V. Transient Voltage Suppressor

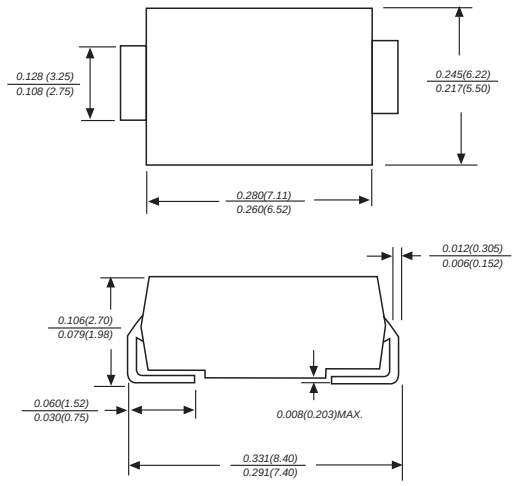
3000W Surface Mount TVS (Reverse Stand-off Voltage: 5.0~440 Volts)
SMDJ Series (Package: SMC (DO-214AB))

FEATURES

- Glass passivated chip
- 3000W peak pulse power capability with a 10/1000μs waveform, repetitive rate (duty cycle): 0.01%
- Excellent clamping capability
- Low reverse leakage
- Very fast response time
- Lead and body according with RoHS standard

MECHANICAL DATA

- Case : Molded plastic
- Lead : Solderable per MIL-STD-750, Method 2026
- Epoxy : UL 94V-0 rate flame retardant
- Polarity : Color band denotes cathode end except Bipolar
- Mounting position : Any



Case: SMC
Dimensions in inches and (millimetres)

Devices for Bi-Directional Applications

For bi-directional devices use suffix “CA” for types SMDJ5.0CA thru SMDJ440CA (e.g. SMDJ28CA)
Electrical characteristics apply in both directions.

Maximum Ratings, Thermal & Electrical Characteristics

(Ratings at 25℃ ambient temperature unless otherwise specified)

Ratings	Symbol	Value	Units
Peak power dissipation with a 10/1000μs waveform(1)	P_{PPM}	3000	Watts
Peak pulse current with a 10/1000μs waveform(1)	I_{PPM}	See next table	Amps
Power dissipation on infinite heatsink at T_L = 75℃	P_D	6.5	Watts
Peak forward surge current, 8.3ms single half sine-wave unidirectional only(2)	I_{FSM}	300	Amps
Maximum instantaneous forward voltage at 100A for unidirectional only(3)	V_F	3.5/6.5	Volts
Operating junction and storage temperature range	Tj, Tstg	-55 to +150	℃

Note:
1. Non-repetitive current pulse per Fig.5 and derated above Ta = 25℃ per Fig.1
2. Measured on 8.3ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.
3. V_F<3.5V for devices of $V_{(BR)}$<200V and V_F<6.5V for devices of $V_{(BR)}$>201V

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Device Type	Device Marking Code			Reverse Stand-off Voltage	Breakdown Voltage $V_{(BR)}$ @ I_T		Test Current	Max. Clamping Voltage @ I_{PPM}	Max. Peak Pulse Current	Max. Reverse Leakage @ V_{RWM}
	Option 1	Option 2								
	Full Part Number	UNI-	BI-	V_{RWM} (V)	Min (V)	Max (V)	I_T (mA)	V_C Max.(V)	I_{PPM} (A)	I_R (μA)
SMDJ5.0(C)A	Full PN	RDE	DDE	5.0	6.40	7.00	10	9.2	326.1	800
SMDJ6.0(C)A	Full PN	RDG	DDG	6.0	6.67	7.37	10	10.3	291.3	800
SMDJ6.5(C)A	Full PN	RDK	DDK	6.5	7.22	7.98	10	11.2	267.9	500
SMDJ7.0(C)A	Full PN	PDM	DDM	7.0	7.78	8.60	10	12.0	250.0	200
SMDJ7.5(C)A	Full PN	PDP	DDP	7.5	8.33	9.21	1	12.9	232.6	100
SMDJ8.0(C)A	Full PN	PDR	DDR	8.0	8.89	9.83	1	13.6	220.6	50
SMDJ8.5(C)A	Full PN	PDT	DDT	8.5	9.44	10.40	1	14.4	208.3	20
SMDJ9.0(C)A	Full PN	PDV	DDV	9.0	10.00	11.10	1	15.4	194.8	10
SMDJ10(C)A	Full PN	PDX	DDX	10.0	11.10	12.30	1	17.0	176.5	5
SMDJ11(C)A	Full PN	PDZ	DDZ	11.0	12.20	13.50	1	18.2	164.8	1
SMDJ12(C)A	Full PN	PEE	DEE	12.0	13.30	14.70	1	19.9	150.8	1
SMDJ13(C)A	Full PN	PEG	DEG	13.0	14.40	15.90	1	21.5	139.5	1
SMDJ14(C)A	Full PN	PEK	DEK	14.0	15.60	17.20	1	23.2	129.3	1
SMDJ15(C)A	Full PN	PEM	DEM	15.0	16.70	18.50	1	24.4	123.0	1
SMDJ16(C)A	Full PN	PEP	DEP	16.0	17.80	19.70	1	26.0	115.4	1
SMDJ17(C)A	Full PN	PER	DER	17.0	18.90	20.90	1	27.6	108.7	1
SMDJ18(C)A	Full PN	PET	DET	18.0	20.00	22.10	1	29.2	102.7	1
SMDJ20(C)A	Full PN	PEV	DEV	20.0	22.20	24.50	1	32.4	92.6	1
SMDJ22(C)A	Full PN	PEX	DEX	22.0	24.40	26.90	1	35.5	84.5	1
SMDJ24(C)A	Full PN	PEZ	DEZ	24.0	26.70	29.50	1	38.9	77.1	1
SMDJ26(C)A	Full PN	PFE	DFE	26.0	28.90	31.90	1	42.1	71.3	1
SMDJ28(C)A	Full PN	PFG	DFG	28.0	31.10	34.40	1	45.4	66.1	1
SMDJ30(C)A	Full PN	PFK	DFK	30.0	33.50	36.80	1	48.4	62.0	1
SMDJ33(C)A	Full PN	PFM	DFM	33.0	36.70	40.60	1	53.3	56.3	1
SMDJ36(C)A	Full PN	PFP	DFP	36.0	40.00	44.20	1	58.1	51.6	1
SMDJ40(C)A	Full PN	PFR	DFR	40.0	44.40	49.10	1	64.5	46.5	1
SMDJ43(C)A	Full PN	PFT	DFT	43.0	47.80	52.80	1	69.4	43.2	1
SMDJ45(C)A	Full PN	PFV	DFV	45.0	50.00	55.30	1	72.7	41.3	1
SMDJ48(C)A	Full PN	PFX	DFX	48.0	53.30	58.90	1	77.4	38.8	1
SMDJ51(C)A	Full PN	PFZ	DFZ	51.0	56.70	62.70	1	82.4	36.4	1
SMDJ54(C)A	Full PN	PGE	DGE	54.0	60.00	66.30	1	87.1	34.4	1
SMDJ58(C)A	Full PN	PGG	DGG	58.0	64.40	71.20	1	93.6	32.1	1
SMDJ60(C)A	Full PN	PGK	DGK	60.0	66.70	73.70	1	96.8	31.0	1
SMDJ64(C)A	Full PN	PGM	DGM	64.0	71.10	78.60	1	103.0	29.1	1
SMDJ70(C)A	Full PN	PGP	DGP	70.0	77.80	86.00	1	113.0	26.5	1
SMDJ75(C)A	Full PN	PGR	DGR	75.0	83.30	92.10	1	121.0	24.8	1
SMDJ78(C)A	Full PN	PGT	DGT	78.0	86.70	95.80	1	126.0	23.8	1
SMDJ85(C)A	Full PN	PGV	DGV	85.0	94.40	104.0	1	137.0	21.9	1
SMDJ90(C)A	Full PN	PGX	DGX	90.0	100.0	111.0	1	146.0	20.5	1
SMDJ100(C)A	Full PN	PGZ	DGZ	100.0	111.0	123.0	1	162.0	18.5	1
SMDJ110(C)A	Full PN	PHE	DHE	110.0	122.0	135.0	1	177.0	16.9	1
SMDJ120(C)A	Full PN	PHG	DHG	120.0	133.0	147.0	1	193.0	15.5	1
SMDJ130(C)A	Full PN	PHK	DHK	130.0	144.0	159.0	1	209.0	14.4	1
SMDJ150(C)A	Full PN	PHM	DHM	150.0	167.0	185.0	1	243.0	12.3	1
SMDJ160(C)A	Full PN	PHP	DHP	160.0	178.0	197.0	1	259.0	11.6	1
SMDJ170(C)A	Full PN	PHR	DHR	170.0	189.0	209.0	1	275.0	10.9	1
SMDJ180(C)A	Full PN	PHT	DHT	180.0	201.0	222.0	1	292.0	10.3	1
SMDJ190(C)A	Full PN	PHV	DHV	190.0	209.0	243.0	1	308.0	9.7	1
SMDJ200(C)A	Full PN	PHX	DHX	200.0	224.0	247.0	1	324.0	9.3	1
SMDJ210(C)A	Full PN	PHZ	DHZ	210.0	231.0	268.0	1	340.0	8.8	1
SMDJ220(C)A	Full PN	PIE	DIE	220.0	246.0	272.0	1	356.0	8.4	1
SMDJ250(C)A	Full PN	PIG	DIG	250.0	279.0	309.0	1	405.0	7.4	1
SMDJ300(C)A	Full PN	PIK	DIK	300.0	335.0	371.0	1	486.0	6.2	1
SMDJ350(C)A	Full PN	PIM	DIM	350.0	391.0	432.0	1	567.0	5.3	1
SMDJ400(C)A	Full PN	PIP	DIP	400.0	447.0	494.0	1	648.0	4.6	1
SMDJ440(C)A	Full PN	PIR	DIR	440.0	492.0	543.0	1	713.0	4.2	1

Ratings and Characteristic Curves of SMDJ Series

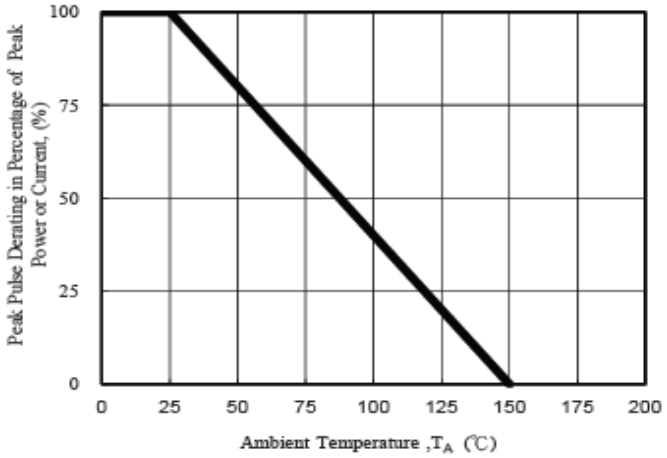

Fig. 1 - Pulse Derating Curve

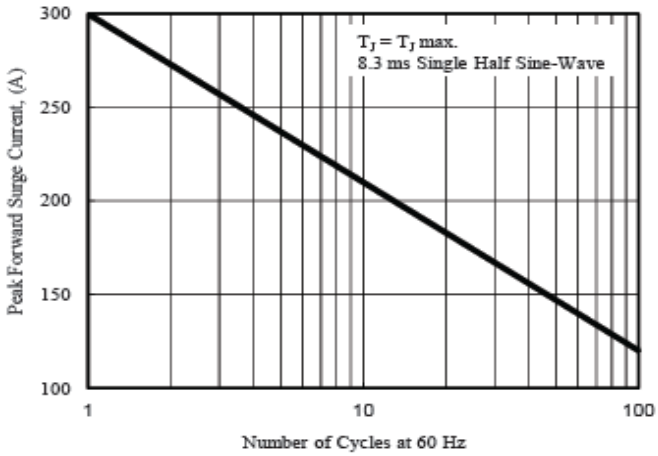

Fig. 2 - Maximum Non-Repetitive Surge Current

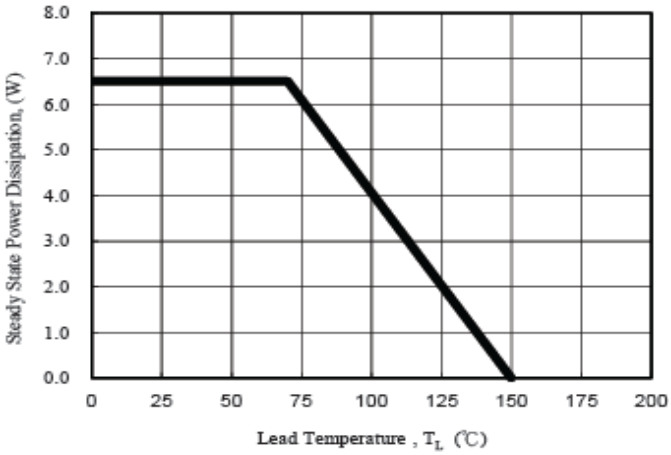

Fig. 3 - Steady State Power Derating Curve

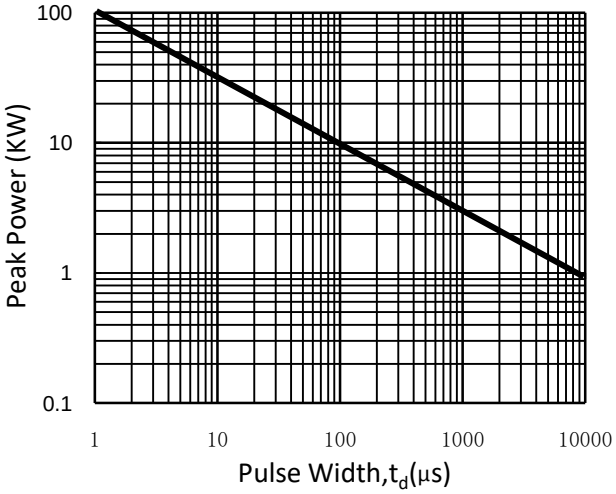

Fig. 4-Peak Pulse Power Rating Curve

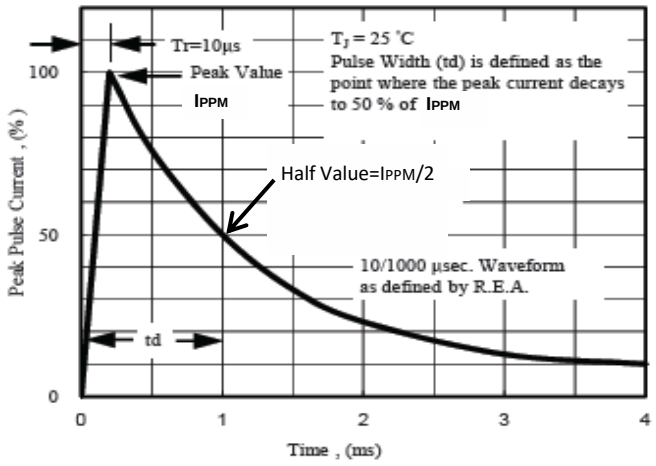

Fig. 5 - Pulse Waveform

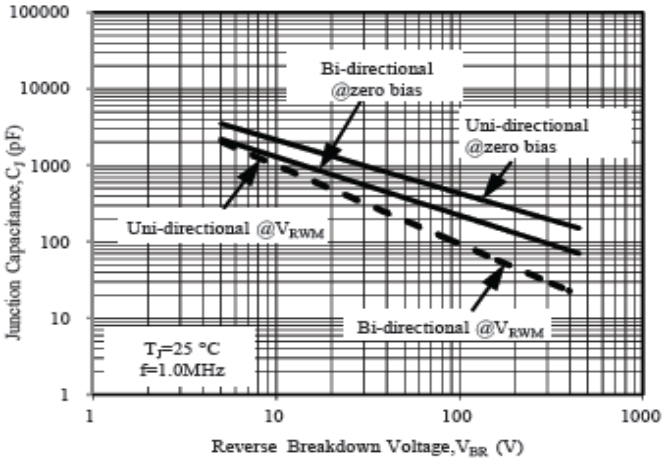

Fig. 6 - Typical Junction Capacitance