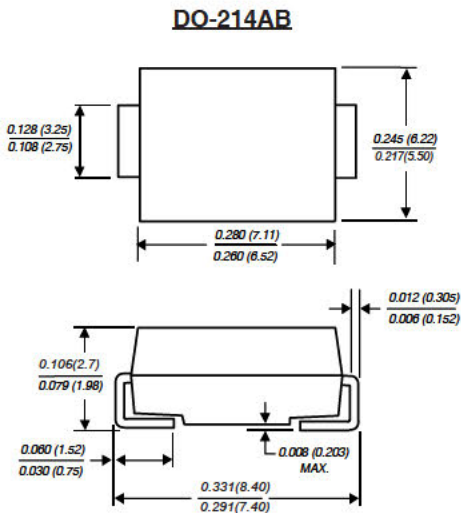


V. Transient Voltage Suppressor

3000W Surface Mount TVS (Stand-off Voltage: 5.0~440 Volts)

SMDJ Series

(Package: SMC (DO-214AB))



Dimensions in inches and (millimeters)

FEATURES

- For surface mounted applications in order to optimize board space
- Low profile package
- Built-in strain relief
- Glass passivated junction
- Low inductance
- Excellent clamping capability
- Repetition rate (duty cycle):0.01%
- Fast response time: typically less than 1.0 ps from 0 volts to BV for unidirectional types
- Typical IR less than 1 μ A above 10V
- High temperature soldering:
250°C/10 seconds at terminals
- Plastic package has Underwriters Laboratory Flammability Classification 94 V-O

MECHANICAL DATA

Case: JEDEC DO214AB. Molded plastic over glass passivated junction

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

Polarity: Color band denoted positive end (cathode) except Bidirectional

Standard Packaging: 16mm tape (EIA STD RS-481)

Weight: 0.007 ounces, 0.21 grams)

MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

RATING	SYMBOL	VALUE	UNITS
Peak Pulse Power Dissipation on 10/1000 μ s waveform (NOTE 1, 2, Fig.1)	P_{PPM}	Minimum 3000	Watts
Peak Pulse Current of on 10/1000 μ s waveform (Note 1, Fig 3)	I_{PPM}	SEE TABLE 1	Amps
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load, (JEDEC Method)(Note2, 3)	I_{FSM}	300	Amps
Operating and Storage Temperature Range	T_J, T_{STG}	-55 +150	°C

NOTES:

1. Non-repetitive current pulse, per Fig.3 and derated above $T_a=25^\circ\text{C}$ per Fig.2.
2. Mounted on 8.0mm x 8.0mm Copper Pads to each terminal.
3. 8.3ms single half sine-wave, or equivalent square wave, Duty cycle=4 pulses per minutes maximum.

Ratings and Characteristic of SMDJ series

ELECTRICAL CHARACTERISTICS (at TA=25°C unless otherwise noted)

Part Number Add C For Bi-Directional (Note 4)	Reverse Standoff Voltage V _{RWM} (V)	Breakdown Voltage V _{BR} @ I _T (Note 5)		Test Current I _T (mA)	Max. Reverse Leakage @ V _{RWM} (Note 6)	Max. Clamping Voltage @ I _{pp}	Max. Peak Pulse Current I _{pp}	Marking Code	
		Min (V)	Max (V)					UNI-	BI-
SMDJ5.0(C)A	5.0	6.40	7.00	10	800	9.2	326.09	RDE	DDE
SMDJ6.0(C)A	6.0	6.67	7.37	10	800	10.3	291.26	RDG	DDG
SMDJ6.5(C)A	6.5	7.22	7.98	10	500	11.2	267.86	RDK	DDK
SMDJ7.0(C)A	7.0	7.78	8.60	10	200	12.0	250.00	PDM	DDM
SMDJ7.5(C)A	7.5	8.33	9.21	1.0	100	12.9	232.56	PDP	DDP
SMDJ8.0(C)A	8.0	8.89	9.83	1.0	50	13.6	220.59	PDR	DDR
SMDJ8.5(C)A	8.5	9.44	10.40	1.0	20	14.4	208.33	PDT	DDT
SMDJ9.0(C)A	9.0	10.00	11.10	1.0	10	15.4	194.81	PDV	DDV
SMDJ10(C)A	10.0	11.10	12.30	1.0	5.0	17.0	176.47	PDX	DDX
SMDJ11(C)A	11.0	12.20	13.50	1.0	5.0	18.2	164.84	PDZ	DDZ
SMDJ12(C)A	12.0	13.30	14.70	1.0	2.0	19.9	150.75	PEE	DEE
SMDJ13(C)A	13.0	14.40	15.90	1.0	2.0	21.5	139.53	PEG	DEG
SMDJ14(C)A	14.0	15.60	17.20	1.0	2.0	23.2	129.31	PEK	DEK
SMDJ15(C)A	15.0	16.70	18.50	1.0	1.0	24.4	122.95	PEM	DEM
SMDJ16(C)A	16.0	17.80	19.70	1.0	1.0	26.0	115.38	PEP	DEP
SMDJ17(C)A	17.0	18.90	20.90	1.0	1.0	27.6	108.70	PER	DER
SMDJ18(C)A	18.0	20.00	22.10	1.0	1.0	29.2	102.74	PET	DET
SMDJ20(C)A	20.0	22.20	24.50	1.0	1.0	32.4	92.59	PEV	DEV
SMDJ22(C)A	22.0	24.40	26.90	1.0	1.0	35.5	84.51	PEX	DEX
SMDJ24(C)A	24.0	26.70	29.50	1.0	1.0	38.9	77.12	PEZ	DEZ
SMDJ26(C)A	26.0	28.90	31.90	1.0	1.0	42.1	71.26	PFE	DFE
SMDJ28(C)A	28.0	31.10	34.40	1.0	1.0	45.4	66.08	PFG	DFG
SMDJ30(C)A	30.0	33.30	36.80	1.0	1.0	48.4	61.98	PFK	DFK
SMDJ33(C)A	33.0	36.70	40.60	1.0	1.0	53.3	56.29	PFM	DFM
SMDJ36(C)A	36.0	40.00	44.20	1.0	1.0	58.1	51.64	PFP	DFP
SMDJ40(C)A	40.0	44.40	49.10	1.0	1.0	64.5	46.51	PFR	DFR
SMDJ43(C)A	43.0	47.80	52.80	1.0	1.0	69.4	43.23	PFT	DFT
SMDJ45(C)A	45.0	50.00	55.30	1.0	1.0	72.7	41.27	PFV	DFV
SMDJ48(C)A	48.0	53.30	58.90	1.0	1.0	77.4	38.76	PFX	DFX
SMDJ51(C)A	51.0	56.70	62.70	1.0	1.0	82.4	36.41	PFZ	DFZ
SMDJ54(C)A	54.0	60.00	66.30	1.0	1.0	87.1	34.44	PGE	DGE
SMDJ58(C)A	58.0	64.40	71.20	1.0	1.0	93.6	32.05	PGG	DGG
SMDJ60(C)A	60.0	66.70	73.70	1.0	1.0	96.8	30.99	PGK	DGK
SMDJ64(C)A	64.0	71.10	78.60	1.0	1.0	103.0	29.13	PGM	DGM
SMDJ70(C)A	70.0	77.80	86.00	1.0	1.0	113.0	26.55	PGP	DGR
SMDJ75(C)A	75.0	83.30	92.10	1.0	1.0	121.0	24.79	PGR	DGR

Ratings and Characteristic of SMDJ seeries

ELECTRICAL CHARACTERISTICS (at T_A=25°C unless otherwise noted)

Part Number Add C For Bi-Directional (Note 4)	Reverse Standoff Voltage V _{RWM} (V)	Breakdown Voltage V _{BR} @ I _T (Note 5)		Test Current I _T (mA)	Max. Reverse Leakage @ V _{RWM} (Note 6) I _R (μA)	Max. Clamping Voltage @ I _{pp} V _C (V)	Max. Peak Pulse Current I _{pp} (A)	Marking Code	
		Min (V)	Max (V)					UNI-	BI-
SMDJ78(C)A	78.0	86.70	95.80	1.0	1.0	126.0	23.81	PGT	DGT
SMDJ85(C)A	85.0	94.40	104.00	1.0	1.0	137.0	21.90	PGV	DGV
SMDJ90(C)A	90.0	100.0	111.00	1.0	1.0	146.0	20.55	PGX	DGX
SMDJ100(C)A	100.0	111.0	123.00	1.0	1.0	162.0	18.52	PGZ	DGZ
SMDJ110(C)A	110.0	122.0	135.00	1.0	1.0	177.0	16.95	PHE	DHE
SMDJ120(C)A	120.0	133.0	147.00	1.0	1.0	193.0	15.54	PHG	DHG
SMDJ130(C)A	130.0	144.0	159.00	1.0	1.0	209.0	14.35	PHK	DHK
SMDJ150(C)A	150.0	167.0	185.00	1.0	1.0	243.0	12.35	PHM	DHM
SMDJ160(C)A	160.0	178.0	197.00	1.0	1.0	259.0	11.58	PHP	DHP
SMDJ170(C)A	170.0	189.0	209.00	1.0	1.0	275.0	10.91	PHR	DHR
SMDJ180(C)A	180.0	200.0	220.00	1.0	1.0	291.6	10.29	PHT	DHT
SMDJ190(C)A	190.0	211.0	232.00	1.0	1.0	307.8	9.75	PHV	DHV
SMDJ200(C)A	200.0	224.0	247.00	1.0	1.0	324.0	9.26	PHW	DHW
SMDJ220(C)A	220.0	246.0	272.00	1.0	1.0	356.0	8.43	PHX	DHX
SMDJ250(C)A	250.0	279.0	309.00	1.0	1.0	405.0	7.41	PHZ	DHZ
SMDJ300(C)A	300.0	335.0	371.00	1.0	1.0	486.0	6.17	PJE	DJE
SMDJ350(C)A	350.0	391.0	432.00	1.0	1.0	567.0	5.29	PJG	DJG
SMDJ400(C)A	400.0	447.0	494.00	1.0	1.0	648.0	4.63	PJK	DJK
SMDJ440(C)A	440.0	492.0	543.00	1.0	1.0	713.0	4.21	PJM	DJM

- Notes:
4. Suffix C denotes Bi-directional device.
 5. V_{BR} measured with I_T current pulse = 300μs
 6. For Bi-Directional devices having V_{RWM} of 10V and under, the I_R is doubled.

Ratings and Characteristic Curves of SMDJ series

Fig. 1 - Peak Pulse Power Rating Curve

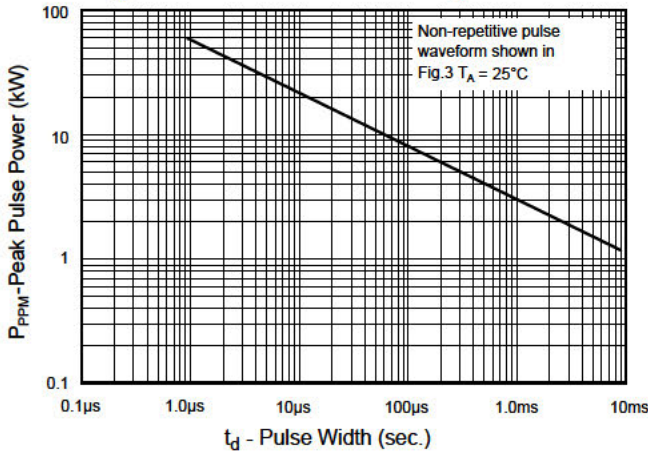


Fig.2 - Pulse Derating Curve

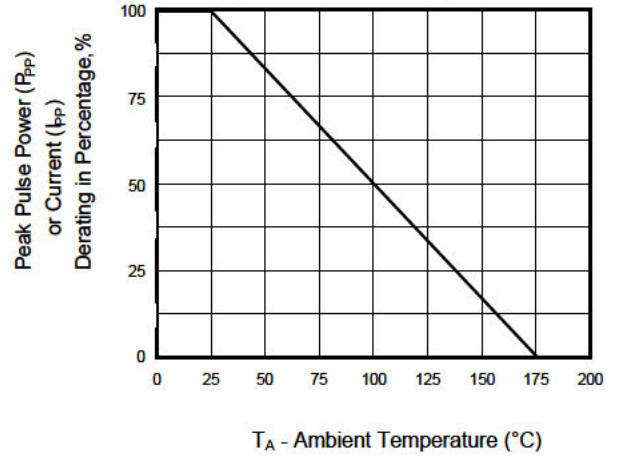


Fig.3 - Pulse Waveform

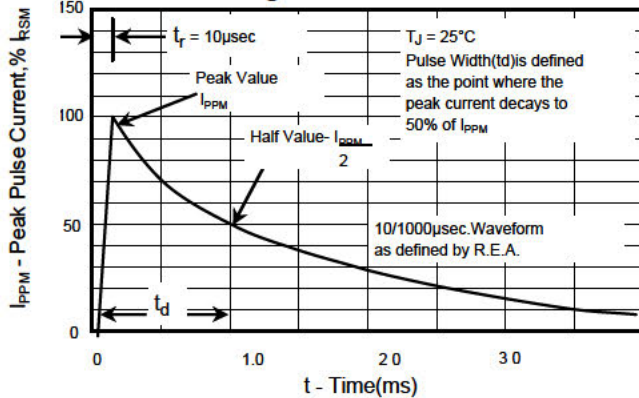


Fig. 4 - Typical Junction Capacitance

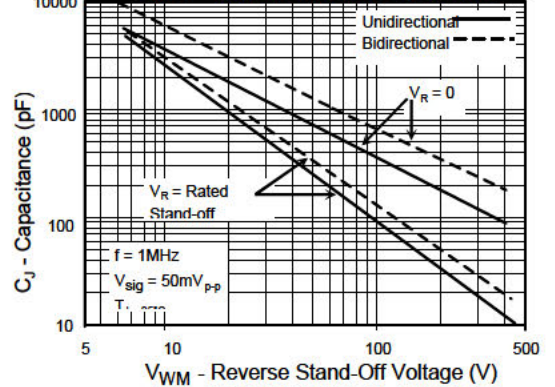


Fig. 5 - Steady State Power Derating Curve

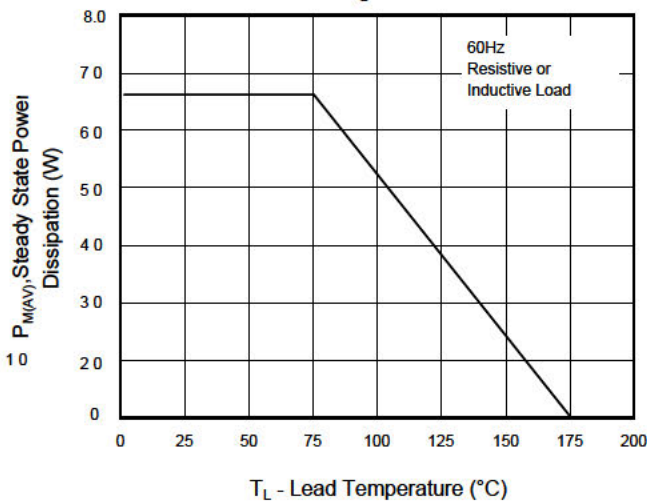


Fig.6 - Maximum Non-Repetitive Forward Surge Current Uni-Directional Only

