

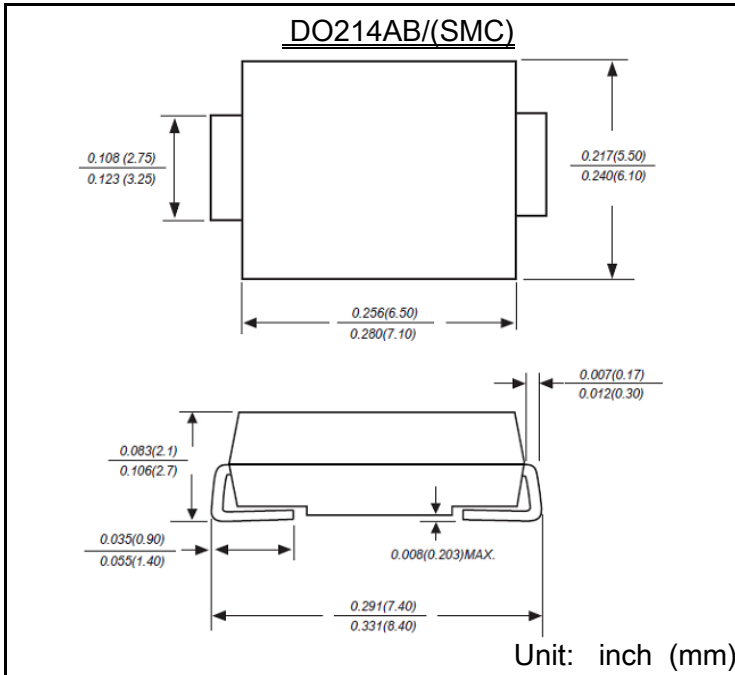


# 1.5SMCxx(C)A Series

Surface Mount Transient Voltage Suppressor Rectifiers

Reverse Voltage 5.8 ~ 509 V

1500 Watt Peak Pulse Power



## Features

- Glass passivated chip
- 1500 W peak pulse power capability with a 10/1000 us 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: DO214AB/(SMC) 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

Maximum Ratings & Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbols	Value	Unit
Peak power dissipation with a 10/1000 us waveform <sup>(1)</sup>	$P_{PP}$	1500	W
Peak pulse current with a 10/1000 us waveform <sup>(1)</sup>	$I_{PP}$	See Next Table	A
Power dissipation on infinite heatsink at TL = 75 °C	$P_D$	5.0	W
Peak forward surge current, 8.3 ms single half sinewave unidirectional only <sup>(2)</sup>	$I_{FSM}$	200	A
Maximum instantaneous forward voltage at 100 A for unidirectional only <sup>(3)</sup>	$V_F$	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  $T_A = 25\text{ °C}$  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) $V_F < 3.5V$  for devices of  $V_{BR} < 200V$  and  $V_F < 6.5V$  for devices of  $V_{BR} > 201V$ .



# 1.5SMCxx(C)A Series

Part Number		Device Marking Code		Reverse Stand-off Voltage	Breakdown Voltage $V_{BR} @ I_T$		Test Current	Max. Clamping Voltage @ $I_{PP}$	Max. Peak Pulse Current	Max. Reverse Leakage @ $V_{RWM}$
UNI-POLAR	BI-POLAR	UNI	BI	$V_{RWM}(V)$	Min.(V)	Max.(V)	$I_T(mA)$	$V_{C MAX.}(V)$	$I_{PP}(A)$	$I_R(\mu A)$
1.5SMC6.8A	1.5SMC6.8CA	6V8A	6V8C	5.8	6.45	7.14	10	10.5	144.80	1000
1.5SMC7.5A	1.5SMC7.5CA	7V5A	7V5C	6.4	7.13	7.88	10	11.3	134.50	500
1.5SMC8.2A	1.5SMC8.2CA	8V2A	8V2C	7.0	7.79	8.61	10	12.1	125.60	200
1.5SMC9.1A	1.5SMC9.1CA	9V1A	9V1C	7.8	8.65	9.55	1	13.4	113.40	50
1.5SMC10A	1.5SMC10CA	10A	10C	8.6	9.50	10.50	1	14.5	104.80	10
1.5SMC11A	1.5SMC11CA	11A	11C	9.4	10.50	11.60	1	15.6	97.40	5
1.5SMC12A	1.5SMC12CA	12A	12C	10.2	11.40	12.60	1	16.7	91.00	5
1.5SMC13A	1.5SMC13CA	13A	13C	11.1	12.40	13.70	1	18.2	83.50	1
1.5SMC15A	1.5SMC15CA	15A	15C	12.8	14.30	15.80	1	21.2	71.70	1
1.5SMC16A	1.5SMC16CA	16A	16C	13.6	15.20	16.80	1	22.5	67.60	1
1.5SMC18A	1.5SMC18CA	18A	18C	15.3	17.10	18.90	1	25.5	60.30	1
1.5SMC20A	1.5SMC20CA	20A	20C	17.1	19.00	21.00	1	27.7	54.90	1
1.5SMC22A	1.5SMC22CA	22A	22C	18.8	20.90	23.10	1	30.6	49.70	1
1.5SMC24A	1.5SMC24CA	24A	24C	20.5	22.80	25.20	1	33.2	45.80	1
1.5SMC27A	1.5SMC27CA	27A	27C	23.1	25.70	28.40	1	37.5	40.50	1
1.5SMC30A	1.5SMC30CA	30A	30C	25.6	28.50	31.50	1	41.4	36.70	1
1.5SMC33A	1.5SMC33CA	33A	33C	28.2	31.40	34.70	1	45.7	33.30	1
1.5SMC36A	1.5SMC36CA	36A	36C	30.8	34.20	37.80	1	49.9	30.50	1
1.5SMC39A	1.5SMC39CA	39A	39C	33.3	37.10	41.00	1	53.9	28.20	1
1.5SMC43A	1.5SMC43CA	43A	43C	36.8	40.90	45.20	1	59.3	25.60	1
1.5SMC47A	1.5SMC47CA	47A	47C	40.2	44.70	49.40	1	64.8	23.50	1
1.5SMC51A	1.5SMC51CA	51A	51C	43.6	48.50	53.60	1	70.1	21.70	1
1.5SMC56A	1.5SMC56CA	56A	56C	47.8	53.20	58.80	1	77.0	19.70	1
1.5SMC62A	1.5SMC62CA	62A	62C	53.0	58.90	65.10	1	85.0	17.90	1
1.5SMC68A	1.5SMC68CA	68A	68C	58.1	64.60	71.40	1	92.0	16.50	1
1.5SMC75A	1.5SMC75CA	75A	75C	64.1	71.30	78.80	1	103.0	14.80	1
1.5SMC82A	1.5SMC82CA	82A	82C	70.1	77.90	86.10	1	113.0	13.50	1
1.5SMC91A	1.5SMC91CA	91A	91C	77.8	86.50	95.50	1	125.0	12.20	1
1.5SMC100A	1.5SMC100CA	100A	100C	85.5	95.00	105.00	1	137.0	11.10	1
1.5SMC110A	1.5SMC110CA	110A	110C	94.0	105.0	116.0	1	152.0	10.00	1
1.5SMC120A	1.5SMC120CA	120A	120C	102.0	114.0	126.0	1	165.0	9.20	1
1.5SMC130A	1.5SMC130CA	130A	130C	111.0	124.0	137.0	1	179.0	8.50	1
1.5SMC150A	1.5SMC150CA	150A	150C	128.0	143.0	158.0	1	207.0	7.30	1
1.5SMC160A	1.5SMC160CA	160A	160C	136.0	152.0	168.0	1	219.0	6.90	1
1.5SMC170A	1.5SMC170CA	170A	170C	145.0	162.0	179.0	1	234.0	6.50	1
1.5SMC180A	1.5SMC180CA	180A	180C	154.0	171.0	189.0	1	246.0	6.20	1
1.5SMC200A	1.5SMC200CA	200A	200C	171.0	190.0	210.0	1	274.0	5.50	1
1.5SMC220A	1.5SMC220CA	220A	220C	185.0	209.0	231.0	1	328.0	4.60	1
1.5SMC250A	1.5SMC250CA	250A	250C	214.0	237.0	263.0	1	344.0	4.40	1
1.5SMC300A	1.5SMC300CA	300A	300C	256.0	285.0	315.0	1	414.0	3.70	1
1.5SMC350A	1.5SMC350CA	350A	350C	300.0	332.0	368.0	1	482.0	3.20	1
1.5SMC400A	1.5SMC400CA	400A	400C	342.0	380.0	420.0	1	548.0	2.80	1
1.5SMC440A	1.5SMC440CA	440A	440C	376.0	418.0	462.0	1	602.0	2.50	1
1.5SMC480A	1.5SMC480CA	480A	480C	408.0	456.0	504.0	1	658.0	2.30	1
1.5SMC510A	1.5SMC510CA	510A	510C	434.0	485.0	535.0	1	698.0	2.10	1
1.5SMC530A	1.5SMC530CA	530A	530C	450.0	503.0	556.0	1	725.0	2.10	1
1.5SMC540A	1.5SMC540CA	540A	540C	459.0	513.0	567.0	1	740.0	2.00	1
1.5SMC550A	1.5SMC550CA	550A	550C	467.0	522.5	577.5	1	760.0	2.00	1
1.5SMC600A	1.5SMC600CA	600A	600C	509.0	570.0	630.0	1	820.0	1.80	1

## Ratings and Characteristics Curves (TA=25°C unless otherwise noted)

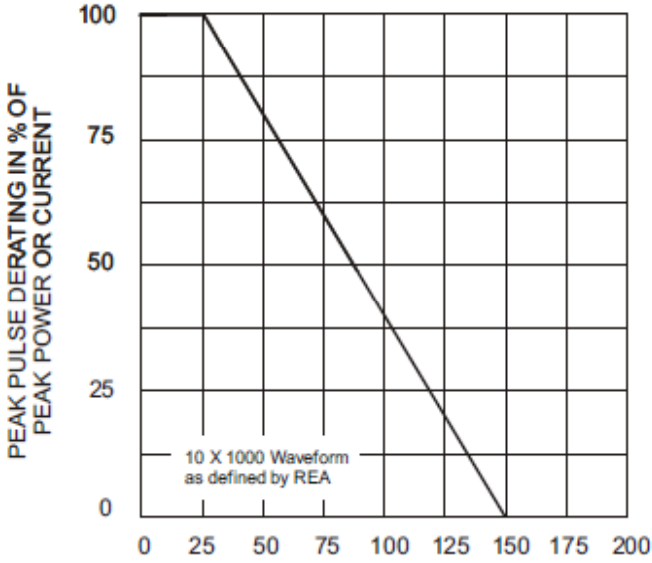


Fig. 1 - Pulse Derating Curve

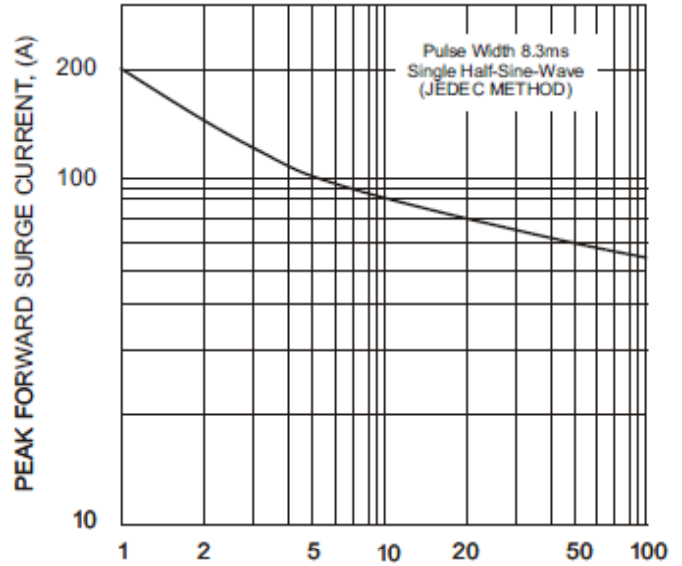


Fig. 2 - Maximum Non-Repetitive Surge Current

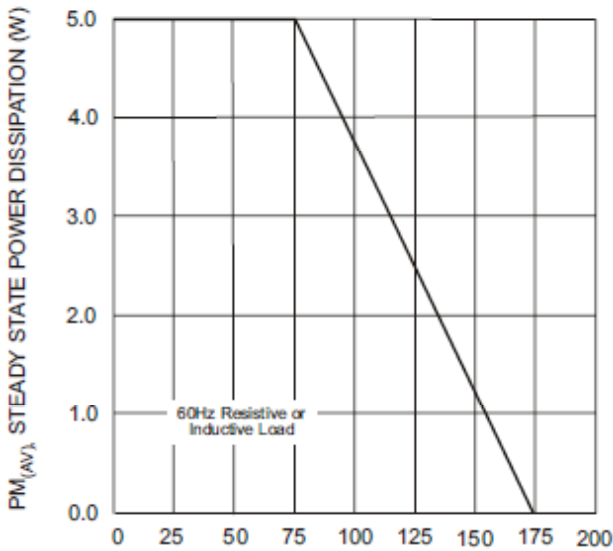


Fig. 3 - Steady State Power Derating Curve

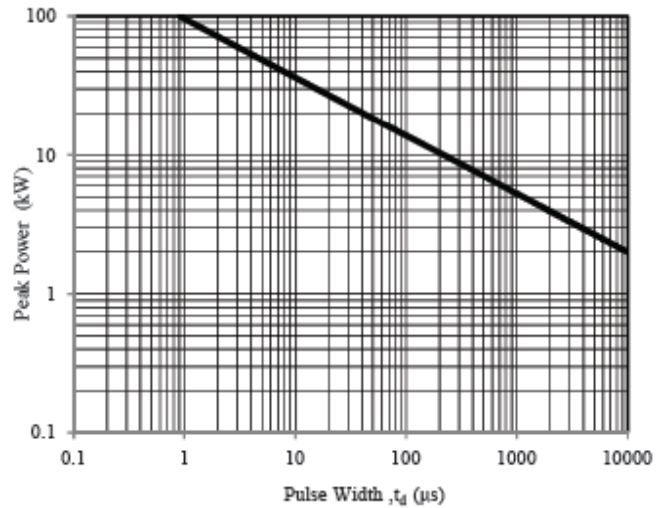


Fig. 4 - Peak Pulse Power Rating Curve

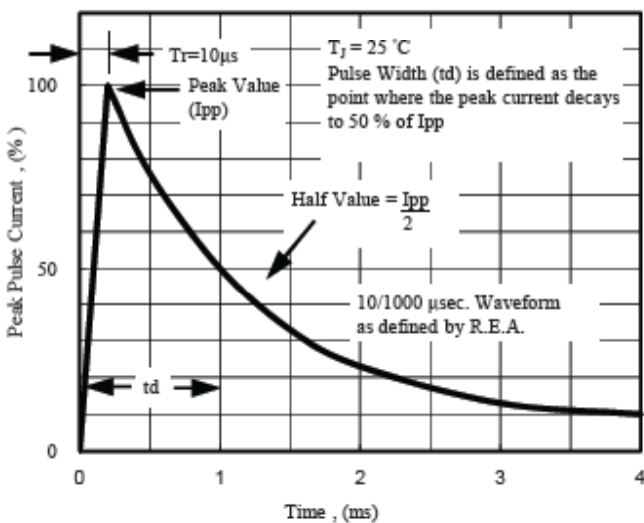


Fig. 5 - Pulse Waveform

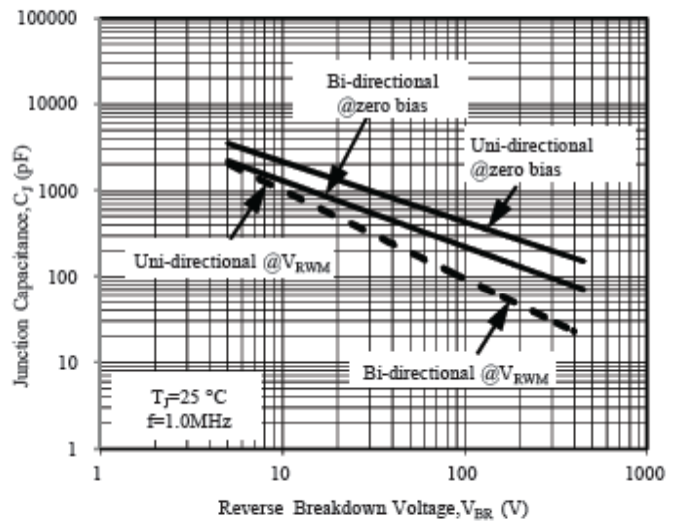


Fig. 6 - Typical Junction Capacitance