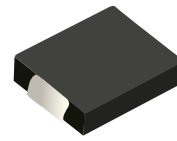


FEATURES

- | Low profile package
- | Ideal for automated placement
- | 1500 Watt peak pulse power capability with a 10/1000 μ s waveform
- | For surface mounted applications to optimize board space
- | Excellent clamping capability
- | Very fast response time
- | Low incremental surge resistance



DO-214AB(SMC)



Uni-directional



Bi-directional

APPLICATIONS

- | Power supply protection
- | Automotive application
- | Industrial application
- | Power management

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

MAXIMUM RATINGS ($T_A=25^\circ\text{C}$)

Parameter	Symbo	Value	Unit
Peak Pulse Power Dissipation on 10/1000 μ s waveform (Note1, Note2).	P_{PPM}	1500	Watts
Steady State Power Dissipation at $T_L=50^\circ\text{C}$, Lead lengths.375"(9.5mm) (Note2)	P_D	6.5	Watts

- Notes :** 1.Non-repetitive current pulse, $T_A=25^\circ\text{C}$.
 2.Mounted on 5.0mm*5.0mm (0.03mm thick) Copper Pads to each terminal.

THERMAL CONSIDERATIONS

Parameter	Symbol	Value	Unit
Operating Junction Temperature	T_J	-55 to +150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150	$^\circ\text{C}$
Junction to Ambient on printed circuit	$R_{\theta JA}$	75	$^\circ\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS (T_A = 25°C)

Part Number		Device Marking Code		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-Polar	Bi-Polar	Uni	Bi	V _{RWM} (V)	V _{BR} (V)	V _{BR} (V)	I _T (mA)	V _C (V)	I _{PP} (A)	I _R (uA)
1.5SMC6.8A	1.5SMC6.8CA	6V8A	6V8C	5.80	6.45	7.14	10	10.5	145	1000
1.5SMC7.5A	1.5SMC7.5CA	7V5A	7V5C	6.40	7.13	7.88	10	11.3	135	500
1.5SMC8.2A	1.5SMC8.2CA	8V2A	8V2C	7.02	7.79	8.61	10	12.1	126	200
1.5SMC9.1A	1.5SMC9.1CA	9V1A	9V1C	7.78	8.65	9.55	1	13.4	113	50
1.5SMC10A	1.5SMC10CA	10A	10C	8.55	9.50	10.50	1	14.5	105	10
1.5SMC11A	1.5SMC11CA	11A	11C	9.40	10.50	11.60	1	15.6	97.4	5
1.5SMC12A	1.5SMC12CA	12A	12C	10.20	11.40	12.60	1	16.7	91.0	5
1.5SMC13A	1.5SMC13CA	13A	13C	11.10	12.40	13.70	1	18.2	83.5	1
1.5SMC15A	1.5SMC15CA	15A	15C	12.80	14.30	15.80	1	21.2	71.7	1
1.5SMC16A	1.5SMC16CA	16A	16C	13.60	15.20	16.80	1	22.5	67.6	1
1.5SMC18A	1.5SMC18CA	18A	18C	15.30	17.10	18.90	1	25.5	60.3	1
1.5SMC20A	1.5SMC20CA	20A	20C	17.10	19.00	21.00	1	27.7	54.9	1
1.5SMC22A	1.5SMC22CA	22A	22C	18.80	20.90	23.10	1	30.6	49.7	1
1.5SMC24A	1.5SMC24CA	24A	24C	20.50	22.80	25.20	1	33.2	45.8	1
1.5SMC27A	1.5SMC27CA	27A	27C	23.10	25.70	28.40	1	37.5	40.5	1
1.5SMC30A	1.5SMC30CA	30A	30C	25.60	28.50	31.50	1	41.4	36.7	1
1.5SMC33A	1.5SMC33CA	33A	33C	28.20	31.40	34.70	1	45.7	33.3	1
1.5SMC36A	1.5SMC36CA	36A	36C	30.80	34.20	37.80	1	49.9	30.5	1
1.5SMC39A	1.5SMC39CA	39A	39C	33.3	37.1	41.0	1	53.9	28.2	1
1.5SMC43A	1.5SMC43CA	43A	43C	36.8	40.9	45.2	1	59.3	25.6	1
1.5SMC47A	1.5SMC47CA	47A	47C	40.2	44.7	49.4	1	64.8	23.5	1
1.5SMC51A	1.5SMC51CA	51A	51C	43.6	48.5	53.6	1	70.1	21.7	1
1.5SMC56A	1.5SMC56CA	56A	56C	47.8	53.2	58.8	1	77.0	19.7	1
1.5SMC62A	1.5SMC62CA	62A	62C	53.0	58.9	65.1	1	85.0	17.9	1
1.5SMC68A	1.5SMC68CA	68A	68C	58.1	64.6	71.4	1	92.0	16.5	1
1.5SMC75A	1.5SMC75CA	75A	75C	64.1	71.3	78.8	1	103.0	14.8	1
1.5SMC82A	1.5SMC82CA	82A	82C	70.1	77.9	86.1	1	113.0	13.5	1
1.5SMC91A	1.5SMC91CA	91A	91C	77.8	86.5	95.5	1	125.0	12.2	1
1.5SMC100A	1.5SMC100CA	100A	100C	85.5	95.0	105.0	1	137.0	11.1	1
1.5SMC110A	1.5SMC110CA	110A	110C	94.0	105.0	116.0	1	152.0	10.0	1
1.5SMC120A	1.5SMC120CA	120A	120C	102.0	114.0	126.0	1	165.0	9.2	1
1.5SMC130A	1.5SMC130CA	130A	130C	111.0	124.0	137.0	1	179.0	8.5	1

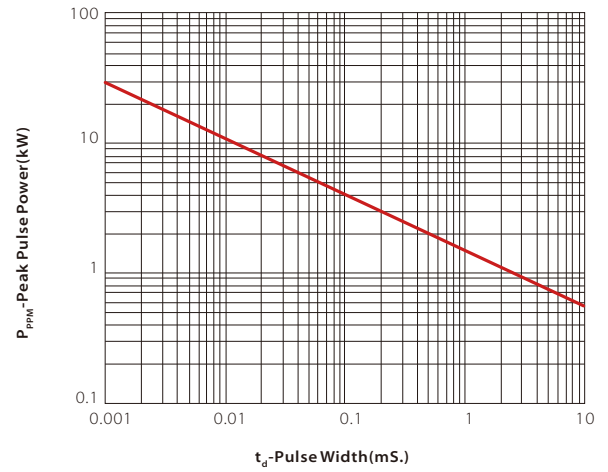
Part Number		Device Marking Code		Reverse Stand-off Voltage	Breakdown Voltage Min.@I _T	Breakdown Voltage Max.@I _T	Test Current	Maximum Clamping Voltage @I _{pp}	Peak Pulse Current	Reverse Leakage @V _{RWM}
Uni-Polar	Bi-Polar	Uni	Bi	V _{RWM} (V)	V _{BR} (V)	V _{BR} (V)	I _T (mA)	V _C (V)	I _{pp} (A)	I _R (uA)
1.5SMC150A	1.5SMC150CA	150A	150C	128.0	143.0	158.0	1	207.0	7.3	1
1.5SMC160A	1.5SMC160CA	160A	160C	136.0	152.0	168.0	1	219.0	6.9	1
1.5SMC170A	1.5SMC170CA	170A	170C	145.0	162.0	179.0	1	234.0	6.5	1
1.5SMC180A	1.5SMC180CA	180A	180C	154.0	171.0	189.0	1	246.0	6.2	1
1.5SMC200A	1.5SMC200CA	200A	200C	171.0	190.0	210.0	1	274.0	5.5	1
1.5SMC220A	1.5SMC220CA	220A	220C	185.0	209.0	231.0	1	328.0	4.6	1
1.5SMC250A	1.5SMC250CA	250A	250C	214.0	237.0	263.0	1	344.0	4.4	1
1.5SMC300A	1.5SMC300CA	300A	300C	256.0	285.0	315.0	1	414.0	3.7	1
1.5SMC350A	1.5SMC350CA	350A	350C	300.0	332.0	368.0	1	482.0	3.2	1
1.5SMC400A	1.5SMC400CA	400A	400C	342.0	380.0	420.0	1	548.0	2.8	1
1.5SMC440A	1.5SMC440CA	440A	440C	376.0	418.0	462.0	1	602.0	2.5	1
1.5SMC480A	1.5SMC480CA	480A	480C	408.0	456.0	504.0	1	658.0	2.3	1
1.5SMC510A	1.5SMC510CA	510A	510C	434.0	485.0	535.0	1	698.0	2.1	1
1.5SMC530A	1.5SMC530CA	530A	530C	451.0	503.0	557.0	1	725.0	2.1	1
1.5SMC540A	1.5SMC540CA	540A	540C	459.0	513.0	567.0	1	740.0	2.0	1
1.5SMC550A	1.5SMC550CA	550A	550C	467.0	522.0	578.0	1	760.0	2.0	1
1.5SMC600A	1.5SMC600CA	600A	600C	510.0	570.0	630.0	1	828.0	1.8	1

CHARACTERISTIC CURVES

TVS Transients Clamping Waveform



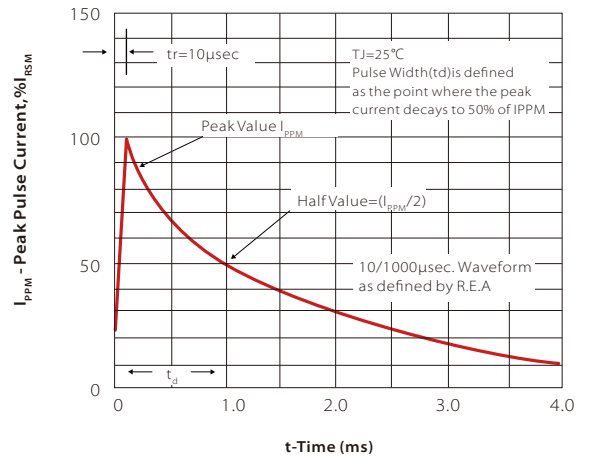
Peak Pulse Power Rating Curve



Pulse Derating Curve



Pulse Waveform



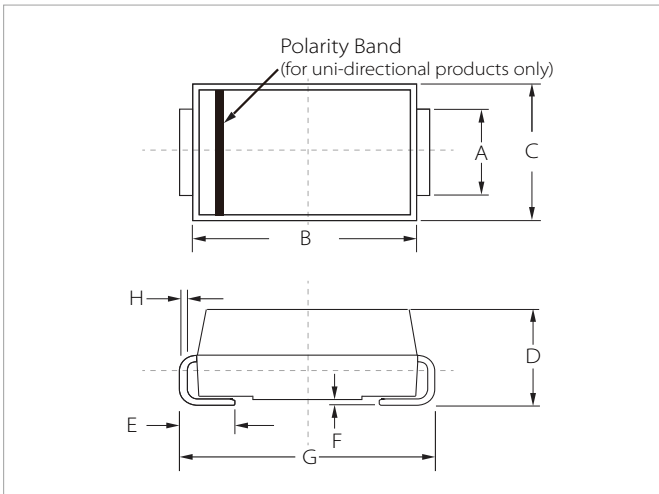


SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150 $^\circ\text{C}$
	Temperature Max ($T_{s(max)}$)	200 $^\circ\text{C}$
	Time (min to max) (t_2)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak)		3 $^\circ\text{C}/\text{second}$ max
$T_{s(max)}$ to T_L - Ramp-up Rate		3 $^\circ\text{C}/\text{second}$ max
Reflow	Temperature (T_L) (Liquidus)	217 $^\circ\text{C}$
	Time (min to max) (t_1)	60 – 150 seconds
Peak Temperature (T_p)		260 $^\circ\text{C}$
Time within 5 $^\circ\text{C}$ of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6 $^\circ\text{C}/\text{second}$ max
Time 25 $^\circ\text{C}$ to peak Temperature (T_p)		8 minutes max.
Do not exceed		260 $^\circ\text{C}$

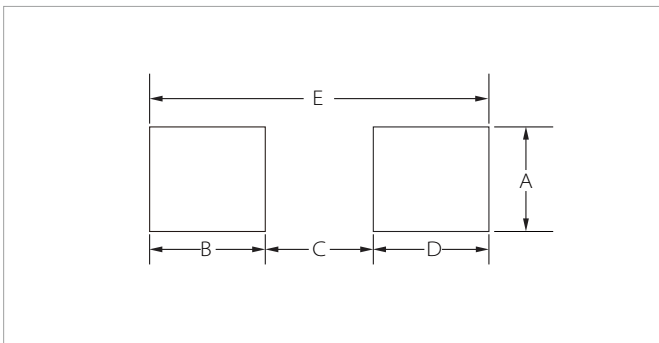


DO-214AB(SMC) PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.80	3.20	0.110	0.126
B	6.60	7.20	0.260	0.283
C	5.70	6.10	0.224	0.240
D	2.15	2.75	0.085	0.108
E	1.00	1.60	0.039	0.063
F	0.02	0.20	0.000	0.008
G	7.60	8.00	0.299	0.315
H	0.15	0.30	0.006	0.012

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	3.30	-	0.129	-
B	2.40	-	0.094	-
C	-	4.20	-	0.165
D	2.40	-	0.094	-
E	8.20REF		0.323REF	

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
1.5SMCxx(C)A	DO-214AB(SMC)	3000PCS	13"

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