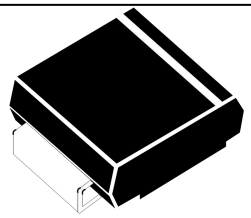
Power Transient Voltage Suppressor

Features

- 5000 watts Peak Pulse Power (10/1000μs)
- Unidirectional and Bidirectional Protection
- Fast Response Time : Typically < 1ns
- Excellent Clamping Capability
- Glass Passivated Junction
- Built-in Strain relief
- Low inductance
- Low profile package
- High temperature solder:260℃/10 seconds at terminal



SMC
(JEDEC DO-214AB)

Mechanical Characteristics

- JEDEC DO-214AB package
- Molding compound flammability rating: UL 94V-0
- Marking: Marking Code
- Packaging: Tape and Reel per EIA 481
- RoHS Compliant

Applications

- I/O Interfaces
- Power lines
- Automotive and Telecommunication
- Computers &Consumer Electronics
- Industrial Electronics

Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power (tp =10/1000μs) (see Note1,2& 3)	P_{PPM}	5000	Watts
Peak pulse current (10/1000μs) (see Note2&3)	I_{PPM}	See Electrical Characteristics	A
Peak Forward surge current (see Note4&5)	I_{FSM}	300	A
Power Dissipation on infinite heat sink T_A = 50 °C (Fig5)	P_D	6.5	W
Operating Junction Temperature range	T_J	-65 to + 150	℃
Storage Temperature range	T_{STG}	-65 to + 150	℃

Note1: Peak Pulse Power Rating as Pulse Width, per Fig1.

Note2: Peak Pulse Power or Current Derated above T_A=25℃ Per Fig. 2 and Non-Repetitive Current Pulse, Per Fig.3.

Note3: Mounted on 5.0x5.0mm^2 copper pad to each terminal.

Note4: 8.3ms Single Half Sine Wave or Equivalent Square Wave.

Note5: Maximum Forward Surge Current only for Unidirectional Device per Fig6.

Electrical Characteristics

Part Number		Reverse Stand off Voltage V_{RWM}	Breakdown Voltage V_{BR}(Volts)@I_T		Test Current I_T	Maximum Clamping Voltage V_c@I_{PP}	Maximum Peak Pulse Current I_{PP}	Maximum Reverse Leakage I_R@V_{RWM}
UNI-POLAR	BI-POLAR	(Volts)	MIN	MAX	(mA)	(Volts)	(Amps)	(μA)
RS5WSMDJ12A	RS5WSMDJ12CA	12	13.3	14.7	10	19.9	252.0	800
RS5WSMDJ13A	RS5WSMDJ13CA	13	14.4	15.9	10	21.5	233.0	500
RS5WSMDJ14A	RS5WSMDJ14CA	14	15.6	17.2	10	23.2	216.0	200
RS5WSMDJ15A	RS5WSMDJ15CA	15	16.7	18.5	1	24.4	205.0	100
RS5WSMDJ16A	RS5WSMDJ16CA	16	17.8	19.7	1	26.0	193.0	50
RS5WSMDJ17A	RS5WSMDJ17CA	17	18.9	20.9	1	27.6	181.0	20
RS5WSMDJ18A	RS5WSMDJ18CA	18	20.0	22.1	1	29.2	172.0	10
RS5WSMDJ20A	RS5WSMDJ20CA	20	22.2	24.5	1	32.4	155.0	5
RS5WSMDJ22A	RS5WSMDJ22CA	22	24.4	26.9	1	35.5	141.0	5
RS5WSMDJ24A	RS5WSMDJ24CA	24	26.7	29.5	1	38.9	129.0	5
RS5WSMDJ26A	RS5WSMDJ26CA	26	28.9	31.9	1	42.1	119.0	5
RS5WSMDJ28A	RS5WSMDJ28CA	28	31.1	34.4	1	45.4	110.0	5
RS5WSMDJ30A	RS5WSMDJ30CA	30	33.3	36.8	1	48.4	103.0	5
RS5WSMDJ33A	RS5WSMDJ33CA	33	36.7	40.6	1	53.3	93.9	5
RS5WSMDJ36A	RS5WSMDJ36CA	36	40.0	44.2	1	58.1	86.1	5
RS5WSMDJ40A	RS5WSMDJ40CA	40	44.4	49.1	1	64.5	77.6	5
RS5WSMDJ43A	RS5WSMDJ43CA	43	47.8	52.8	1	69.4	72.1	5
RS5WSMDJ45A	RS5WSMDJ45CA	45	50.0	55.3	1	72.7	68.8	5
RS5WSMDJ48A	RS5WSMDJ48CA	48	53.3	58.9	1	77.4	64.7	5
RS5WSMDJ51A	RS5WSMDJ51CA	51	56.7	62.7	1	82.4	60.7	5
RS5WSMDJ54A	RS5WSMDJ54CA	54	60.0	66.3	1	87.1	57.5	5
RS5WSMDJ58A	RS5WSMDJ58CA	58	64.4	71.2	1	93.6	53.5	5
RS5WSMDJ60A	RS5WSMDJ60CA	60	66.7	73.7	1	96.8	51.7	5
RS5WSMDJ64A	RS5WSMDJ64CA	64	71.1	78.6	1	103.0	48.6	5
RS5WSMDJ70A	RS5WSMDJ70CA	70	77.8	86.0	1	113.0	44.3	5
RS5WSMDJ75A	RS5WSMDJ75CA	75	83.3	92.1	1	121.0	41.4	5
RS5WSMDJ78A	RS5WSMDJ78CA	78	86.7	95.8	1	126.0	39.7	5
RS5WSMDJ85A	RS5WSMDJ85CA	85	94.4	104.0	1	137.0	36.5	5
RS5WSMDJ90A	RS5WSMDJ90CA	90	100.0	111.0	1	146.0	34.3	5
RS5WSMDJ100A	RS5WSMDJ100CA	100	111.0	123.0	1	162.0	30.9	5
RS5WSMDJ110A	RS5WSMDJ110CA	110	122.0	135.0	1	177.0	28.3	5
RS5WSMDJ120A	RS5WSMDJ120CA	120	133.0	147.0	1	193.0	26.0	5
RS5WSMDJ130A	RS5WSMDJ130CA	130	144.0	159.0	1	209.0	24.0	5
RS5WSMDJ150A	RS5WSMDJ150CA	150	167.0	185.0	1	243.0	20.6	5
RS5WSMDJ160A	RS5WSMDJ160CA	160	178.0	197.0	1	259.0	19.3	5
RS5WSMDJ170A	RS5WSMDJ170CA	170	189.0	209.0	1	275.0	18.2	5

Typical Characteristics

Figure 1: Peak Pulse Power Rating Curve

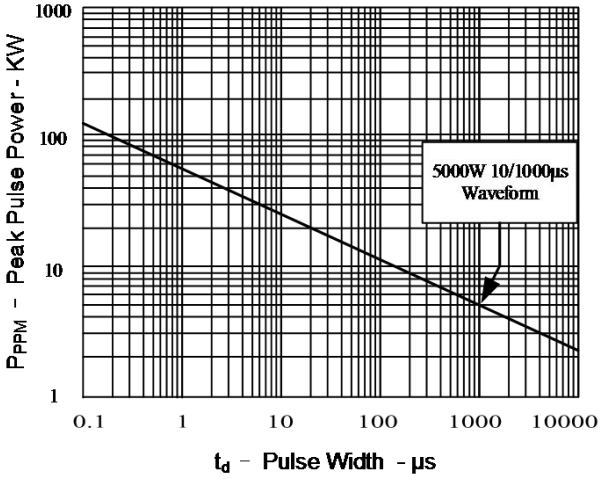


Figure 2: Pulse Derating Curve

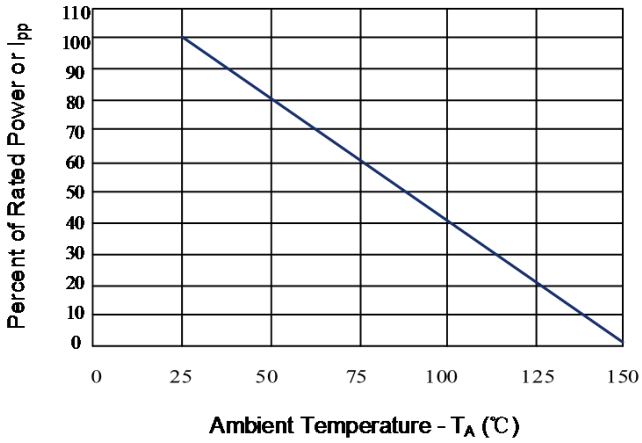


Figure 3: Pulse Waveform

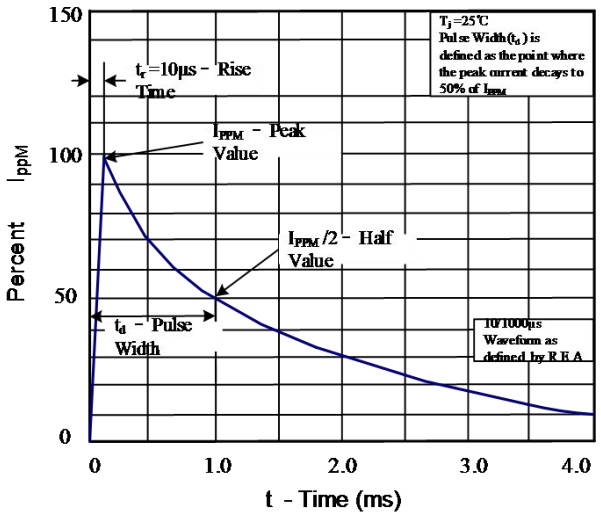


Figure 4: Typical Junction Capacitance

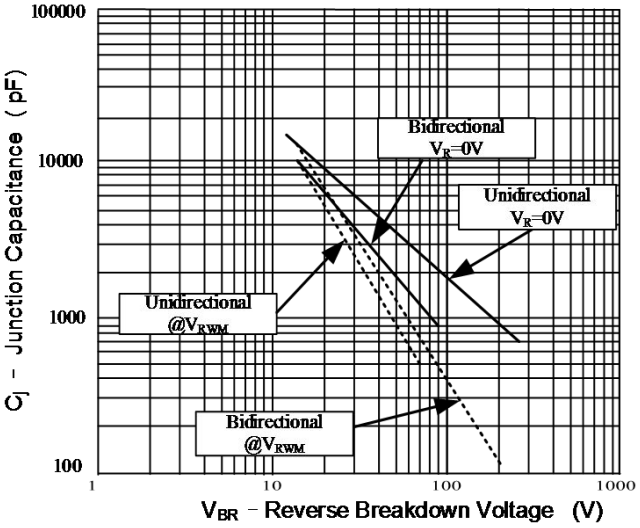


Figure 5: Steady State Power Dissipation Derating Curve

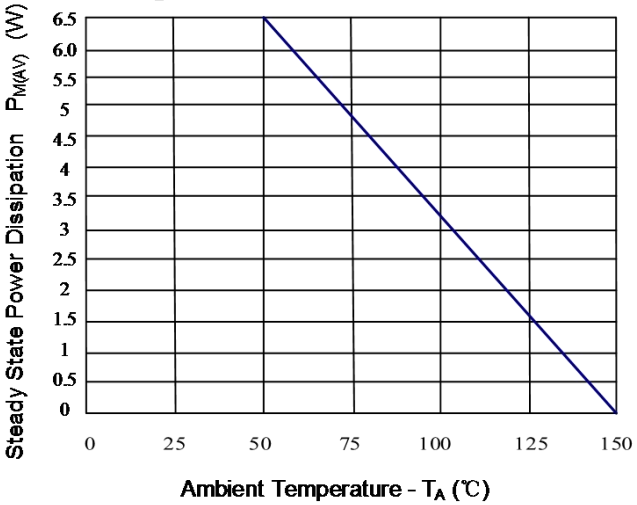
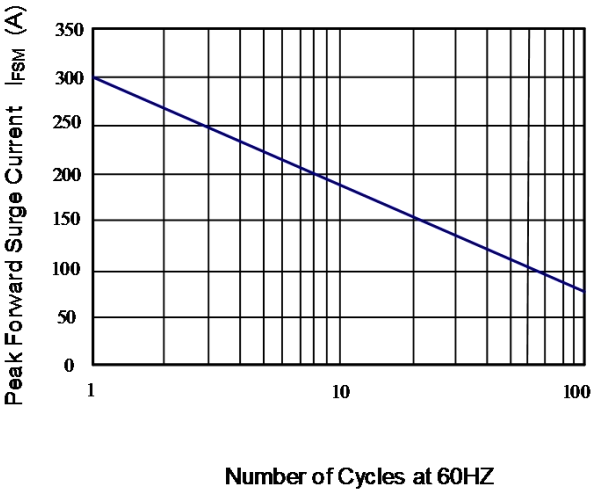
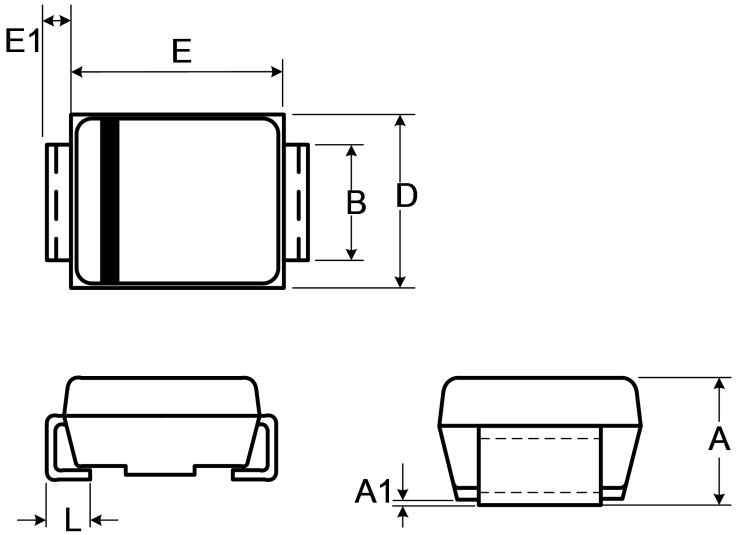


Figure 6: Maximum Non-Repetitive Forward Surge Current Only Unidirectional

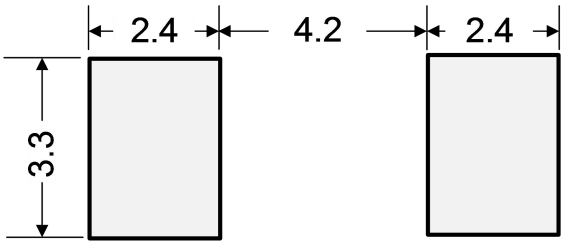


Outline Drawing – SMC(DO-214AB)

Ref.（mm）	Millimeters	
	Min.	Max.
A	2.060	2.620
A1	-	0.203
B	2.900	3.200
E	6.600	7.110
E1	0.152	0.305
D	5.590	6.220
L	0.760	1.520



Recommended Solder Pad Layout



Dimensions in mm

Package Information

Package Type	Description	Quantity（pcs）	Standard
DO-214AB	Tape & Reel -16mm/13″ tape	3000	EIA-481-D