ7.5A	SMDJ7.5CA	PDP	DDP	3000	7.5	100	8.33	9.21	1	232.6	12.9
SMDJ8.0A	SMDJ8.0CA	PDR	DDR	3000	8	50	8.89	9.83	1	220.6	13.6
SMDJ8.5A	SMDJ8.5CA	PDT	DDT	3000	8.5	20	9.44	10.4	1	208.3	14.4
SMDJ9.0A	SMDJ9.0CA	PDV	DDV	3000	9	10	10	11.1	1	194.8	15.4
SMDJ10A	SMDJ10CA	PDX	DDX	3000	10	5	11.1	12.3	1	176.5	17.0
SMDJ11A	SMDJ11CA	PDZ	DDZ	3000	11	2	12.2	13.5	1	164.8	18.2
SMDJ12A	SMDJ12CA	PEE	DEE	3000	12	2	13.3	14.7	1	150.8	19.9
SMDJ13A	SMDJ13CA	PEG	DEG	3000	13	2	14.4	15.9	1	139.5	21.5
SMDJ14A	SMDJ14CA	PEK	DEK	3000	14	2	15.6	17.2	1	129.3	23.2
SMDJ15A	SMDJ15CA	PEM	DEM	3000	15	2	16.7	18.5	1	123.0	24.4
SMDJ16A	SMDJ16CA	PEP	DEP	3000	16	2	17.8	19.7	1	115.4	26.0
SMDJ17A	SMDJ17CA	PER	DER	3000	17	2	18.9	20.9	1	108.7	27.6
SMDJ18A	SMDJ18CA	PET	DET	3000	18	2	20	22.1	1	102.7	29.2
SMDJ20A	SMDJ20CA	PEV	DEV	3000	20	2	22.2	24.5	1	92.6	32.4
SMDJ22A	SMDJ22CA	PEX	DEX	3000	22	2	24.4	26.9	1	84.5	35.5
SMDJ24A	SMDJ24CA	PEZ	DEZ	3000	24	2	26.7	29.5	1	77.1	38.9
SMDJ26A	SMDJ26CA	PFE	DFE	3000	26	2	28.9	31.9	1	71.3	42.1
SMDJ28A	SMDJ28CA	PFG	DFG	3000	28	2	31.1	34.4	1	66.1	45.4
SMDJ30A	SMDJ30CA	PFK	DFK	3000	30	2	33.3	36.8	1	62.0	48.4
SMDJ33A	SMDJ33CA	PFM	DFM	3000	33	2	36.7	40.6	1	56.3	53.3
SMDJ36A	SMDJ36CA	PFP	DFP	3000	36	2	40	44.2	1	51.6	58.1
SMDJ40A	SMDJ40CA	PFR	DFR	3000	40	2	44.4	49.1	1	46.5	64.5
SMDJ43A	SMDJ43CA	PFT	DFT	3000	43	2	47.8	52.8	1	43.2	69.4
SMDJ45A	SMDJ45CA	PFV	DFV	3000	45	2	50	55.3	1	41.3	72.7
SMDJ48A	SMDJ48CA	PFX	DFX	3000	48	2	53.3	58.9	1	38.8	77.4
SMDJ51A	SMDJ51CA	PFZ	DFZ	3000	51	2	56.7	62.7	1	36.4	82.4
SMDJ54A	SMDJ54CA	RGE	DGE	3000	54	2	60	66.3	1	34.4	87.1
SMDJ58A	SMDJ58CA	PGG	DGG	3000	58	2	64.4	71.2	1	32.1	93.6
SMDJ60A	SMDJ60CA	PGK	DGK	3000	60	2	66.7	73.7	1	31.0	96.8
SMDJ64A	SMDJ64CA	PGM	DGM	3000	64	2	71.1	78.6	1	29.1	103
SMDJ70A	SMDJ70CA	PGP	DGP	3000	70	2	77.8	86	1	26.5	113
SMDJ75A	SMDJ75CA	PGR	DGR	3000	75	2	83.3	92.1	1	24.8	121
SMDJ78A	SMDJ78CA	PGT	DGT	3000	78	2	86.7	95.8	1	23.8	126
SMDJ85A	SMDJ85CA	PGV	DGV	3000	85	2	94.4	104	1	21.9	137
SMDJ90A	SMDJ90CA	PGX	DGX	3000	90	2	100	111	1	20.5	146
SMDJ100A	SMDJ100CA	PGZ	DGZ	3000	100	2	111	123	1	18.5	162
SMDJ110A	SMDJ110CA	PHE	DHE	3000	110	2	122	135	1	16.9	177

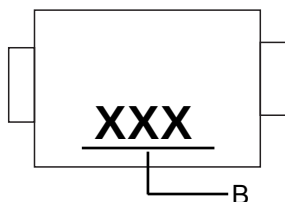
Type		Marking		Peak Pulse Power	Stand-off Voltage	Maximum Reverse Current at Vr	Breakdown Voltage at IT		Test Current	Maximum Peak Pulse Current	Maximum Clamping Voltage at Ipp
Uni-Polar	Bi-Polar	Uni-Polar	Bi-Polar	PPP	V(R)	IR	V (BR) (V)		IT	Ipp	Vc
				(W)	(V)	(uA)	Min.	Max.			
SMDJ120A	SMDJ120CA	PHG	DHG	3000	120	2	133	147	1	15.5	193
SMDJ130A	SMDJ130CA	PHK	DHK	3000	130	2	144	159	1	14.4	209
SMDJ150A	SMDJ150CA	PHM	DHM	3000	150	2	167	185	1	12.3	243
SMDJ160A	SMDJ160CA	PHP	DHP	3000	160	2	178	197	1	11.6	259
SMDJ170A	SMDJ170CA	PHR	DHR	3000	170	2	189	209	1	10.9	275
SMDJ180A	SMDJ180CA	PHT	DHT	3000	180	2	200	221	1	10.3	292
SMDJ200A	SMDJ200CA	PHV	DHV	3000	200	3	224	247	1	9.3	324
SMDJ220A	SMDJ220CA	PKE	DKE	3000	220	2	244	270	1	8.4	356
SMDJ250A	SMDJ250CA	PKG	DKG	3000	250	2	279	309	1	7.5	405
SMDJ300A	SMDJ300CA	PKI	DKI	3000	300	2	335	371	1	6.2	486
SMDJ350A	SMDJ350CA	PKJ	DKJ	3000	350	2	391	432	1	5.3	567
SMDJ400A	SMDJ400CA	PKL	DKL	3000	400	2	447	494	1	4.7	648
SMDJ440A	SMDJ440CA	PKN	DKN	3000	440	2	492	543	1	4.3	713

Marking For Uni-Polar



Symbol	Explanation
A	Color Band Denotes Cathode
B	Marking Code, as above sheet

Marking For Bi-Polar



Symbol	Explanation
B	Marking Code, as above sheet

Ratings And Characteristic Curves

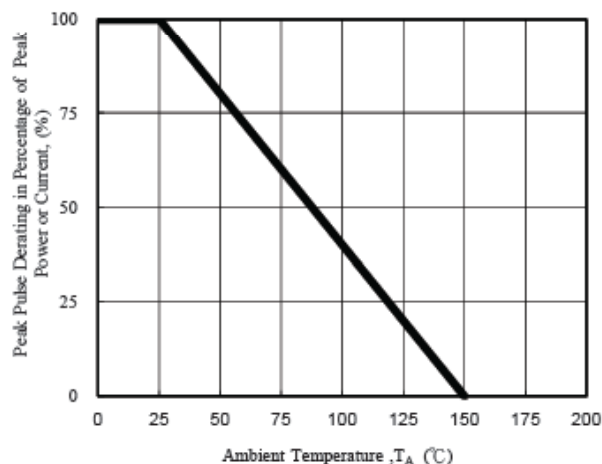


Fig. 1 - Pulse Derating Curve

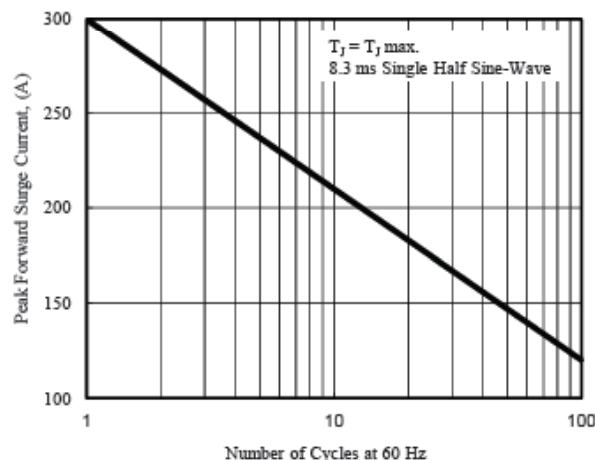


Fig. 2 - Maximum Non-Repetitive
Surge Current

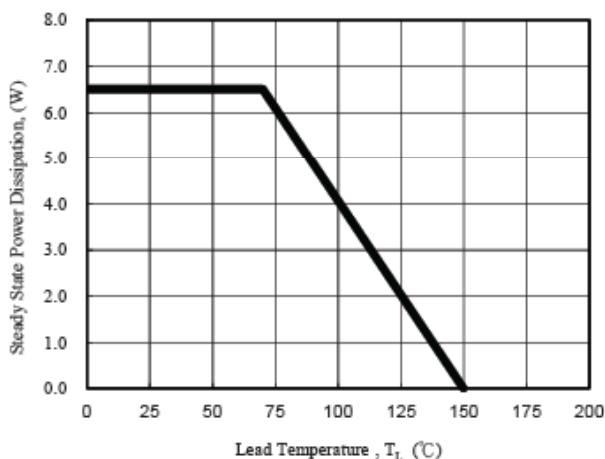


Fig. 3 - Steady State Power Derating Curve

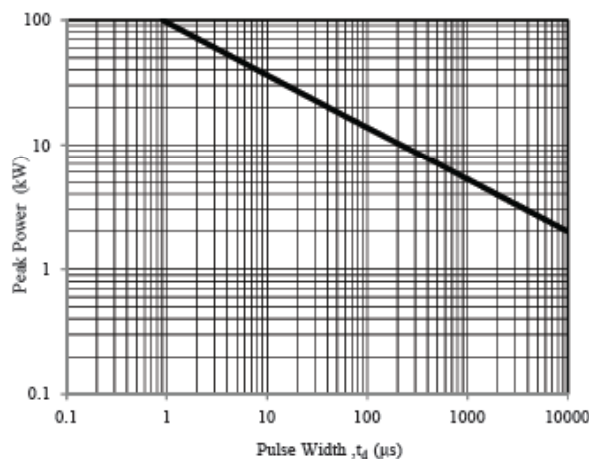


Fig. 4 - Peak Pulse Power Rating Curve

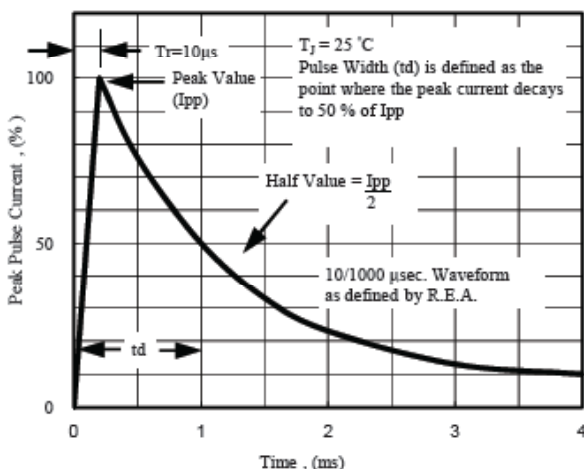


Fig. 5 - Pulse Waveform

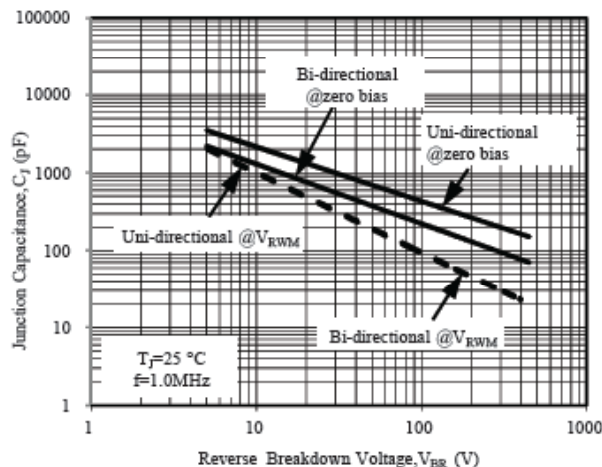
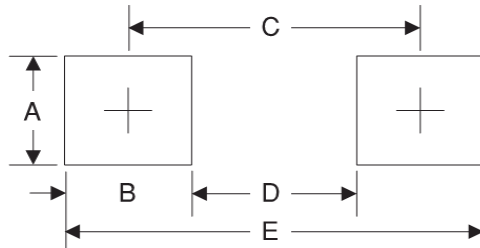


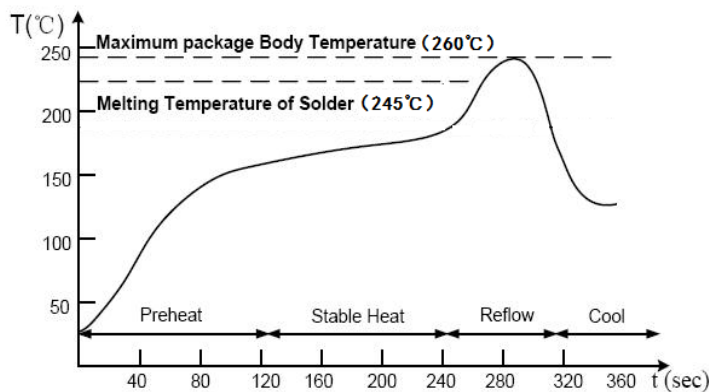
Fig. 6 - Typical Junction Capacitance

Suggested 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

Suggested Soldering Temperature Profile

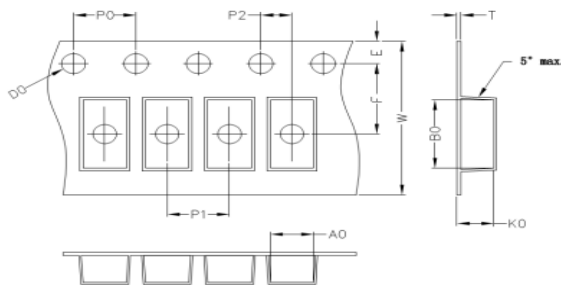


Note

- 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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