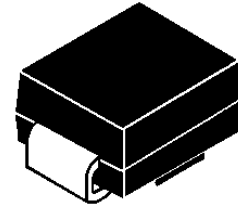




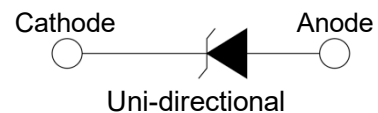
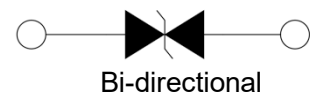
1500W Surface Mount Transient Voltage Suppressors

Features

- Peak power dissipation 1500W @10 x 1000 us Pulse
- Low profile package.
- Excellent clamping capability.
- Glass passivated junction.
- Very Fast response time.
- Typical I_R less than 1uA when V_{BR} min above 12V.
- IEC 61000-4-2 ESD 30KV(Air), 30KV(Contact)
- ESD protection of data lines in accordance with IEC 61000-4-2
- EFT protection of data lines in accordance with IEC 61000-4-4
- RoHS compliant
- Lead-free finish



SMC



Mechanical Characteristics

- CASE: SMC(DO-214AB) Molded Plastic
- Mounting Position: Any
- Polarity: by cathode band denotes uni-directional device, none cathode band denotes bi-directional device.
- Terminal: Solder plated

Maximum Ratings and Characteristics @ 25°C Ambient Temperature (unless otherwise noted)

Parameter	Symbol	Value	Units
Peak Pulse Power Dissipation on 10/1000 us Waveform (Note 1, FIG.1)	P_{PPM}	Min 1500	W
Power Dissipation on Infinite Heat Sink at $T_L=75^\circ\text{C}$	P_D	6.5	W
Peak Pulse Current of on 10/1000us Waveform (Note 1, FIG.3)	I_{PPM}	See Table 1	A
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave (Note 2)	I_{FSM}	200	A
Operating Junction Temperature Range	T_J	-55 to 150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to 150	$^\circ\text{C}$

Notes:

1. Non-repetitive current pulse, per Fig.3 and derated above $T_A=25^\circ\text{C}$ per Fig.2.
2. Measured on 8.3ms single half sine-wave, or equivalent square wave, for Unidirectional device only.

1.5SMC Series

Electrical Specification (T_A=25@25°C unless otherwise specified)

Type Number		Reverse Stand-Off Voltage	Breakdown Voltage Min. @I _T	Breakdown Voltage Max. @ I _T	Test Current	Maximum Clamping Voltage @I _{PP}	Peak Pulse Current	Reverse Leakage @V _{RWM}
(Uni)	(Bi)	V _{RWM} (V)	V _{BR MIN} (V)	V _{BR MAX} (V)	I _T (mA)	V _C (V)	I _{PP} (A)	I _R (uA)
1.5SMC6.8A	1.5SMC6.8CA	5.80	6.45	7.14	10	10.5	144.8	300
1.5SMC7.5A	1.5SMC7.5CA	6.40	7.13	7.88	10	11.3	134.5	200
1.5SMC8.2A	1.5SMC8.2CA	7.02	7.79	8.61	10	12.1	125.6	100
1.5SMC9.1A	1.5SMC9.1CA	7.78	8.65	9.55	1	13.4	113.4	50
1.5SMC10A	1.5SMC10CA	8.55	9.50	10.50	1	14.5	104.8	10
1.5SMC11A	1.5SMC11CA	9.40	10.50	11.60	1	15.6	97.4	5
1.5SMC12A	1.5SMC12CA	10.20	11.40	12.60	1	16.7	91.0	5
1.5SMC13A	1.5SMC13CA	11.10	12.40	13.70	1	18.2	83.5	1
1.5SMC15A	1.5SMC15CA	12.80	14.30	15.80	1	21.2	71.7	1
1.5SMC16A	1.5SMC16CA	13.60	15.20	16.80	1	22.5	67.6	1
1.5SMC18A	1.5SMC18CA	15.30	17.10	18.90	1	25.2	60.3	1
1.5SMC20A	1.5SMC20CA	17.10	19.00	21.00	1	27.7	54.9	1
1.5SMC22A	1.5SMC22CA	18.80	20.90	23.10	1	30.6	49.7	1
1.5SMC24A	1.5SMC24CA	20.50	22.80	25.20	1	33.2	45.8	1
1.5SMC27A	1.5SMC27CA	23.10	25.70	28.40	1	37.5	40.5	1
1.5SMC30A	1.5SMC30CA	25.60	28.50	31.50	1	41.4	36.7	1
1.5SMC33A	1.5SMC33CA	28.20	31.40	34.70	1	45.7	33.3	1
1.5SMC36A	1.5SMC36CA	30.80	34.20	37.80	1	49.9	30.5	1
1.5SMC39A	1.5SMC39CA	33.30	37.10	41.00	1	53.9	28.2	1
1.5SMC43A	1.5SMC43CA	36.80	40.90	45.20	1	59.3	25.6	1
1.5SMC47A	1.5SMC47CA	40.20	44.70	49.40	1	64.8	23.5	1
1.5SMC51A	1.5SMC51CA	43.60	48.50	53.60	1	70.1	21.7	1
1.5SMC56A	1.5SMC56CA	47.80	53.20	58.80	1	77.0	19.7	1
1.5SMC62A	1.5SMC62CA	53.00	58.90	65.10	1	85.0	17.9	1
1.5SMC68A	1.5SMC68CA	58.10	64.60	71.40	1	92.0	16.5	1
1.5SMC75A	1.5SMC75CA	64.10	71.30	78.80	1	103.0	14.8	1
1.5SMC82A	1.5SMC82CA	70.10	77.90	86.10	1	113.0	13.5	1
1.5SMC91A	1.5SMC91CA	77.80	86.50	95.50	1	125.0	12.2	1
1.5SMC100A	1.5SMC100CA	85.50	95.00	105.00	1	137.0	11.1	1
1.5SMC110A	1.5SMC110CA	94.00	105.00	116.00	1	152.0	10.0	1
1.5SMC120A	1.5SMC120CA	102.00	114.00	126.00	1	165.0	9.2	1
1.5SMC130A	1.5SMC130CA	111.00	124.00	137.00	1	179.0	8.5	1
1.5SMC150A	1.5SMC150CA	128.00	143.00	158.00	1	207.0	7.3	1
1.5SMC160A	1.5SMC160CA	136.00	152.00	168.00	1	219.0	6.9	1
1.5SMC170A	1.5SMC170CA	145.00	162.00	179.00	1	234.0	6.5	1
1.5SMC180A	1.5SMC180CA	154.00	171.00	189.00	1	246.0	6.2	1

※ For Bi-directional type having V_{RWM} of 10 Volts and less, the I_R limit is double.

※ For parts without A, the V_{BR} is ± 10% and V_C is 5% higher than with A parts.

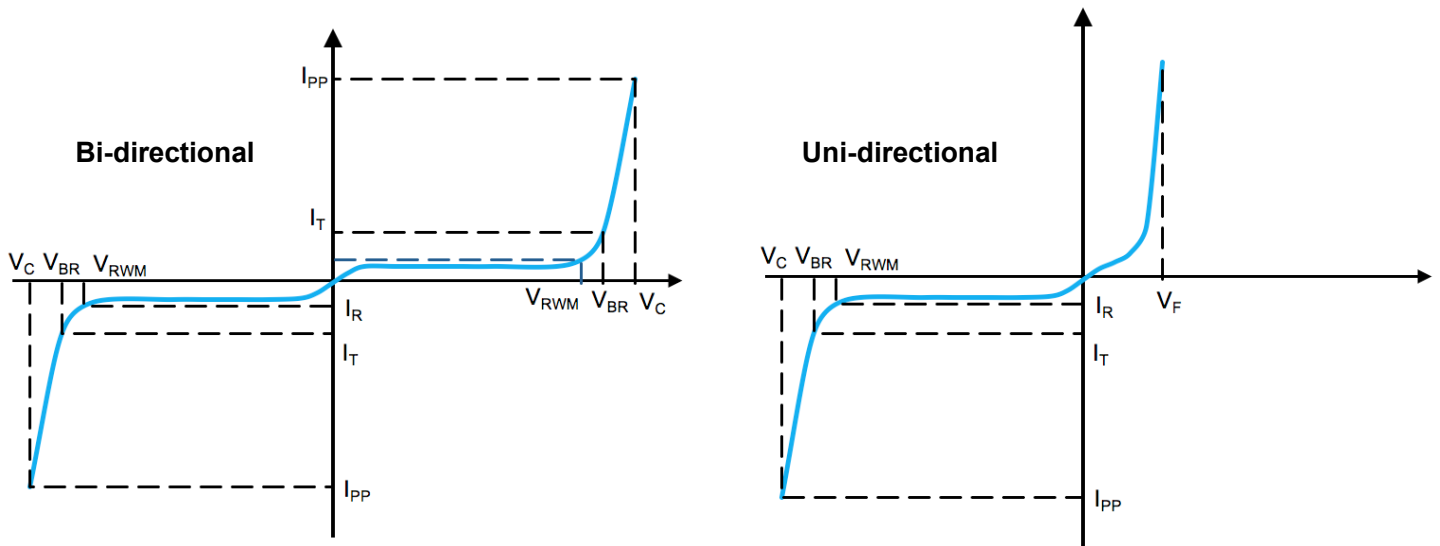
1.5SMC Series

Type Number		Reverse Stand-Off Voltage	Breakdown Voltage Min. @ I_T	Breakdown Voltage Max. @ I_T	Test Current	Maximum Clamping Voltage @ I_{PP}	Peak Pulse Current	Reverse Leakage @ V_{RWM}
(Uni)	(Bi)	$V_{RWM}(V)$	$V_{BR MIN}(V)$	$V_{BR MAX}(V)$	$I_T (mA)$	$V_C(V)$	$I_{PP}(A)$	$I_R(\mu A)$
1.5SMC200A	1.5SMC200CA	171.00	190.00	210.00	1	274.0	5.5	1
1.5SMC220A	1.5SMC220CA	185.00	209.00	231.00	1	328.0	4.6	1
1.5SMC250A	1.5SMC250CA	214.00	237.00	263.00	1	344.0	4.4	1
1.5SMC300A	1.5SMC300CA	256.00	285.00	315.00	1	414.0	3.7	1
1.5SMC350A	1.5SMC350CA	300.00	332.00	368.00	1	482.0	3.2	1
1.5SMC400A	1.5SMC400CA	342.00	380.00	420.00	1	548.0	2.8	1
1.5SMC440A	1.5SMC440CA	376.00	418.00	462.00	1	602.0	2.5	1
1.5SMC480A	1.5SMC480CA	408.00	456.00	504.00	1	658.0	2.3	1
1.5SMC510A	1.5SMC510CA	434.00	485.00	535.00	1	698.0	2.2	1
1.5SMC530A	1.5SMC530CA	451.00	503.50	556.50	1	725.0	2.1	1
1.5SMC540A	1.5SMC540CA	460.00	513.00	567.00	1	740.0	2.1	1
1.5SMC550A	1.5SMC550CA	468.00	522.50	577.50	1	760.0	2.0	1
1.5SMC600A	1.5SMC600CA	512.00	570.00	630.00	1	828.0	1.8	1

※ For Bi-directional type having V_{RWM} of 10 Volts and less, the I_R limit is double.

※ For parts without A, the V_{BR} is $\pm 10\%$ and V_C is 5% higher than with A parts.

I-V Curve Characteristics



P_{PPM} **Peak Pulse Power Dissipation** - Max power dissipation

V_{RWM} **Reverse Stand-off Voltage** - Maximum voltage that can be applied to TVS without operation

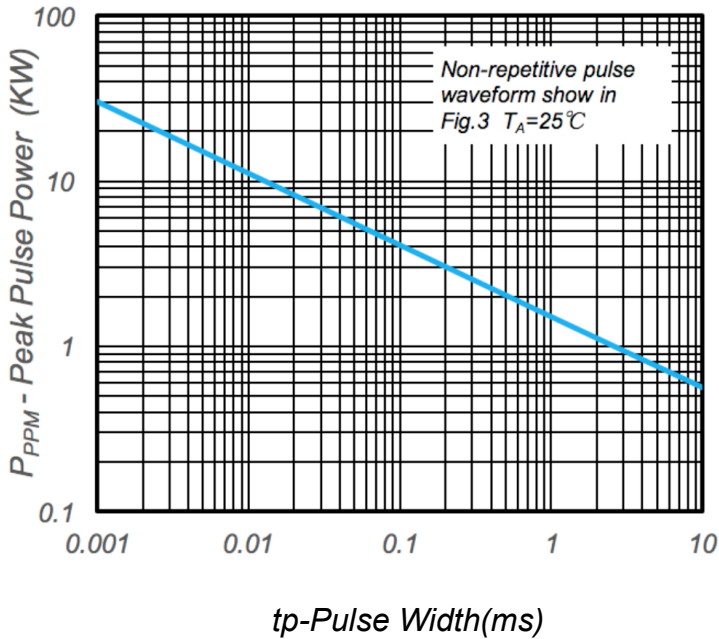
V_{BR} **Breakdown Voltage** – Maximum voltage that flows through the TVS at a specified current (I_T)

V_C **Clamping Voltage** – Peak voltage measured across the TVS at a specified I_{PPM} (peak impulse current)

I_R **Reverse Leakage Current** – Current measured at V_R

V_F **Forward Voltage Drop for Uni-directional**

Ratings and Characteristic Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)



t_p -Pulse Width(ms)
Fig.1 - Peak Pulse Power Rating

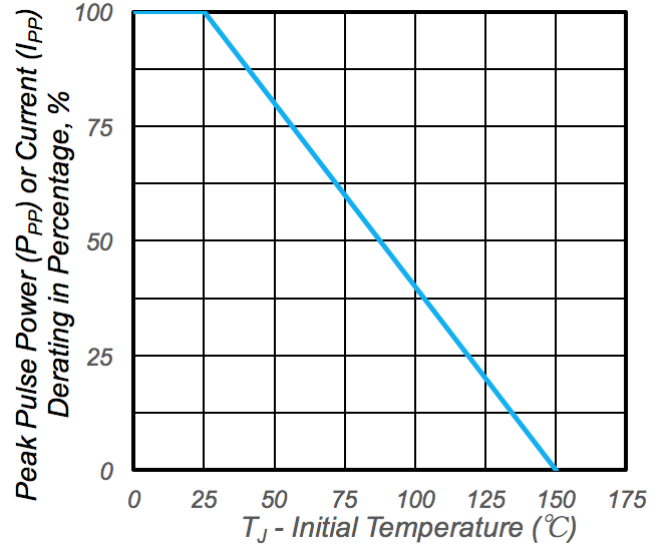


Fig.2 - Pulse Derating Curve

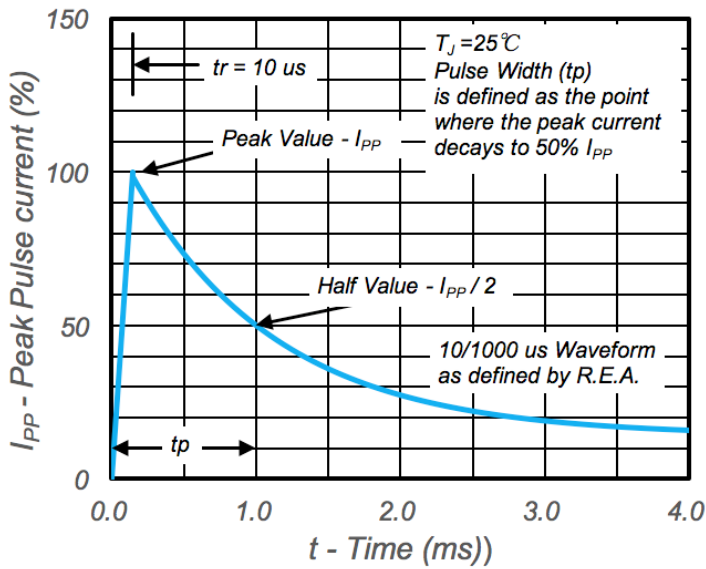


Fig.3 - Pulse Waveform

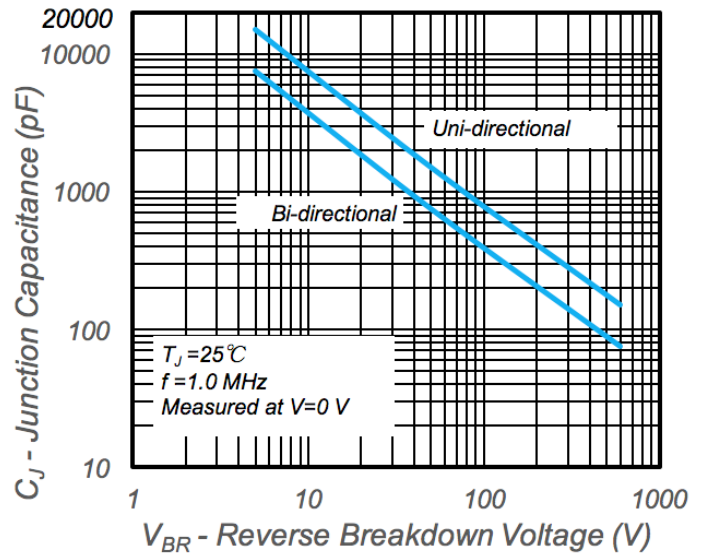
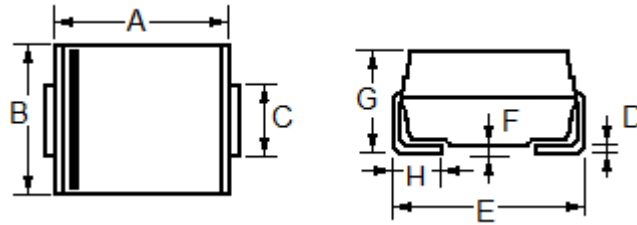


Fig.4 - Typical Junction Capacitance

Package Outline Dimensions and Pad Layouts

DO-214AB (SMC)



Dim	Millimeters		Inches	
	Min	Max	Min	Max
A	6.60	7.11	0.260	0.280
B	5.59	6.22	0.220	0.245
C	2.90	3.20	0.114	0.126
D	0.125	0.305	0.006	0.012
E	7.75	8.13	0.305	0.320
F	----	0.203	----	0.008
G	2.06	2.62	0.079	0.103
H	0.76	1.52	0.030	0.060