Features

- 5000 watts Peak Pulse Power (10/1000 μs)
- Response Time is Typically < 1 ns
- Excellent Clamping Capability
- Glass Passivated Junction

Applications

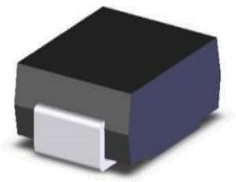
- Power lines
- Automotive and Telecommunication
- Computers &Consumer Electronics
- Industrial Electronics

VP50SMCxxA 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}	5000	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
VP50SMC11A	11	800	12.2	13.5	10	18.2	275
VP50SMC12A	12	800	13.3	14.7	10	19.9	252
VP50SMC13A	13	500	14.4	15.9	10	21.5	233
VP50SMC14A	14	200	15.6	17.2	10	23.2	216
VP50SMC15A	15	100	16.7	18.5	1	24.4	205

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
VP50SMC16A	16	50	17.8	19.7	1	26	193
VP50SMC17A	17	20	18.9	20.9	1	27.6	181
VP50SMC18A	18	10	20	22.1	1	29.2	172
VP50SMC20A	20	5	22.2	24.5	1	32.4	155
VP50SMC22A	22	1	24.4	26.9	1	35.5	141
VP50SMC24A	24	1	26.7	29.5	1	38.9	129
VP50SMC26A	26	1	28.9	31.9	1	42.1	119
VP50SMC28A	28	1	31.1	34.4	1	45.4	110
VP50SMC30A	30	1	33.3	36.8	1	48.4	103
VP50SMC33A	33	1	36.7	40.6	1	53.3	93.9
VP50SMC36A	36	1	40	44.2	1	58.1	86.1
VP50SMC40A	40	1	44.4	49.1	1	64.5	77.6
VP50SMC43A	43	1	47.8	52.8	1	69.4	72.1
VP50SMC45A	45	1	50	55.3	1	72.7	68.8
VP50SMC48A	48	1	53.3	58.9	1	77.4	64.7
VP50SMC51A	51	1	56.7	62.7	1	82.4	60.7
VP50SMC54A	54	1	60	66.3	1	87.1	57.5
VP50SMC58A	58	1	64.4	71.2	1	93.6	53.5
VP50SMC60A	60	1	66.7	73.7	1	96.8	51.7
VP50SMC64A	64	1	71.1	78.6	1	103	48.6

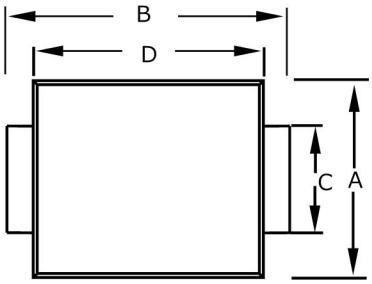
■Vic Semi reserves the right to change or uprate, without notice, any information contained in this specification.

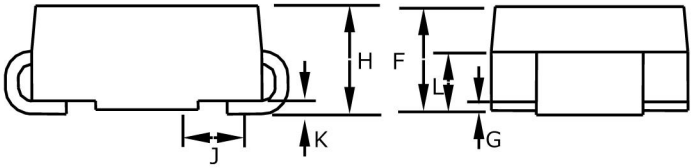
Electrical Characteristics (@ T_A = 25 °C Unless Otherwise Noted)

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
VP50SMC70A	70	1	77.8	86	1	113	44.3
VP50SMC75A	75	1	83.3	92.1	1	121	41.4
VP50SMC78A	78	1	86.7	95.8	1	126	39.7
VP50SMC85A	85	1	94.4	104	1	137	36.5
VP50SMC90A	90	1	100	111	1	146	34.3
VP50SMC100A	100	1	111	123	1	162	30.9
VP50SMC110A	110	1	122	135	1	177	28.3
VP50SMC120A	120	1	133	147	1	193	26
VP50SMC130A	130	1	144	159	1	209	24
VP50SMC150A	150	1	167	185	1	243	20.6
VP50SMC160A	160	1	178	197	1	259	19.3
VP50SMC170A	170	1	189	209	1	275	18.2

■Vic Semi reserves the right to change or uprate, without notice, any information contained in this specification.

Product Dimensions

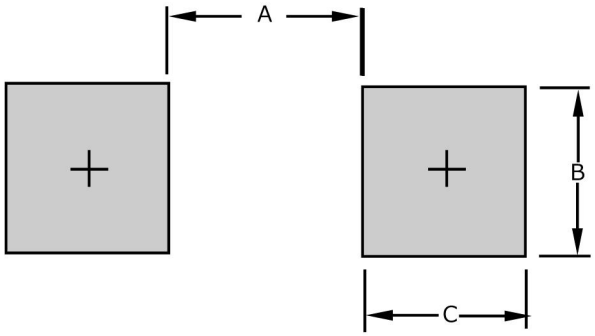




Dimension	SMC (DO-214AB)
A	5.590-6.022 (0.220-0.245)
B	7.750-8.130 (0.305-0.320)
C	2.900-3.200 (0.114-0.126)
D	6.600-7.110 (0.260-0.280)
E	0.760-1.520 (0.030-0.060)
F	2.060-2.620 (0.079-0.103)
G	0.05-0.20 (0.002-0.008)
H	2.060-2.620 (0.079-0.103)
J	0.76-1.52 (0.030-0.060)
K	0.20-0.35 (0.008-0.014)

DIMENSIONS: MM / (INCHES)

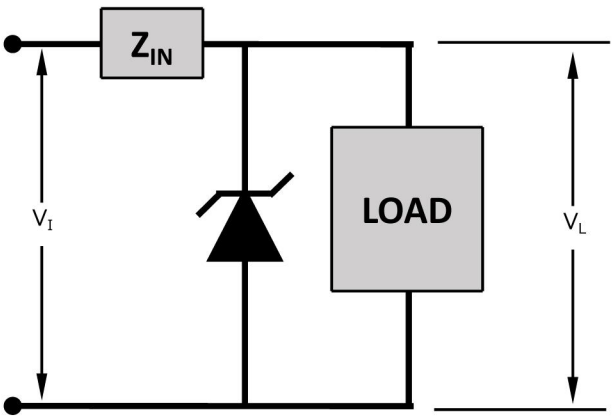
Recommended PCB Footprint



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



Performance Graphs

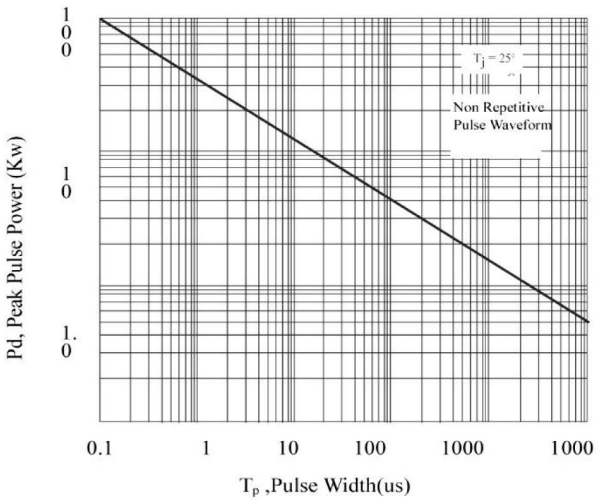


Fig.1 Pulse Rating

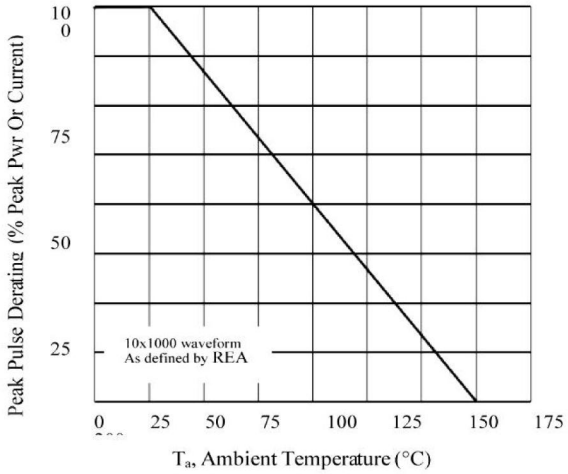


Fig. 2 Pulse Derating Curve

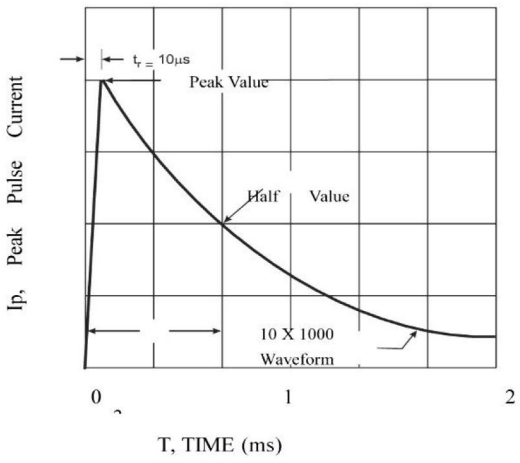


Fig. 3 Pulse Waveform

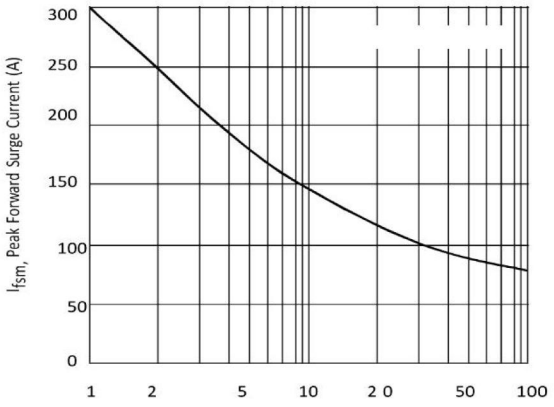


Fig. 4, Maximum Non-Repetitive Surge Current

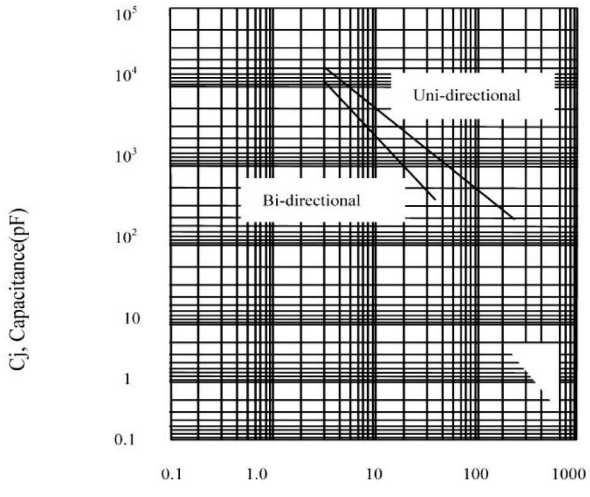
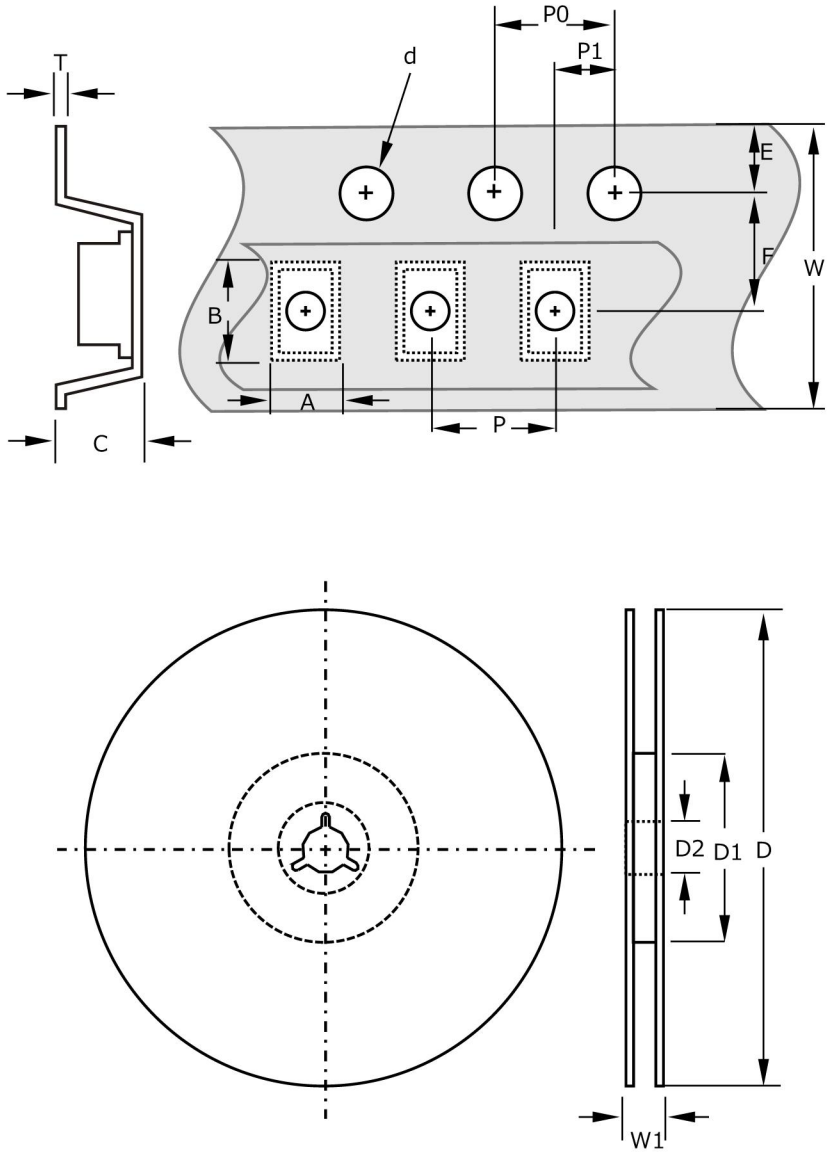


Fig. 5 Typical junction Capacitance

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.