

SMDJ-AM Series

Product Name	ESD TVS (Transient Voltage Suppressor)
Series	SMDJ-AM Series
Package Size	DO-214AB



SMDJ-AM Series Engineering Specification

1. Features

- 3000W surface mount transient voltage suppressors
- Glass passivated chip junction
- Reliable low cost construction utilizing molded plastic technique
- Excellent clamping capability
- Low incremental surge resistance.
- Fast response time
- Qualified to AEC-Q101 standards for high reliability

2. Mechanical Date

- Case: Molded plastic DO-214AB
- 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

3. Pinning Information

Pin	Simplified outline	Symbol
Uni-Directional Pin1 cathode Pin2 anode		
Bi-Directional		

4. Maximum Ratings @Ta=25°C unless otherwise noted

Parameter	Symbol	Value	Unit
Peak power dissipation with a 10/1000μs waveform ⁽¹⁾	P _{PP}	3000	W
Peak pulse current with a 10/1000μs waveform ⁽¹⁾	I _{PP}	See Next Table	A
Power dissipation on infinite heatsink at T _L = 75 °C	P _D	6.5	W
Peak forward surge current, 8.3 ms single half sine-wave unidirectional only ⁽²⁾	I _{FSM}	300	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	°C

(1) Non-repetitive current pulse per Fig.5 and derated above TA= 25 °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) VF<3.5V for devices of VBR<200V and VF<5.0V for devices of VBR>201V

5. Electrical characteristics

Part Number		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)
Uni	Bi	Uni	Bi	Min (V)	Max (V)	I_T (mA)				
SMDJ10A-AM	SMDJ10CA-AM	PDXA	DDXA	11.10	12.30	1	15	10.0	176.47	17.0
SMDJ11A-AM	SMDJ11CA-AM	PDZA	DDZA	12.20	13.50	1	2	11.0	164.84	18.2
SMDJ12A-AM	SMDJ12CA-AM	PEEA	DEEA	13.30	14.70	1	2	12.0	150.75	19.9
SMDJ13A-AM	SMDJ13CA-AM	PEGA	DEGA	14.40	15.90	1	2	13.0	139.53	21.5
SMDJ14A-AM	SMDJ14CA-AM	PEKA	DEKA	15.60	17.20	1	2	14.0	129.31	23.2
SMDJ15A-AM	SMDJ15CA-AM	PEMA	DEMA	16.70	18.50	1	2	15.0	122.95	24.4
SMDJ16A-AM	SMDJ16CA-AM	PEPA	DEPA	17.80	19.70	1	2	16.0	115.38	26.0
SMDJ17A-AM	SMDJ17CA-AM	PERA	DERA	18.90	20.90	1	2	17.0	108.70	27.6
SMDJ18A-AM	SMDJ18CA-AM	PETA	DETA	20.00	22.10	1	2	18.0	102.74	29.2
SMDJ19A-AM	SMDJ19CA-AM	PEBA	DEBA	21.10	23.30	1	2	19.0	97.47	30.8
SMDJ20A-AM	SMDJ20CA-AM	PEVA	DEVA	22.20	24.50	1	2	20.0	92.59	32.4
SMDJ22A-AM	SMDJ22CA-AM	PEXA	DEXA	24.40	26.90	1	2	22.0	84.51	35.5
SMDJ24A-AM	SMDJ24CA-AM	PEZA	DEZA	26.70	29.50	1	2	24.0	77.12	38.9
SMDJ26A-AM	SMDJ26CA-AM	PFEA	DFEA	28.90	31.90	1	2	26.0	71.26	42.1
SMDJ28A-AM	SMDJ28CA-AM	PFGA	DFGA	31.10	34.40	1	2	28.0	66.08	45.4
SMDJ30A-AM	SMDJ30CA-AM	PFKA	DFKA	33.30	36.80	1	2	30.0	61.98	48.4
SMDJ33A-AM	SMDJ33CA-AM	PFMA	DFMA	36.70	40.60	1	2	33.0	56.29	53.3
SMDJ36A-AM	SMDJ36CA-AM	PFPA	DFPA	40.00	44.20	1	2	36.0	51.64	58.1
SMDJ40A-AM	SMDJ40CA-AM	PFRA	DFRA	44.40	49.10	1	2	40.0	46.51	64.5
SMDJ43A-AM	SMDJ43CA-AM	PFTA	DFTA	47.80	52.80	1	2	43.0	43.23	69.4

6. Typical Characteristics

Fig. 1 - Pulse Derating Curve

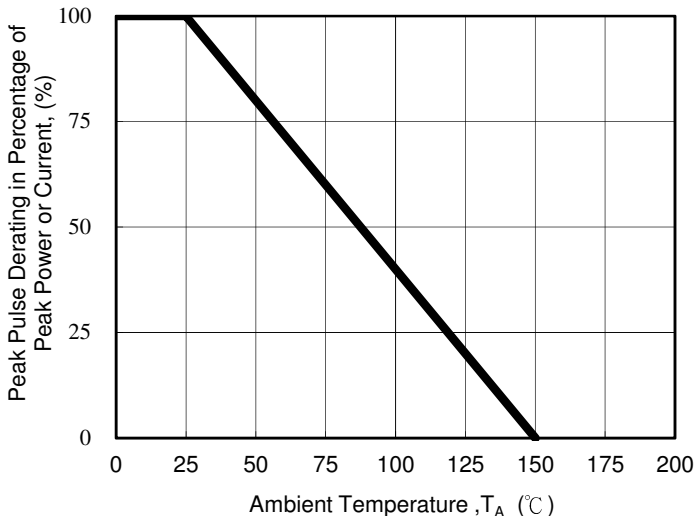


Fig. 2 - Maximum Non-Repetitive Surge Current

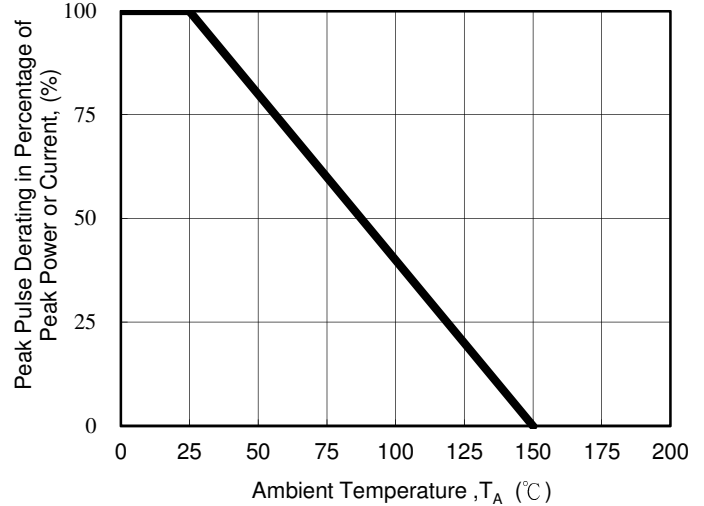


Fig. 3 - Steady State Power Derating Curve

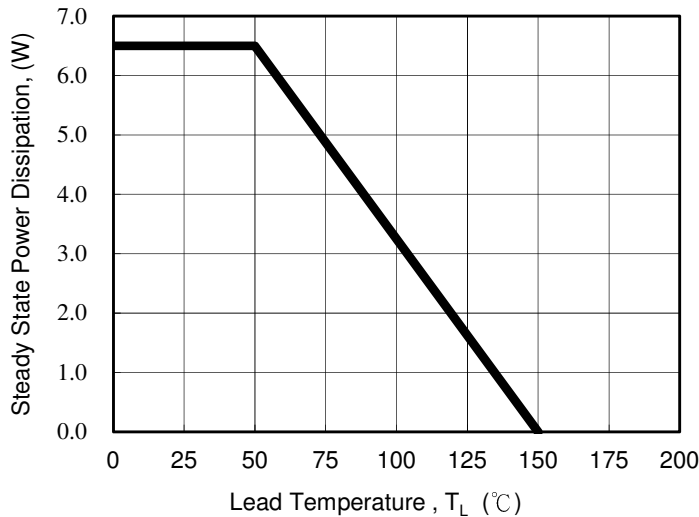


Fig. 4 - Peak Pulse Power Rating Curve

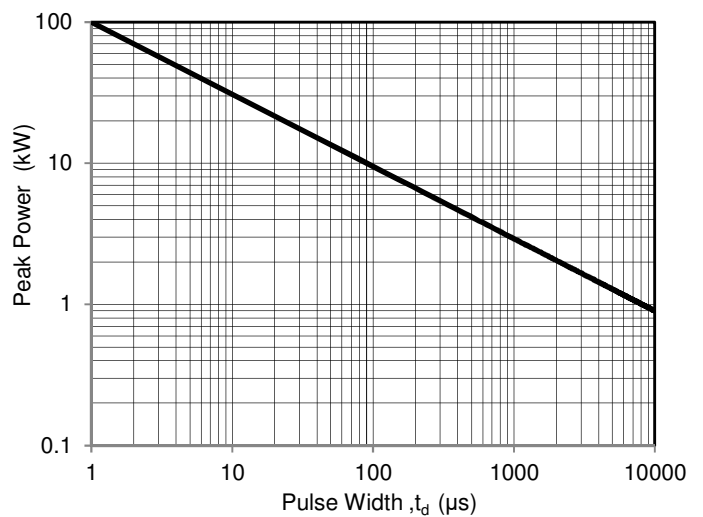


Fig. 5 - Pulse Waveform

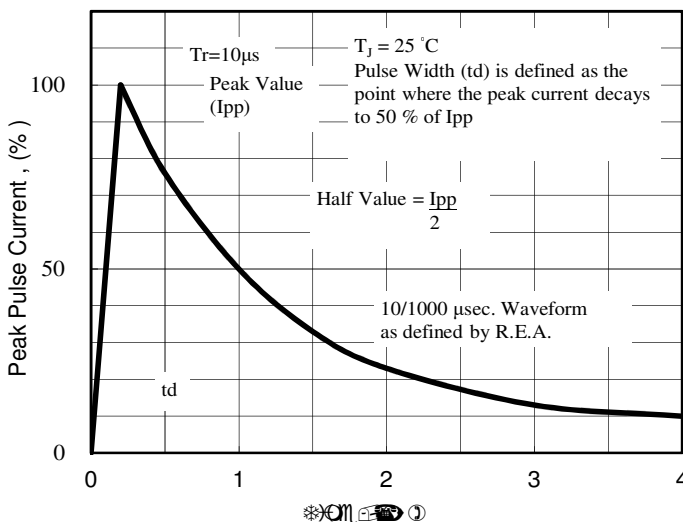
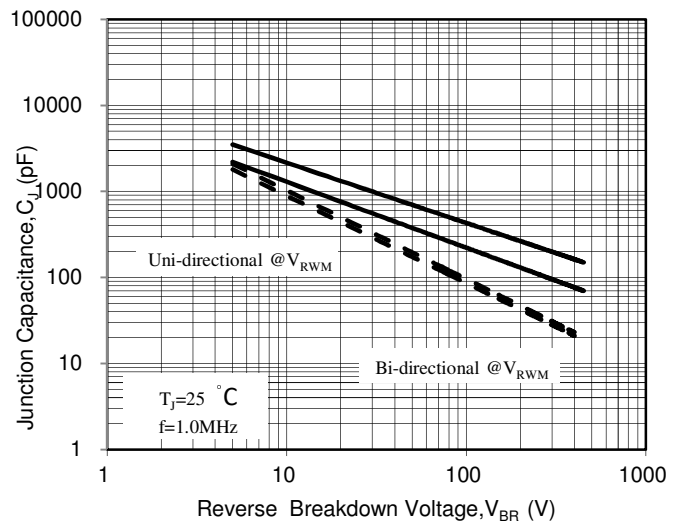
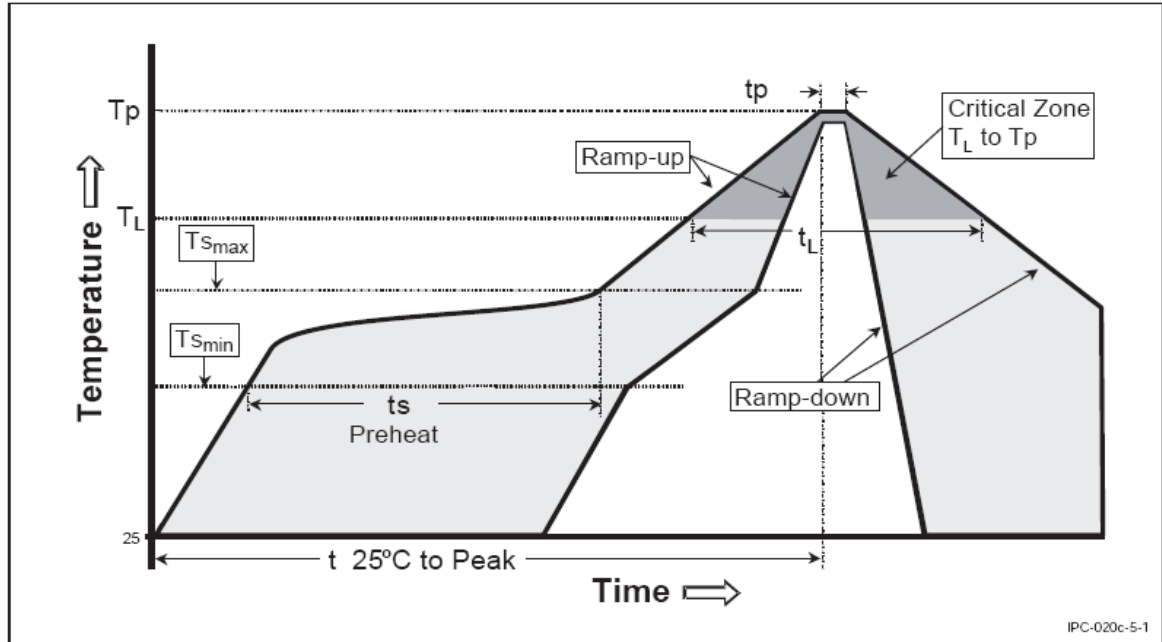


Fig. 6 - Typical Junction Capacitance

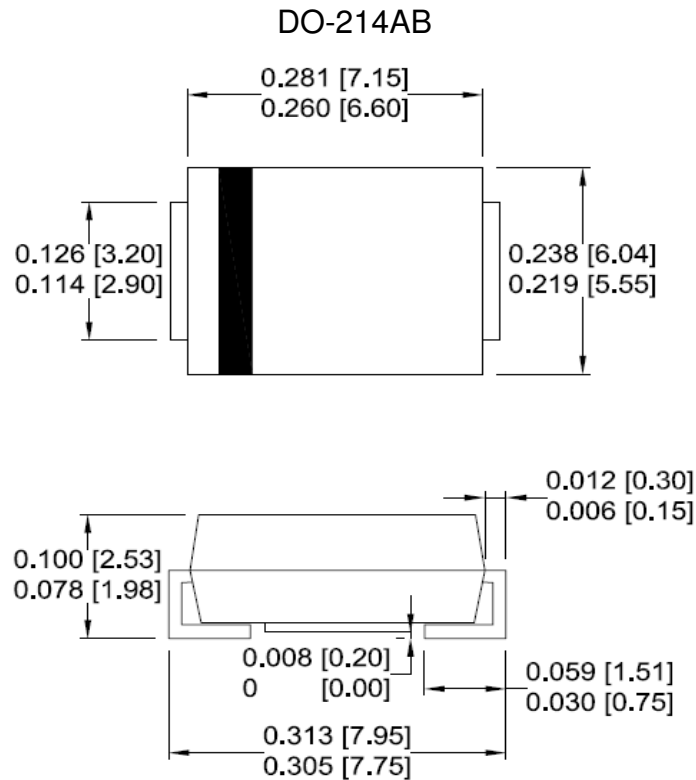


7. Reflow Soldering

Profile Feature	Pb-Free Assembly
Average Ramp-Up Rate (T _{smax} to T _p)	3° C/second max.
Preheat <ul style="list-style-type: none"> – Temperature Min (T_{smin}) – Temperature Max (T_{smax}) – Time (t_{smin} to t_{smax}) 	150 °C 200 °C 60-120 seconds
Time maintained above: <ul style="list-style-type: none"> – Temperature (T_L) – Time (t_L) 	217 °C 60-150 seconds
Peak/Classification Temperature (T _p)	260 °C
Time within 5 °C of actual Peak Temperature (t _p)	30 seconds
Ramp-Down Rate	6 °C/second max.
Time 25 °C to Peak Temperature	8 minutes max.

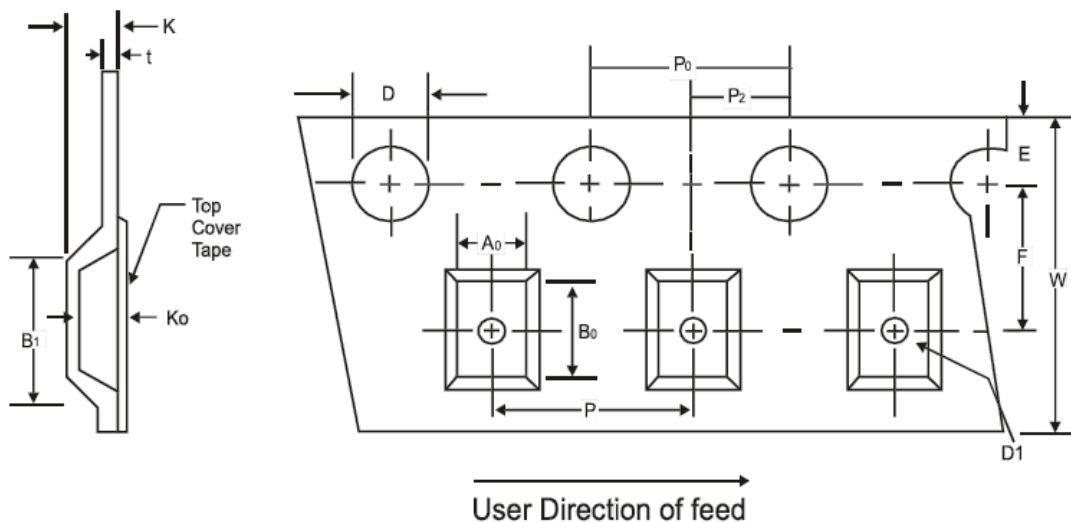


8. Outline Dimensions

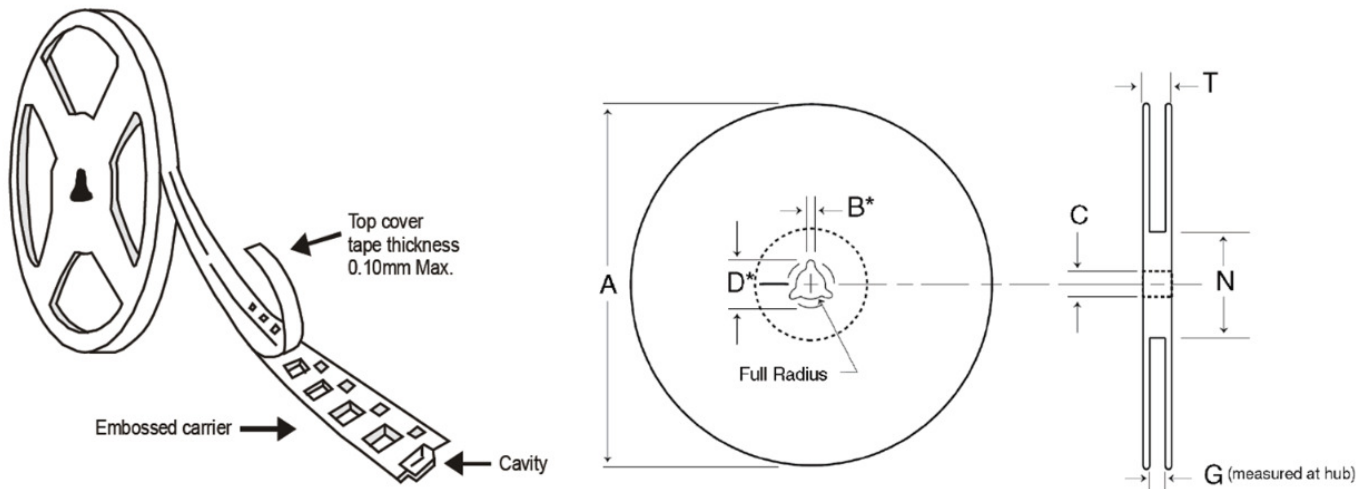


Dimensions: inch[mm]

9. Tape & Reel Information

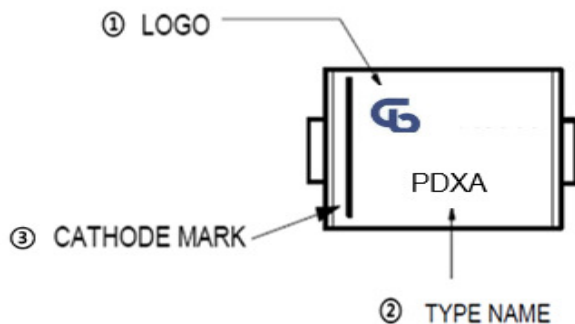


Symbol	W	D	E	P0	t	B1	D1	F	K	P2	P
DO-214AB	16.0±0.1	1.55±0.05	1.75±0.05	4.0±0.1	0.4	12.1	1.5	7.5±0.05	8	2.0±0.05	8.0±0.1
Unit : mm					max	max	min		max		



Symbol	Tape Size	A	B	C	D	N	G	T
DO-214AB Unit : mm	16	330±2.0 (13inch)	1.5 max	13±0.5	20.2 max	50 min	18.4 max	22.4 max

10. Marking Code



1. INPAQ LOGO
2. TYPE NAME (By Device Marking Code)
3. CATHODE MARK (For Uni-direction Products Only)

11. Order Information

Part Number	Quantity	Packaging Option
SMCJ-AM Series	3000 /reel	tape/13"reel

12. MSL Level

LEVEL 1