



Features

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

Applications

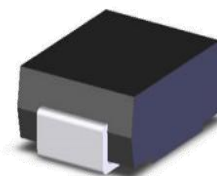
- Power lines
- Automotive and Telecommunication
- Computers & Consumer Electronics
- Industrial Electronics

VP50SMCxxCA 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 $T_j = 25^\circ\text{C}$, $T_p = 1\text{ms}$	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	$^\circ\text{C}$
Maximum Storage temperature	T_{STG}	-55 to +175	$^\circ\text{C}$
Maximum lead temperature for soldering during 10s	T_L	260	$^\circ\text{C}$

Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ 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
VP50SMC11CA	11	800	12.2	13.5	10	18.2	275
VP50SMC12CA	12	800	13.3	14.7	10	19.9	252
VP50SMC13CA	13	500	14.4	15.9	10	21.5	233
VP50SMC14CA	14	200	15.6	17.2	10	23.2	216
VP50SMC15CA	15	100	16.7	18.5	1	24.4	205



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Uni-Polar	V	μA	min(V)	max(V)	mA	max(V)	A
VP50SMC16CA	16	50	17.8	19.7	1	26	193
VP50SMC17CA	17	20	18.9	20.9	1	27.6	181
VP50SMC18CA	18	10	20	22.1	1	29.2	172
VP50SMC20CA	20	5	22.2	24.5	1	32.4	155
VP50SMC22CA	22	1	24.4	26.9	1	35.5	141
VP50SMC24CA	24	1	26.7	29.5	1	38.9	129
VP50SMC26CA	26	1	28.9	31.9	1	42.1	119
VP50SMC28CA	28	1	31.1	34.4	1	45.4	110
VP50SMC30CA	30	1	33.3	36.8	1	48.4	103
VP50SMC33CA	33	1	36.7	40.6	1	53.3	93.9
VP50SMC36CA	36	1	40	44.2	1	58.1	86.1
VP50SMC40CA	40	1	44.4	49.1	1	64.5	77.6
VP50SMC43CA	43	1	47.8	52.8	1	69.4	72.1
VP50SMC45CA	45	1	50	55.3	1	72.7	68.8
VP50SMC48CA	48	1	53.3	58.9	1	77.4	64.7
VP50SMC51CA	51	1	56.7	62.7	1	82.4	60.7
VP50SMC54CA	54	1	60	66.3	1	87.1	57.5
VP50SMC58CA	58	1	64.4	71.2	1	93.6	53.5
VP50SMC60CA	60	1	66.7	73.7	1	96.8	51.7
VP50SMC64CA	64	1	71.1	78.6	1	103	48.6



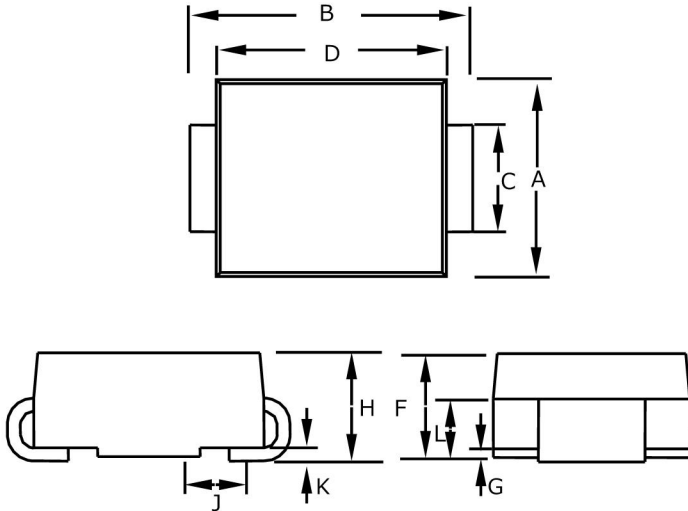
VP50SMCxxCA Series ----- SURFACE MOUNT TVS Diodes

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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
VP50SMC70CA	70	1	77.8	86	1	113	44.3
VP50SMC75CA	75	1	83.3	92.1	1	121	41.4
VP50SMC78CA	78	1	86.7	95.8	1	126	39.7
VP50SMC85CA	85	1	94.4	104	1	137	36.5
VP50SMC90CA	90	1	100	111	1	146	34.3
VP50SMC100CA	100	1	111	123	1	162	30.9
VP50SMC110CA	110	1	122	135	1	177	28.3
VP50SMC120CA	120	1	133	147	1	193	26
VP50SMC130CA	130	1	144	159	1	209	24
VP50SMC150CA	150	1	167	185	1	243	20.6
VP50SMC160CA	160	1	178	197	1	259	19.3
VP50SMC170CA	170	1	189	209	1	275	18.2

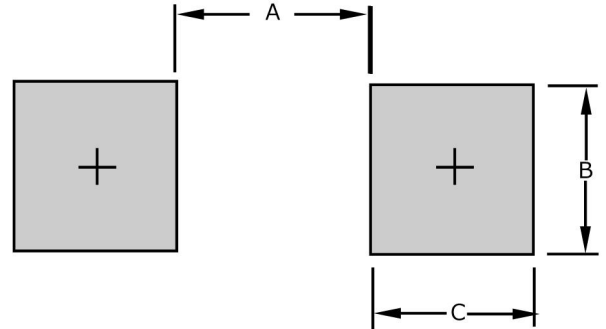
Product Dimensions

Recommended PCB Footprint



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

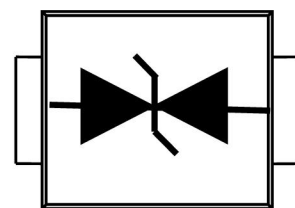
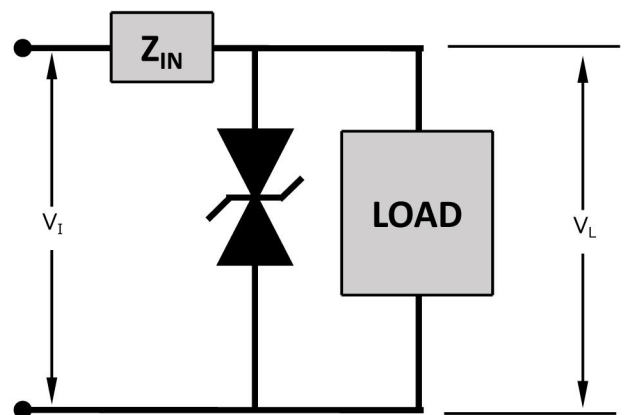
DIMENSIONS: $\frac{\text{MM}}{(\text{INCHES})}$



Dimension	SMC (DO-214AB)
A	$\frac{4.69}{(0.185)}$
B	$\frac{3.07}{(0.121)}$
C	$\frac{1.52}{(0.060)}$

DIMENSIONS: $\frac{\text{MM}}{(\text{INCHES})}$

Typical Protection Circuit



Bi-directional

Performance Graphs

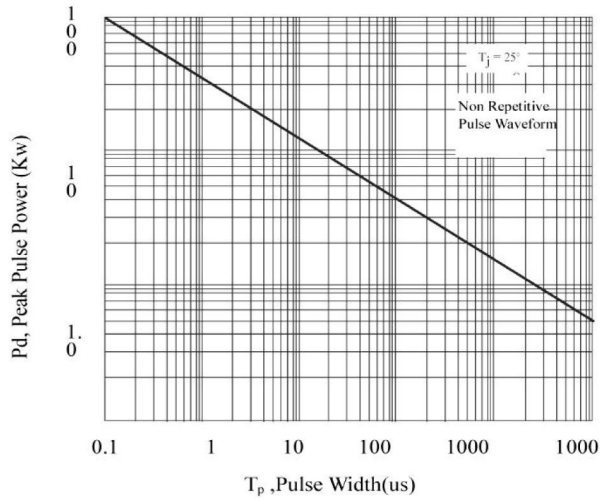


Fig.1 Pulse Rating

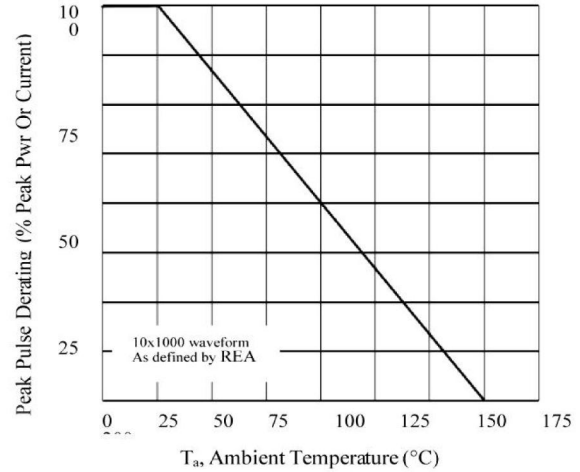


Fig. 2 Pulse Derating Curve

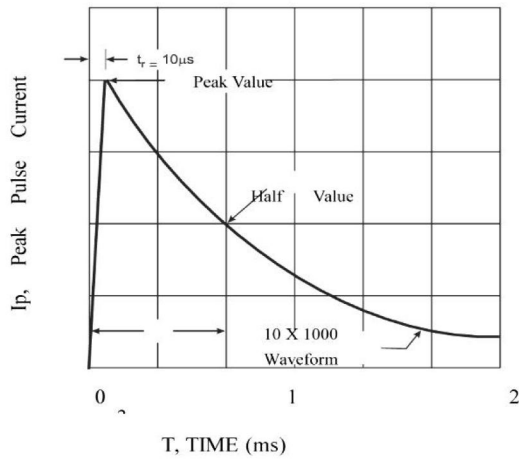


Fig. 3 Pulse Waveform

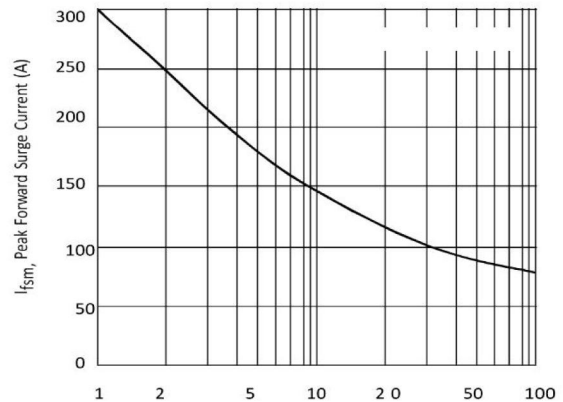


Fig. 4, Maximum Non-Repetitive Surge Current

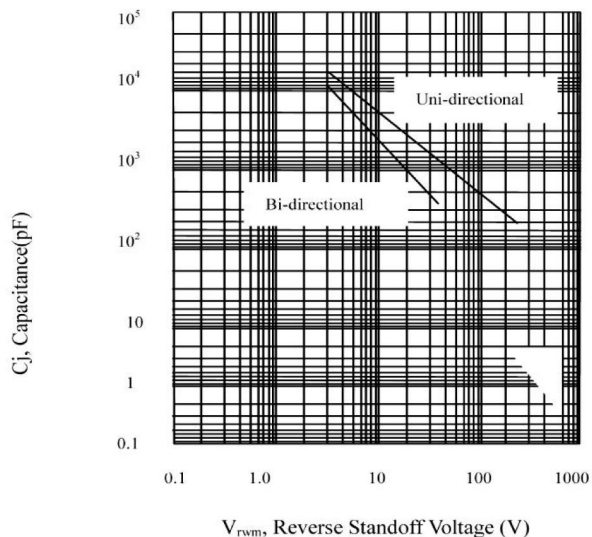
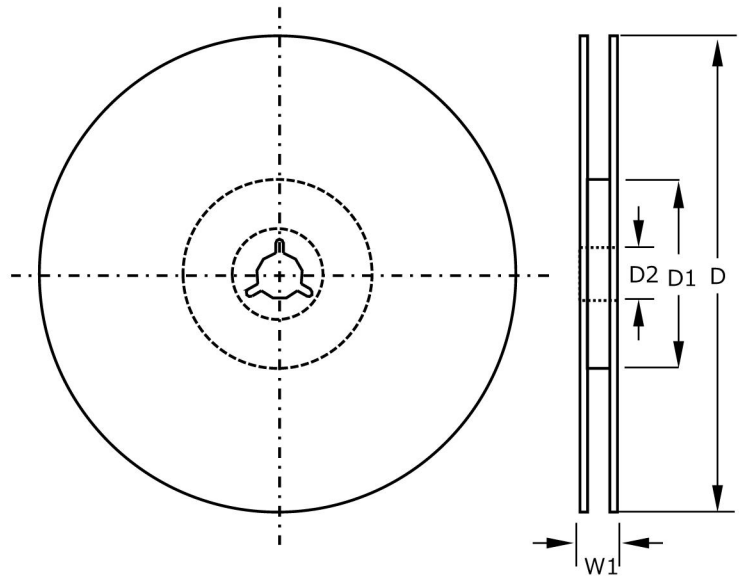
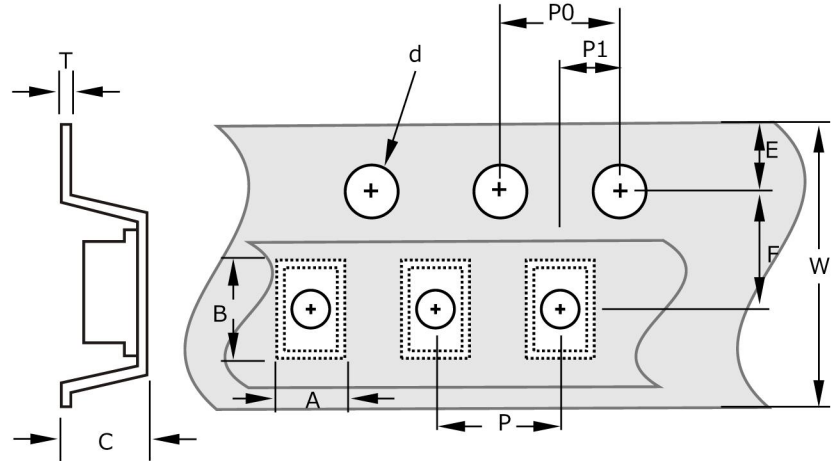


Fig. 5 Typical junction Capacitance

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: $\frac{\text{MM}}{(\text{INCHES})}$

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.