

SMC TVS 瞬态电压抑制二极管

■Features 特点

Excellent Clamping Capability 优秀的钳位能力

Fast Response Time 快速反应时间

Built-in Strain Relief 内应力释放



■Applications 应用

Clamping Voltage 钳制电压

■Internal Schematic Diagram 内部结构



■Absolute Maximum Ratings 最大额定值

Characteristic 特性参数	Symbol 符号	Rat 额定值	Unit 单位
Peak Power Dissipation 峰值功率	P_{PK}	5000	W
Reverse Stand-off Work Voltage 反向工作电压	V_{RWM}	11~440	V
Peak Pulse Current 峰值脉冲电流	I_{PP}	275~7.02	A
Peak Forward Surge Current 峰值正向浪涌电流(UNI)	I_{FSM}	300	A
Forward Voltage@ $I_F=100A$ 正向电压(UNI)	V_F	5	V
Thermal Resistance Junction-Ambient 结到环境热阻	$R_{\theta JA}$	75	$^{\circ}C/W$
Thermal Resistance Junction-Lead 结到管脚热阻	$R_{\theta JL}$	15	$^{\circ}C/W$
Junction/Storage Temperature 结温/储存温度	T_J, T_{stg}	-55~150	$^{\circ}C$

■Electrical Characteristics 电特性

 (T_A=25°C unless otherwise noted 如无特殊说明, 温度为 25°C)

Part Number		Marking		V _R	I _R @V _R	V _{BR} @ I _T		I _T	V _C @ I _{PP}	I _{PP}
Uni-Polar	Bi-Polar	Uni	Bi	V	Max (μA)	Min (V)	Max (V)	mA	Max (V)	A
5.0SMDJ11A	5.0SMDJ11CA	5PEN	5BEN	11	5	12.20	13.50	10	18.2	275.0
5.0SMDJ12A	5.0SMDJ12CA	5PEP	5BEP	12	5	13.30	14.70	10	19.9	252.0
5.0SMDJ13A	5.0SMDJ13CA	5PEQ	5BEQ	13	5	14.40	15.90	10	21.5	233.0
5.0SMDJ14A	5.0SMDJ14CA	5PER	5BER	14	5	15.60	17.20	10	23.2	216.0
5.0SMDJ15A	5.0SMDJ15CA	5PES	5BES	15	5	16.70	18.50	1	24.4	205.0
5.0SMDJ16A	5.0SMDJ16CA	5PET	5BET	16	5	17.80	19.70	1	26.0	193.0
5.0SMDJ17A	5.0SMDJ17CA	5PEU	5BEU	17	5	18.90	20.90	1	27.6	181.0
5.0SMDJ18A	5.0SMDJ18CA	5PEV	5BEV	18	5	20.00	22.10	1	29.2	172.0
5.0SMDJ20A	5.0SMDJ20CA	5PEW	5BEW	20	5	22.20	24.50	1	32.4	155.0
5.0SMDJ22A	5.0SMDJ22CA	5PEX	5BEX	22	5	24.40	26.90	1	35.5	141.0
5.0SMDJ24A	5.0SMDJ24CA	5PEZ	5BEZ	24	5	26.70	29.50	1	38.9	129.0
5.0SMDJ26A	5.0SMDJ26CA	5PFE	5BFE	26	5	28.90	31.90	1	42.1	119.0
5.0SMDJ28A	5.0SMDJ28CA	5PFG	5BFG	28	5	31.10	34.40	1	45.4	110.0
5.0SMDJ30A	5.0SMDJ30CA	5PFK	5BFK	30	5	33.30	36.80	1	48.4	103.0
5.0SMDJ33A	5.0SMDJ33CA	5PFM	5BFM	33	1	36.70	40.60	1	53.3	93.9
5.0SMDJ36A	5.0SMDJ36CA	5PFP	5BFP	36	1	40.00	44.20	1	58.1	86.1
5.0SMDJ40A	5.0SMDJ40CA	5PFR	5BFR	40	1	44.40	49.10	1	64.5	77.6
5.0SMDJ43A	5.0SMDJ43CA	5PFT	5BFT	43	1	47.80	52.80	1	69.4	72.1
5.0SMDJ45A	5.0SMDJ45CA	5PFV	5BFV	45	1	50.00	55.30	1	72.7	68.8
5.0SMDJ48A	5.0SMDJ48CA	5PFX	5BFX	48	1	53.30	58.90	1	77.4	64.7
5.0SMDJ51A	5.0SMDJ51CA	5PFZ	5BFZ	51	1	56.70	62.70	1	82.4	60.7
5.0SMDJ54A	5.0SMDJ54CA	5PGE	5BGE	54	1	60.00	66.30	1	87.1	57.5
5.0SMDJ58A	5.0SMDJ58CA	5PGG	5BGG	58	1	64.40	71.20	1	93.6	53.5

■ Electrical Characteristics 电特性

($T_A=25^{\circ}\text{C}$ unless otherwise noted 如无特殊说明, 温度为 25°C)

Part Number		Marking		V_R	$I_R @ V_R$	$V_{BR} @ I_T$		I_T	$V_C @ I_{PP}$	I_{PP}
Uni-Polar	Bi-Polar	Uni	Bi	V	Max (μA)	Min (V)	Max (V)	mA	Max (V)	A
5.0SMDJ60A	5.0SMDJ60CA	5PGK	5BGK	60	1	66.70	73.70	1	96.8	51.7
5.0SMDJ64A	5.0SMDJ64CA	5PGM	5BGM	64	1	71.10	78.60	1	103.0	48.6
5.0SMDJ70A	5.0SMDJ70CA	5PGP	5BGP	70	1	77.80	86.00	1	113.0	44.3
5.0SMDJ75A	5.0SMDJ75CA	5PGR	5BGR	75	1	83.30	92.10	1	121.0	41.4
5.0SMDJ78A	5.0SMDJ78CA	5PGT	5BGT	78	1	86.70	95.80	1	126.0	39.7
5.0SMDJ85A	5.0SMDJ85CA	5PGV	5BGV	85	1	94.40	104.0	1	137.0	36.5
5.0SMDJ90A	5.0SMDJ90CA	5PGX	5BGX	90	1	100.0	111.0	1	146.0	34.3
5.0SMDJ100A	5.0SMDJ100CA	5PGZ	5BGZ	100	1	111.0	123.0	1	162.0	30.9
5.0SMDJ110A	5.0SMDJ110CA	5PHE	5BHE	110	1	122.0	135.0	1	177.0	28.3
5.0SMDJ120A	5.0SMDJ120CA	5PHG	5BHG	120	1	133.0	147.0	1	193.0	26.0
5.0SMDJ130A	5.0SMDJ130CA	5PHK	5BHK	130	1	144.0	159.0	1	209.0	24.0
5.0SMDJ150A	5.0SMDJ150CA	5PHM	5BHM	150	1	167.0	185.0	1	243.0	20.6
5.0SMDJ160A	5.0SMDJ160CA	5PHP	5BHP	160	1	178.0	197.0	1	259.0	19.3
5.0SMDJ170A	5.0SMDJ170CA	5PHR	5BHR	170	1	189.0	209.0	1	275.0	18.2
5.0SMDJ180A	5.0SMDJ180CA	5PHT	5BHT	180	1	201.0	222.0	1	292.0	17.1
5.0SMDJ190A	5.0SMDJ190CA	5PHU	5BHU	190	1	211.0	234.0	1	307.0	16.3
5.0SMDJ200A	5.0SMDJ200CA	5PHV	5BHV	200	1	224.0	247.0	1	324.0	15.4
5.0SMDJ210A	5.0SMDJ210CA	5PHW	5BHW	210	1	233.0	258.0	1	337.0	14.8
5.0SMDJ220A	5.0SMDJ220CA	5PHX	5BHX	220	1	246.0	272.0	1	356.0	14.0
5.0SMDJ250A	5.0SMDJ250CA	5PHZ	5BHZ	250	1	279.0	309.0	1	405.0	12.3
5.0SMDJ300A	5.0SMDJ300CA	5PJK	5BJK	300	1	335.0	371.0	1	486.0	10.3
5.0SMDJ350A	5.0SMDJ350CA	5PJM	5BJM	350	1	391.0	432.0	1	567.0	8.8
5.0SMDJ400A	5.0SMDJ400CA	5PJP	5BJP	400	1	447.0	494.0	1	648.0	7.72
5.0SMDJ440A	5.0SMDJ440CA	5PJR	5BJR	440	1	492.0	543.0	1	713.0	7.02

■ Typical Characteristic Curve 典型特性曲线

FIG.1: V- I curve characteristics (Uni-directional)

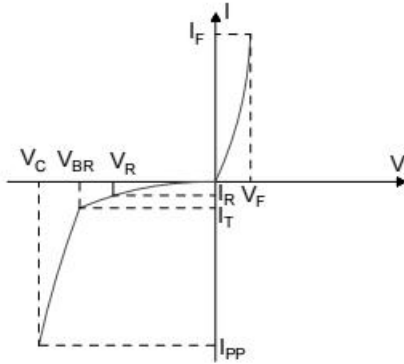


FIG.2: V- I curve characteristics (Bi-directional)

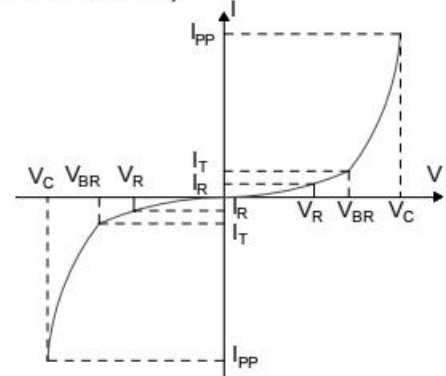


FIG.3: Pulse waveform

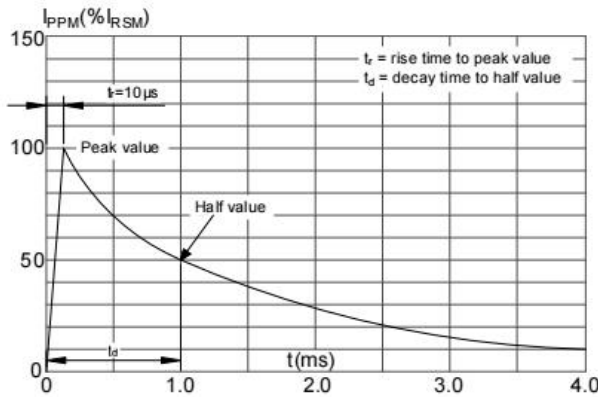


FIG.4: Pulse derating curve

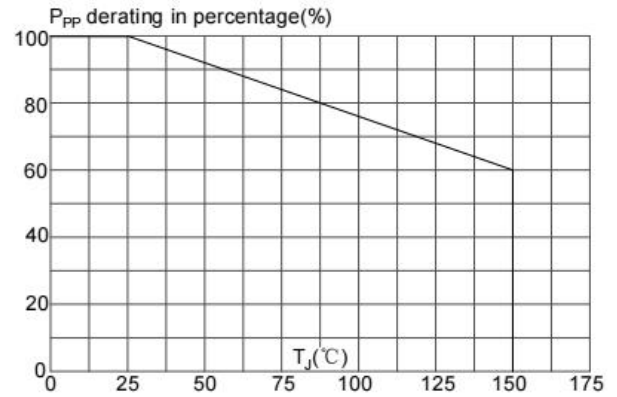


FIG.5: Typical junction capacitance

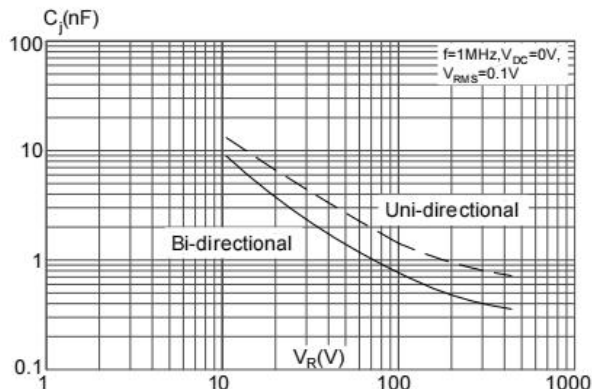
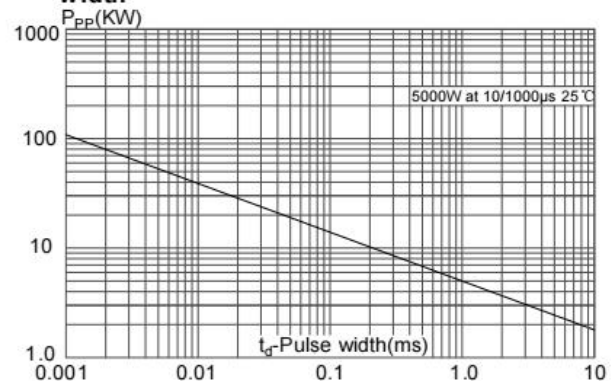
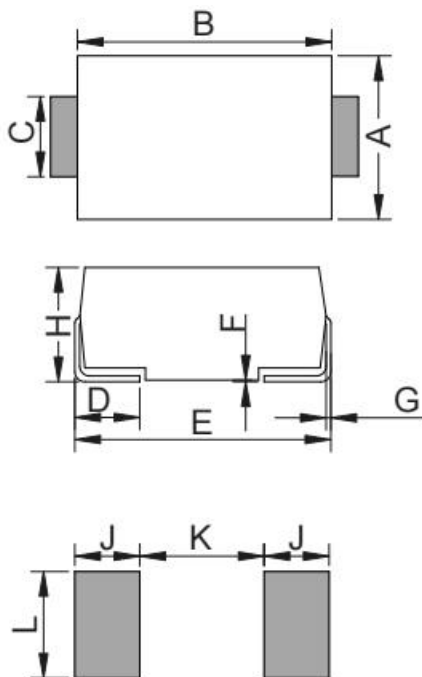


FIG.6: Peak pulse power dissipation vs. pulse width



■Dimension 外形封装尺寸



DO-214AB (SMC)

Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	5.75	6.25	0.226	0.246
B	6.90	7.40	0.272	0.291
C	2.75	3.25	0.108	0.128
D	0.95	1.52	0.037	0.060
E	7.70	8.20	0.303	0.323
F	0.051	0.203	0.002	0.008
G	0.15	0.31	0.006	0.012
H	2.15	2.62	0.085	0.103
J	2.40		0.094	
K		4.20		0.165
L	3.30		0.130	