Features

- 3000 watts Peak Pulse Power (10/1000 μs)
- Response Time is Typically < 1 ns
- Excellent Clamping Capability
- Glass Passivated Junction

Applications

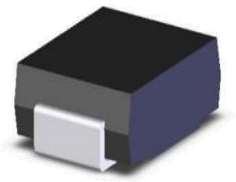
- Power lines
- Automotive and Telecommunication
- Computers &Consumer Electronics
- Industrial Electronics

VP30SMCxxCA Series ----- SURFACE MOUNT TVS Diodes

General Information

VIC offers Transient Voltage Suppressor Diodes for surge and ESD protection applications, in compact chip package DO-214AB (SMC) size format.

TVS device are ideal for the protection of I/O interfaces, V_{CC} bus and other vulnerable circuits used in telecom, computer industrial and consumer electronic application.



Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Peak Power Dissipation At Tj = 25℃,Tp=1ms	P_{PK}	3000	W
Peak Forward Surge Current 8.3ms single half sine-wave super	I_{FSM}	300	A
Maximum Operating temperature	T_{OPER}	-55 to +155	℃
Maximum Storage temperature	T_{STG}	-55 to +175	℃
Maximum lead temperature for soldering during 10s	T_L	260	℃

Electrical Characteristics (@ T_A = 25 °C Unless Otherwise Noted)

Parameter	V_{RWM}	I_L	V_{BR}@I_T		I_T	V_C	I_{PP}
Uni-Polar	V	μA	min(V)	max(V)	mA	max(V)	A
VP30SMC5.0CA	5	800	6.4	7	10	9.2	326.1
VP30SMC6.0CA	6	800	6.67	7.37	10	10.3	291.3
VP30SMC6.5CA	6.5	500	7.22	7.98	10	11.2	267.9
VP30SMC7.0CA	7	200	7.78	8.6	10	12	250
VP30SMC7.5CA	7.5	100	8.33	9.21	1	12.9	232.6

Electrical Characteristics (@ T_A = 25 °C Unless Otherwise Noted)

Parameter	V_{RWM}	I_L	V_{BR}@I_T		I_T	V_C	I_{PP}
Uni-Polar	V	μA	min(V)	max(V)	mA	max(V)	A
VP30SMC8.0CA	8	50	8.89	9.83	1	13.6	220.6
VP30SMC8.5CA	8.5	20	9.44	10.4	1	14.4	208.3
VP30SMC9.0CA	9	10	10	11.1	1	15.4	194.8
VP30SMC10CA	10	5	11.1	12.3	1	17	176.5
VP30SMC11CA	11	1	12.2	13.5	1	18.2	164.8
VP30SMC12CA	12	1	13.3	14.7	1	19.9	150.8
VP30SMC13CA	13	1	14.4	15.9	1	21.5	139.5
VP30SMC14CA	14	1	15.6	17.2	1	23.2	129.3
VP30SMC15CA	15	1	16.7	18.5	1	24.4	123
VP30SMC16CA	16	1	17.8	19.7	1	26	115.4
VP30SMC17CA	17	1	18.9	20.9	1	27.6	108.7
VP30SMC18CA	18	1	20	22.1	1	29.2	102.7
VP30SMC20CA	20	1	22.2	24.5	1	32.4	92.6
VP30SMC22CA	22	1	24.4	26.9	1	35.5	84.5
VP30SMC24CA	24	1	26.7	29.5	1	38.9	77.1
VP30SMC26CA	26	1	28.9	31.9	1	42.1	71.3
VP30SMC28CA	28	1	31.1	34.4	1	45.4	66.1
VP30SMC30CA	30	1	33.3	36.8	1	48.4	62
VP30SMC33CA	33	1	36.7	40.6	1	53.3	56.3
VP30SMC36CA	36	1	40	44.2	1	58.1	51.6

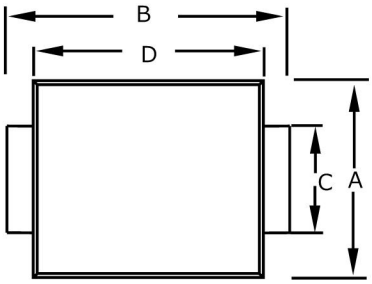
Electrical Characteristics (@ T_A = 25 °C Unless Otherwise Noted)

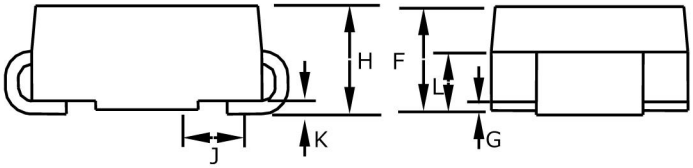
Parameter	V_{RWM}	I_L	V_{BR}@I_T		I_T	V_C	I_{PP}
Uni-Polar	V	μA	min(V)	max(V)	mA	max(V)	A
VP30SMC40CA	40	1	44.4	49.1	1	64.5	46.5
VP30SMC43CA	43	1	47.8	52.8	1	69.4	43.2
VP30SMC45CA	45	1	50	55.3	1	72.7	41.3
VP30SMC48CA	48	1	53.3	58.9	1	77.4	38.8
VP30SMC51CA	51	1	56.7	62.7	1	82.4	36.4
VP30SMC54CA	54	1	60	66.3	1	87.1	34.4
VP30SMC58CA	58	1	64.4	71.2	1	93.6	32.1
VP30SMC60CA	60	1	66.7	73.7	1	96.8	31
VP30SMC64CA	64	1	71.1	78.6	1	103	29.1
VP30SMC70CA	70	1	77.8	86	1	113	26.5
VP30SMC75CA	75	1	83.3	92.1	1	121	24.8
VP30SMC78CA	78	1	86.7	95.8	1	126	23.8
VP30SMC85CA	85	1	94.4	104	1	137	21.9
VP30SMC90CA	90	1	100	111	1	146	20.5
VP30SMC100CA	100	1	111	123	1	162	18.5
VP30SMC110CA	110	1	122	135	1	177	16.9
VP30SMC120CA	120	1	133	147	1	193	15.5
VP30SMC130CA	130	1	144	159	1	209	14.4
VP30SMC150CA	150	1	167	185	1	243	12.3
VP30SMC160CA	160	1	178	197	1	259	11.6

Electrical Characteristics (@ T_A = 25 °C Unless Otherwise Noted)

Parameter	V_{RWM}	I_L	V_{BR}@I_T		I_T	V_C	I_{PP}
Uni-Polar	V	μA	min(V)	max(V)	mA	max(V)	A
VP30SMC170CA	170	1	189	209	1	275	10.9
VP30SMC180CA	180	1	201	222	1	292	10.3
VP30SMC190CA	190	1	211	234	1	307	9.7
VP30SMC200CA	200	1	224	247	1	324	9.3
VP30SMC210CA	210	1	233	258	1	337	8.8
VP30SMC220CA	220	1	246	272	1	356	8.4

Product Dimensions

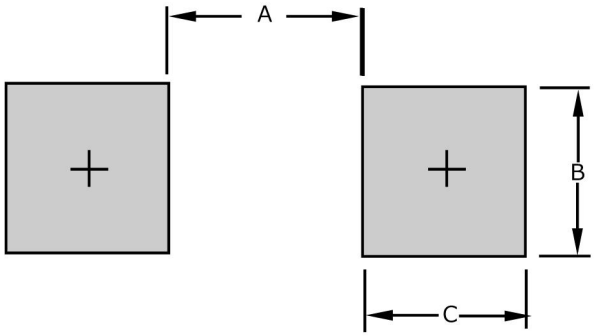




Dimension	SMC (DO-214AB)
A	5.590-6.022 (0.220-0.245)
B	7.750-8.130 (0.305-0.320)
C	2.900-3.200 (0.114-0.126)
D	6.600-7.110 (0.260-0.280)
E	0.760-1.520 (0.030-0.060)
F	2.060-2.620 (0.079-0.103)
G	0.05-0.20 (0.002-0.008)
H	2.060-2.620 (0.079-0.103)
J	0.76-1.52 (0.030-0.060)
K	0.20-0.35 (0.008-0.014)

DIMENSIONS: MM / (INCHES)

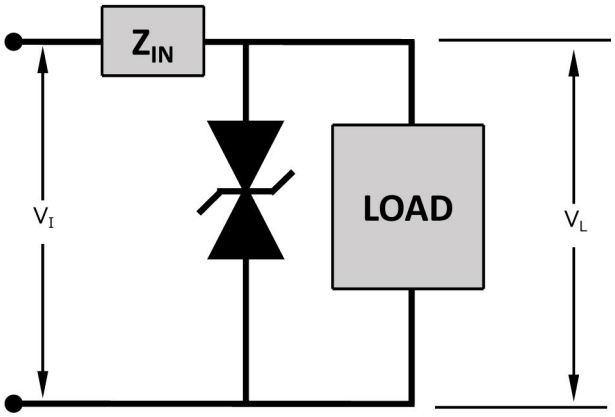
Recommended PCB Footprint



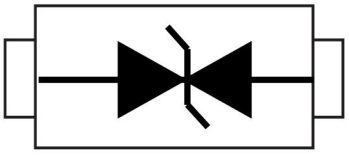
Dimension	SMC (DO-214AB)
A	4.69 (0.185)
B	3.07 (0.121)
C	1.52 (0.060)

DIMENSIONS: MM / (INCHES)

Typical Protection Circuit



Block Diagram



Bi-directional

Performance Graphs

Figure 1 - Peak Pulse Power Rating Curve

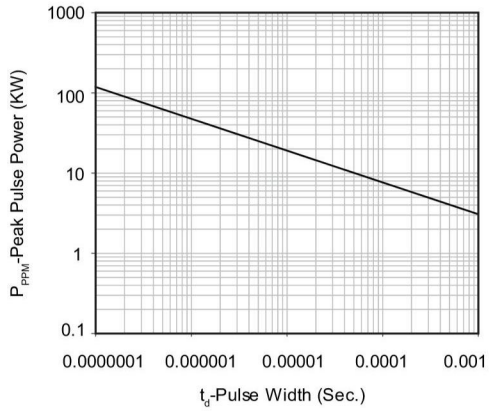


Figure 2 - Pulse Derating Curve

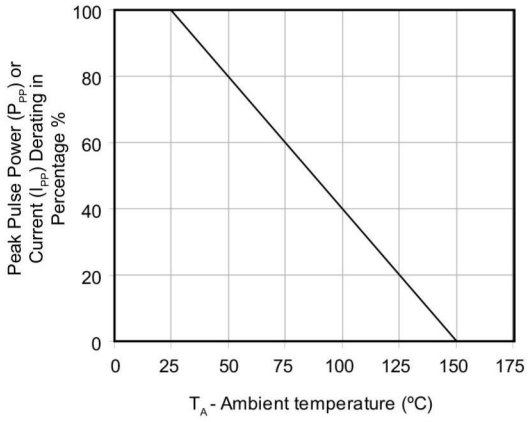


Figure 3 - Pulse Waveform

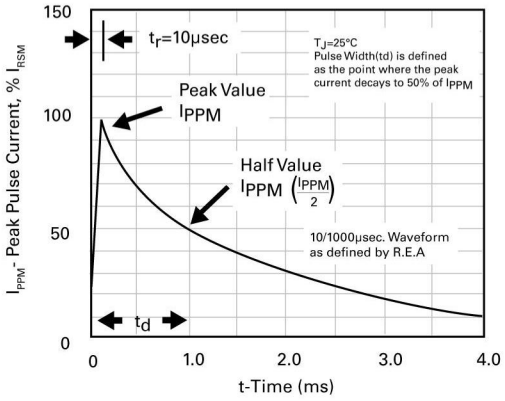


Figure 4 - Typical Junction Capacitance

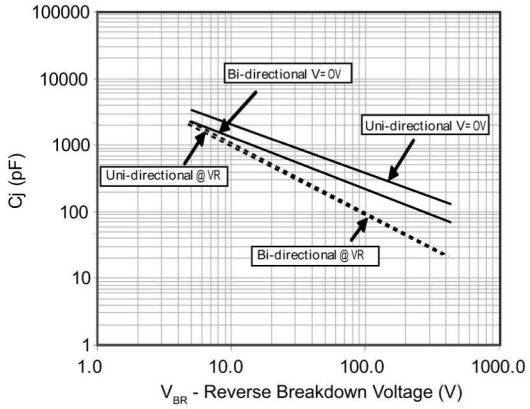


Figure 5 - Steady State Power Derating Curve

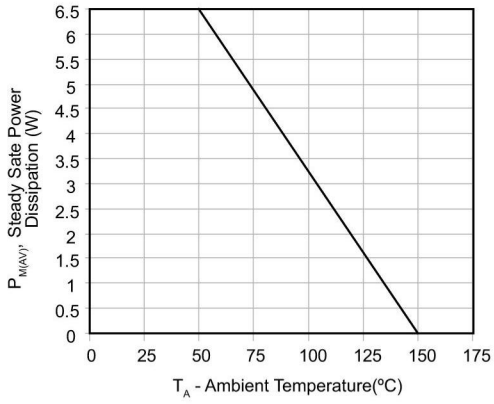
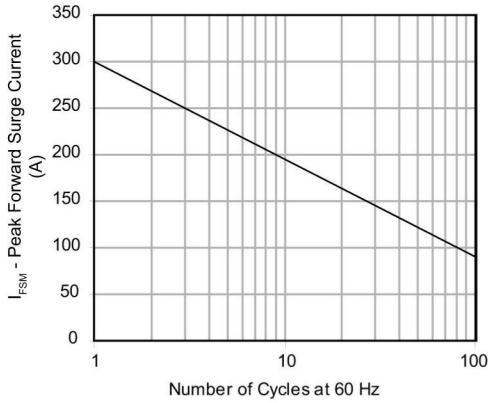
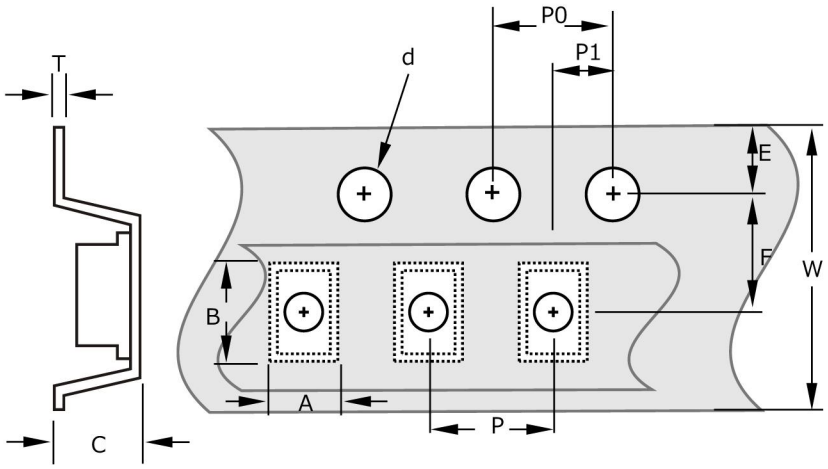


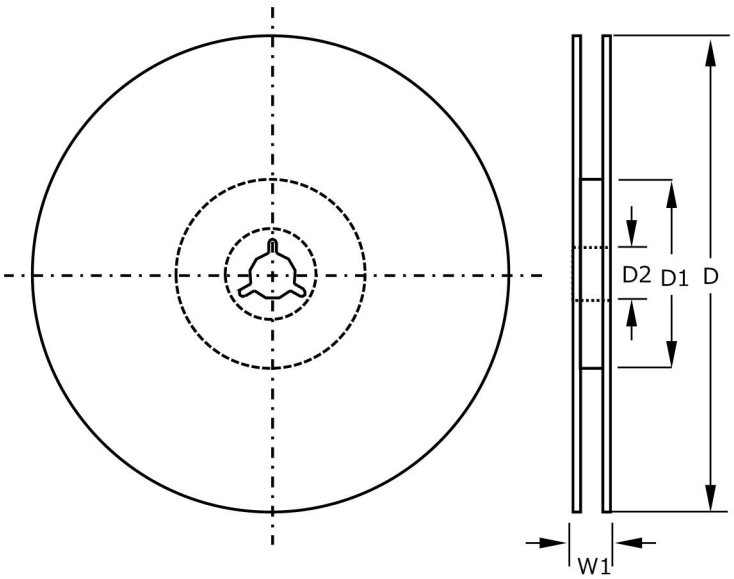
Figure 6 - Maximum Non-Repetitive Peak Forward Surge Current Uni-Directional only



Packaging Information

Symbol	SMC（DO-214AB）
A	6.0±0.20 (0.236±0.079)
B	8.30±0.20 (0.327±0.008)
C	2.57±0.20 (0.101±0.008)
d	1.50±0.10 (0.061±0.004)
D	330 (12.992)
D1	50.0 (1.969)
D2	13.0±0.20 (0.512±0.008)
E	1.75±0.10 (0.069±0.004)
F	7.50±0.10 (0.295±0.004)
P	8.00±0.10 (0.315±0.004)
P0	4.00±0.10 (0.157±0.004)
P1	2.00±0.05 (0.079±0.002)
T	0.30±0.10 (0.012±0.004)
W	16.00±0.30 (0.630±0.012)
W1	22.40 (0.882)





DIMENSIONS: MM / (INCHES)

Quantity of products in the taping package

(1) Standard quantity : 3000pcs/Reel for the Series.

(2) Shipping quantity is a multiple of standard quantity.

(3) For more information, please contact our local agents.