



1. Features

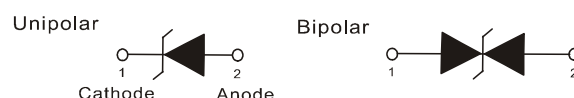
- For surface mounted applications in order to optimize board space.
- Glass passivated junction
- Low inductance
- Plastic package has Underwriters Laboratory Fammability Classification 94V-0
- High temperature soldering : 260°C /10 seconds at terminals
- Meets MSL level 1, per J-STD-020.

Case: SMC(DO-214AB)



2. Mechanical Data

- Case:SMC(DO-214AB) molded plastic
- Terminals: plated leads solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Mounting position: Any



3. Maximum Ratings and Electrical Characteristics

Rating at 25°C Ambient temperature unless otherwise specified. Resistive or inductive load,
For Capacitive load derate current by 20%.

Parameter	Symbol	Value	Unit
Peak pulse power dissipation with a 10/1000 μ s waveform ⁽¹⁾ Fig.2	P_{PPM}	3000	W
Peak pulse current with a waveform ⁽¹⁾	I_{PPM}	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 sine-wave uni-directional only ⁽²⁾	I_{FSM}	300	A
Maximum instantaneous forward voltage at 100A for unidirectional only ⁽³⁾	V_F	3.5/6.5	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.3 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 $V_F < 6.5\text{V}$ for devices of $V_{BR} > 201\text{V}$.



4. Electrical Characteristics (TA=25°C unless otherwise noted)

Part Number (Uni)	Part Number (Bi)	Marking Code		Breakdown Voltage V _{BR} @I _T			Maximum Reverse Leakage I _R @V _{RWM} (uA)	Working Peak Reverse Voltage V _{RWM} (V)	Maximum Reverse Surge Current I _{pp} (A)	Maximum Clamping Voltage V _c @ I _{pp} (V)
		Uni	Bi	Min(V)	Max(V)	I _T (mA)				
SMDJ5.0A	SMDJ5.0CA	RDE	DDE	6.4	7.0	10	800	5.0	326.1	9.2
SMDJ6.0A	SMDJ6.0CA	RDG	DDG	6.67	7.37	10	800	6.0	291.3	10.3
SMDJ6.5A	SMDJ6.5CA	RDK	DDK	7.2	8.0	10	500	6.5	267.9	11.2
SMDJ7.0A	SMDJ7.0CA	PDM	DDM	7.8	8.6	10	200	7.0	250	12
SMDJ7.5A	SMDJ7.5CA	PDP	DDP	8.33	9.21	1	100	7.5	236.6	12.9
SMDJ8.0A	SMDJ8.0CA	PDR	DDR	8.9	9.8	1	50	8.0	220.6	13.6
SMDJ8.5A	SMDJ8.5CA	PDT	DDT	9.44	10.4	1	20	8.5	208.3	14.4
SMDJ9.0A	SMDJ9.0CA	PDV	DDV	10.0	11.1	1	10	9.0	194.8	15.4
SMDJ10A	SMDJ10CA	PDX	DDX	11.1	12.3	1	5	10.0	176.5	17
SMDJ11A	SMDJ11CA	PDZ	DDZ	12.2	13.5	1	2	11.0	164.8	18.2
SMDJ12A	SMDJ12CA	PEE	DEE	13.3	14.7	1	2	12.0	150.8	19.9
SMDJ13A	SMDJ13CA	PEG	DEG	14.4	15.9	1	2	13.0	139.5	21.5
SMDJ14A	SMDJ14CA	PEK	DEK	15.6	17.2	1	2	14.0	129.3	23.2
SMDJ15A	SMDJ15CA	PEM	DEM	16.7	18.5	1	1	15.0	123	24.4
SMDJ16A	SMDJ16CA	PEP	DEP	17.8	19.7	1	1	16.0	115.4	26
SMDJ17A	SMDJ17CA	PER	DER	18.9	20.9	1	1	17.0	108.7	27.6
SMDJ18A	SMDJ18CA	PET	DET	20.0	22.1	1	1	18.0	102.7	29.2
SMDJ20A	SMDJ20CA	PEV	DEV	22.2	24.5	1	1	20.0	92.6	32.4
SMDJ22A	SMDJ22CA	PEX	DEX	24.4	26.9	1	1	22.0	84.5	35.5
SMDJ24A	SMDJ24CA	PEZ	DEZ	26.7	29.5	1	1	24.0	77.1	38.9
SMDJ26A	SMDJ26CA	PFE	DFE	28.9	31.9	1	1	26.0	71.3	42.1
SMDJ28A	SMDJ28CA	PFG	DFG	31.1	34.4	1	1	28.0	66.1	45.4
SMDJ30A	SMDJ30CA	PFK	DFK	33.3	36.8	1	1	30.0	62	48.4
SMDJ33A	SMDJ33CA	PFM	DFM	36.7	40.6	1	1	33.0	56.3	53.3
SMDJ36A	SMDJ36CA	PFP	DFP	40.0	44.2	1	1	36.0	51.6	58.1
SMDJ40A	SMDJ40CA	PFR	DFR	44.4	49.1	1	1	40.0	46.5	64.5
SMDJ43A	SMDJ43CA	PFT	DFT	47.8	52.8	1	1	43.0	43.2	69.4
SMDJ45A	SMDJ45CA	PFV	DFV	50.0	55.3	1	1	45.0	41.3	72.7
SMDJ48A	SMDJ48CA	PFX	DFX	53.3	58.9	1	1	48.0	38.8	77.4
SMDJ51A	SMDJ51CA	PFZ	DFZ	56.7	62.7	1	1	51.0	36.4	82.4
SMDJ54A	SMDJ54CA	RGE	DGE	60.0	66.3	1	1	54.0	34.4	87.1
SMDJ58A	SMDJ58CA	PGG	DGG	64.4	71.2	1	1	58.0	32.1	93.6
SMDJ60A	SMDJ60CA	PGK	DGK	66.7	73.7	1	1	60.0	31	96.8
SMDJ64A	SMDJ64CA	PGM	DGM	71.1	78.6	1	1	64.0	29.1	103.0
SMDJ70A	SMDJ70CA	PGP	DGP	77.8	86.0	1	1	70.0	26.5	113.0
SMDJ75A	SMDJ75CA	PGR	DGR	83.3	92.1	1	1	75.0	24.8	121.0



4. Electrical Characteristics (TA=25°C unless otherwise noted)

Part Number (Uni)	Part Number (Bi)	Marking Code		Breakdown Voltage $V_{BR}@I_T$			Maximum Reverse Leakage $I_R@V_{RWM}$ (uA)	Working Peak Reverse Voltage $V_{RWM}(V)$	Maximum Reverse Surge Current $I_{PP}(A)$	Maximum Clamping Voltage $V_C@$ $I_{PP}(V)$
		Uni	Bi	Min(V)	Max(V)	$I_T(mA)$				
SMDJ78A	SMDJ78CA	PGT	DGT	86.7	95.8	1	1	78.0	23.8	126.0
SMDJ80A	SMDJ80CA	PGU	DGU	88.8	97.6	1	1	80.0	23.2	129.6
SMDJ85A	SMDJ85CA	PGV	DGV	94.4	104.0	1	1	85.0	137	137.0
SMDJ90A	SMDJ90CA	PGX	DGX	100.0	111.0	1	1	90.0	20.5	146.0
SMDJ100A	SMDJ100CA	PGZ	DGZ	111.0	123.0	1	1	100.0	18.5	162.0
SMDJ110A	SMDJ110CA	PHE	DHE	122.0	135.0	1	1	110.0	16.9	177.0
SMDJ120A	SMDJ120CA	PHG	DHG	133.0	147.0	1	1	120.0	15.5	193.0
SMDJ130A	SMDJ130CA	PHK	DHK	144.0	159.0	1	1	130.0	14.4	209.0
SMDJ140A	SMDJ140CA	PHL	DHL	155.0	171.0	1	1	140.0	13.2	226.8
SMDJ150A	SMDJ150CA	PHM	DHM	167.0	185.0	1	1	150.0	12.3	243.0
SMDJ160A	SMDJ160CA	PHP	DHP	178.0	197.0	1	1	160.0	11.6	259.0
SMDJ170A	SMDJ170CA	PHR	DHR	189.0	209.0	1	1	170.0	10.9	275.0
SMDJ180A	SMDJ180CA	PHT	DHT	201.0	222.0	1	1	180.0	10.3	292.0
SMDJ190A	SMDJ190CA	PHV	DHV	211.0	234.0	1	1	190.0	9.7	307.0
SMDJ200A	SMDJ200CA	PHX	DHX	224.0	247.0	1	1	200.0	9.3	324.0
SMDJ210A	SMDJ210CA	PHZ	DHZ	233.0	258.0	1	1	210.0	8.8	337.0
SMDJ220A	SMDJ220CA	PIE	DIE	246.0	272.0	1	1	220.0	8.4	356.0
SMDJ250A	SMDJ250CA	PIG	DIG	279.0	309.0	1	1	250.0	7.4	405.0
SMDJ300A	SMDJ300CA	PIK	DIK	335.0	371.0	1	1	300.0	6.2	486.0
SMDJ350A	SMDJ350CA	PIM	DIM	391.0	432.0	1	1	350.0	5.3	567.0
SMDJ400A	SMDJ400CA	PIP	DIP	447.0	494.0	1	1	400.0	4.7	648.0
SMDJ440A	SMDJ440CA	PIR	DIR	492.0	543.0	1	1	440.0	4.2	713.0

Note:

① Surge waveform: 10/1000μs

V_{RWM} : Stand-off voltage -- Maximum voltage that can be applied

V_{BR} : Breakdown voltage

V_C : Clamping voltage -- Peak voltage measured across the suppressor at a specified I_{PP}

I_R : Reverse leakage current



5. Rating And Characteristic Curves

Fig.1 Derating Curve

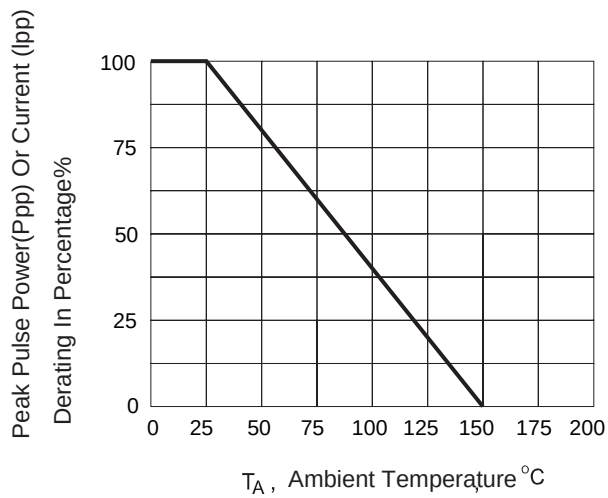


Fig. 2 Peak Pulse Power Rating Curve

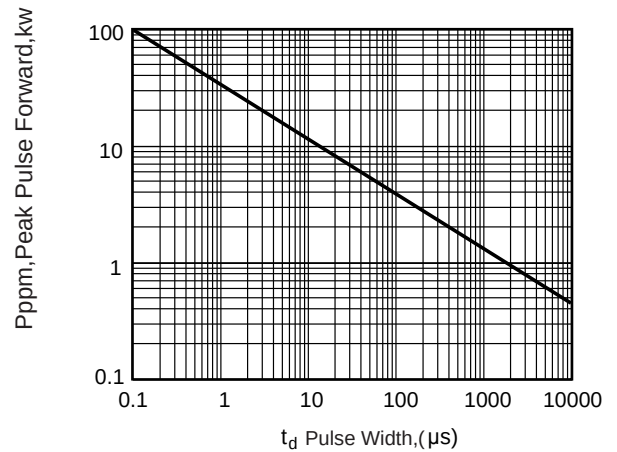


Fig.3 Clamping Power Pulse Waveform

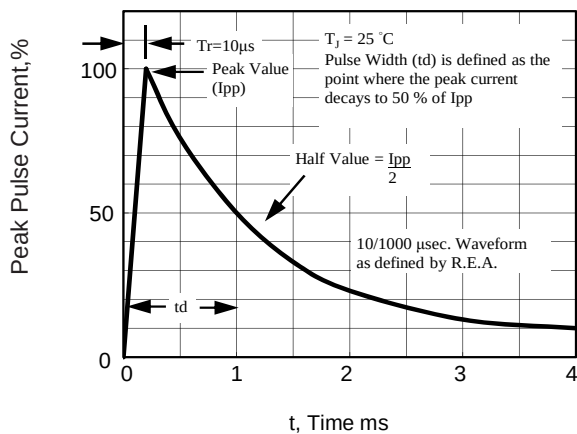
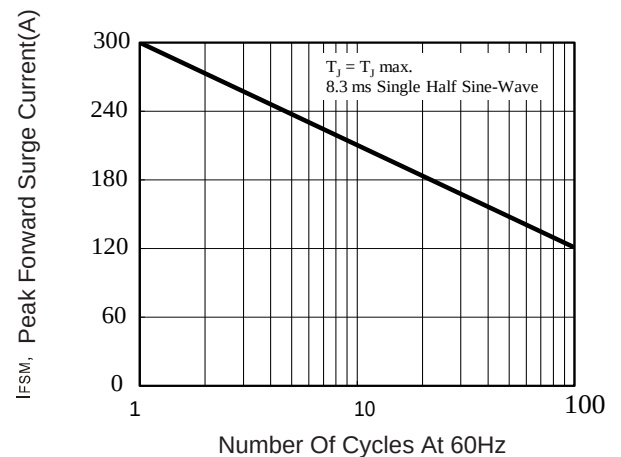
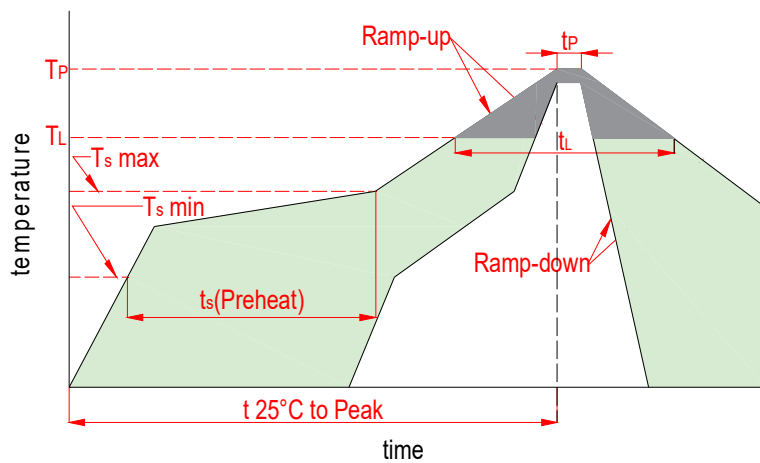


Fig.4 Maximum Non-repetitive Forward Surge Current Unidirectional only



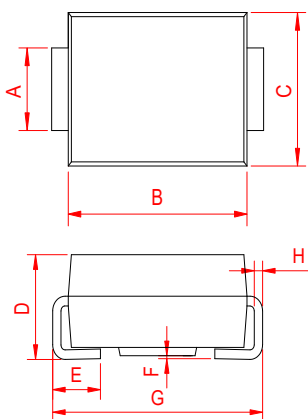


6. Soldering Parameters



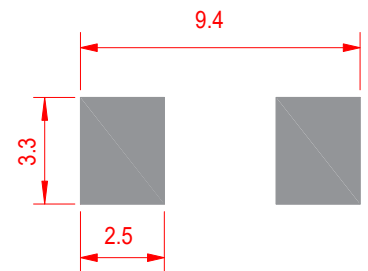
Reflow Condition		Lead-free
Pre Heat	Temp. min($T_s(\min)$)	150℃
	Temp. max($T_s(\min)$)	200℃
	Time(min to max)(t_s)	60~120s
Aver. ramp up rate(Liquidus Temp.)(T_L)to peak		3℃/s max
$T_s(\max)$ to T_L -Ramp-up Rate		3℃/s max
Reflow	Temp.(T_L)(Liquidus)	217℃
	Temp.(t_L)(Liquidus)	60~150s
Peak Temp.(T_p)		260 ^{+0/-5} ℃
Time within actual peak Temp.(t_p)		30s max
Ramp-down Rate		6℃/s max
Time 25℃ to peak Tempe.(T_p)		8 minutes max
Do not exceed		260℃

7. Dimensions



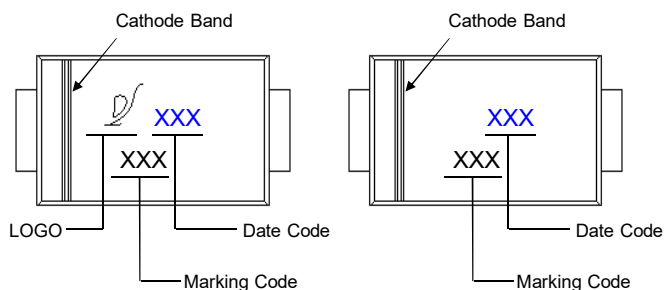
Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.110	0.126	2.80	3.20
B	0.260	0.280	6.60	7.11
C	0.220	0.245	5.59	6.22
D	0.079	0.103	2.00	2.62
E	0.039	0.063	1.00	1.60
F	0.002	0.008	0.05	0.20
G	0.305	0.320	7.75	8.13
H	0.006	0.014	0.15	0.35

Mounting PAD Layout

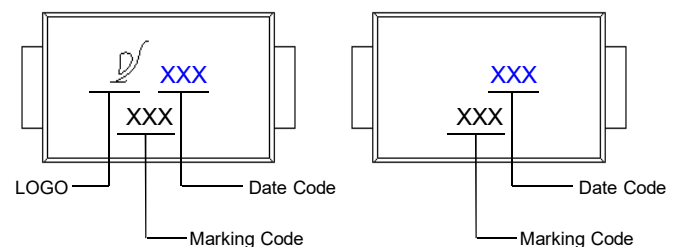


8. Part Marking System

Unipolar



Bipolar



9. Package Information

Package	Tape Width (mm)	Reel Size		Quantity(pcs)
		mm	inch	
SMC(DO-214AB)	16	330	13	3000



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