



瞬变电压抑制二极管 Transient Voltage Suppressor Diodes

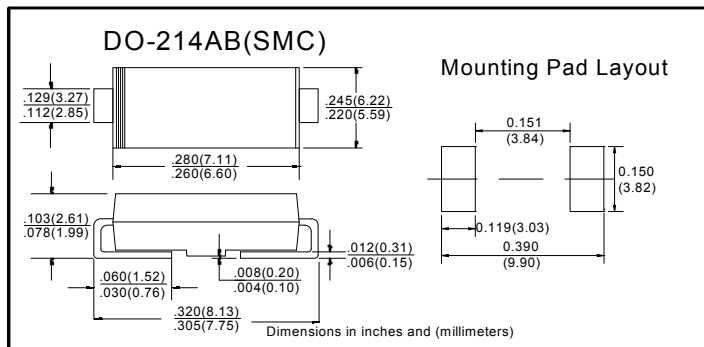
■特征 Features

- P_{PP} 1500W
- V_{BR} 6.8V-600V

■用途 Applications

- 箝位电压用 Clamping Voltage

■外形尺寸和印记 Outline Dimensions and Mark



■极限值（绝对最大额定值）

Limiting Values (Absolute Maximum Rating)

参数名称 Item	符号 Symbol	单位 Unit	条件 Conditions	最大值 Max
最大损耗功率(1)(2) Peak power dissipation	P_{PPM}	W	在10/1000us 波形下测试 with a 10/1000us waveform	1500
最大脉冲电流(1) Peak pulse current	I_{PPM}	A	在10/1000us 波形下测试 with a 10/1000us waveform	见下面表格 See Next Table
功率损耗 Power dissipation	P_D	W	无限散热片@ $T_A=50^\circ\text{C}$ on infinite heat sink at $T_A=50^\circ\text{C}$	6.5
最大正向浪涌电流(2) Peak forward surge current	I_{FSM}	A	8.3ms 正弦半波, 仅单向型 8.3 ms single half sine-wave unidirectional only	200
工作结温和存储温度范围 Operating junction and storage temperature range	T_J, T_{STG}	$^\circ\text{C}$		-55 to +150

■电特性 ($T_A=25^\circ\text{C}$ 除非另有规定)Electrical Characteristics ($T_A=25^\circ\text{C}$ Unless otherwise specified)

参数名称 Item	符号 Symbol	单位 Unit	条件 Conditions	最大值 Max
最大瞬间正向电压 Maximum instantaneous forward Voltage	V_F	V	在100A下测试, 仅单向型 at 100A for unidirectional only	3.5
典型热阻 Thermal resistance	$R_{\theta JA}$	$^\circ\text{C}/\text{W}$	结到环境 junction to ambient	75
	$R_{\theta JL}$	$^\circ\text{C}/\text{W}$	结到引线 junction to lead	15

备注: Notes:

(1) 不重复脉冲电流, 如图3, 在 $T_A=25^\circ\text{C}$ 下功率降额曲线见如图2。

Non-repetitive current pulse, per Fig. 3 and derated above $T_A=25^\circ\text{C}$ per Fig.2.

(2) 每个端子安装在 0.31 x 0.31" (8.0 x 8.0 mm) 铜焊盘上

Mounted on 0.31 x 0.31" (8.0 x 8.0 mm) copper pads to each terminal

■ 电性参数 ($T_A=25^\circ\text{C}$ 除非另有规定)

Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)

产品型号 (单向) Part Number (Uni)	产品型号 (双向) Part Number (Bi)	击穿电压 $V_{BR}@I_T$ Breakdown Voltage $V_{BR}@I_T$			最大反向漏电流 $I_R@V_{RWM}$ Maximum Reverse Leakage $I_R^{(3)}$ (μA)	最大工作电压 V_{RWM} Working Peak Reverse Voltage V_{RWM} (V)	最大反向浪涌电流 IPP Maximum Reverse Surge Current IPP ⁽²⁾ (A)	最大箝位电压 Maximum Clamping Voltage V_c @ I_{PP} (V)
		最小 Min(V)	最大 Max (V)	测试电流 $I_T^{(1)(2)}$ (mA)				
1.5SMC6.8A	1.5SMC6.8CA	6.46	7.14	10.0	1000	5.8	142.8	10.5
1.5SMC7.5A	1.5SMC7.5CA	7.13	7.88	10.0	500	6.4	132.7	11.3
1.5SMC8.2A	1.5SMC8.2CA	7.79	8.61	10.0	200	7.0	124.0	12.1
1.5SMC9.1A	1.5SMC9.1CA	8.65	9.56	1.0	50	7.8	111.9	13.4
1.5SMC10A	1.5SMC10CA	9.50	10.50	1.0	10	8.6	103.4	14.5
1.5SMC11A	1.5SMC11CA	10.45	11.55	1.0	5	9.4	96.1	15.6
1.5SMC12A	1.5SMC12CA	11.40	12.60	1.0	5	10.2	89.8	16.7
1.5SMC13A	1.5SMC13CA	12.35	13.65	1.0	5	11.1	82.4	18.2
1.5SMC15A	1.5SMC15CA	14.25	15.75	1.0	5	12.8	70.7	21.2
1.5SMC16A	1.5SMC16CA	15.20	16.80	1.0	5	13.6	66.7	22.5
1.5SMC18A	1.5SMC18CA	17.10	18.90	1.0	5	15.3	59.5	25.2
1.5SMC20A	1.5SMC20CA	19.00	21.00	1.0	5	17.1	54.1	27.7
1.5SMC22A	1.5SMC22CA	20.90	23.10	1.0	5	18.8	49.0	30.6
1.5SMC24A	1.5SMC24CA	22.80	25.20	1.0	5	20.5	45.2	33.2
1.5SMC27A	1.5SMC27CA	25.65	28.35	1.0	5	23.1	40.0	37.5
1.5SMC30A	1.5SMC30CA	28.50	31.50	1.0	5	25.6	36.2	41.4
1.5SMC33A	1.5SMC33CA	31.35	34.65	1.0	5	28.2	32.8	45.7
1.5SMC36A	1.5SMC36CA	34.20	37.80	1.0	5	30.8	30.0	50.0
1.5SMC39A	1.5SMC39CA	37.05	40.95	1.0	5	33.3	37.8	53.9
1.5SMC43A	1.5SMC43CA	40.85	45.15	1.0	5	36.8	25.3	59.3
1.5SMC47A	1.5SMC47CA	44.65	49.35	1.0	5	40.2	23.1	64.8
1.5SMC51A	1.5SMC51CA	48.45	53.55	1.0	5	43.6	21.4	70.1
1.5SMC56A	1.5SMC56CA	53.20	58.80	1.0	5	47.8	19.5	77.0
1.5SMC62A	1.5SMC62CA	58.90	65.10	1.0	5	53.0	17.6	85.0
1.5SMC68A	1.5SMC68CA	64.60	71.40	1.0	5	58.1	16.3	92.0
1.5SMC75A	1.5SMC75CA	71.25	78.75	1.0	5	64.1	14.5	103.0
1.5SMC82A	1.5SMC82CA	77.90	86.10	1.0	5	70.1	13.3	113.0
1.5SMC91A	1.5SMC91CA	86.45	95.35	1.0	5	77.8	12.0	125.0
1.5SMC100A	1.5SMC100CA	95.00	105.00	1.0	5	85.5	10.9	137.0
1.5SMC110A	1.5SMC110CA	104.50	115.50	1.0	5	94.0	9.8	152.0
1.5SMC120A	1.5SMC120CA	114.00	126.00	1.0	5	102.0	9.1	165.0
1.5SMC130A	1.5SMC130CA	123.50	136.50	1.0	5	111.0	8.4	179.0
1.5SMC150A	1.5SMC150CA	142.50	157.50	1.0	5	128.0	7.2	207.0
1.5SMC160A	1.5SMC160CA	152.00	168.00	1.0	5	136.0	6.8	219.0
1.5SMC170A	1.5SMC170CA	161.50	178.50	1.0	5	145.0	6.4	234.0
1.5SMC180A	1.5SMC180CA	171.00	189.00	1.0	5	154.0	6.1	246.0
1.5SMC200A	1.5SMC200CA	190.00	210.00	1.0	5	171.0	5.4	274.0



1.5SMC SERIES

■ 电性参数 (T_A=25°C 除非另有规定)

Electrical Characteristics (T_A=25°C unless otherwise noted)

产品型号 (单向) Part Number (Uni)	产品型号 (双向) Part Number (Bi)	击穿电压 V _{BR} @I _T Breakdown Voltage V _{BR} @I _T			最大反向漏电流 I _R @V _{WM} Maximum Reverse Leakage I _R ⁽³⁾ (μA)	最大工作电压 V _{RWM} Working Peak Reverse Voltage V _{RWM} (V)	最大反向浪涌 电流 IPP Maximum Reverse Surge Current IPP ⁽²⁾ (A)	最大箝位电压 Maximum Clamping Voltage V _c @ I _{PP} (V)
		最小 Min(V)	最大 Max (V)	测试电 流 I _T ⁽¹⁾ (mA)				
1.5SMC220A	1.5SMC220CA	209.00	231.00	1.0	5	185.0	4.5	328.0
1.5SMC250A	1.5SMC250CA	237.50	262.50	1.0	5	214.0	4.3	344.0
1.5SMC300A	1.5SMC300CA	285.00	315.00	1.0	5	256.0	3.6	414.0
1.5SMC350A	1.5SMC350CA	332.50	367.50	1.0	5	299.3	3.1	482.0
1.5SMC380A	1.5SMC380CA	361.00	399.00	1.0	5	324.9	2.8	524.4
1.5SMC400A	1.5SMC400CA	380.00	420.00	1.0	5	342.0	2.7	548.0
1.5SMC440A	1.5SMC440CA	418.00	462.00	1.0	5	376.2	2.4	602.0
1.5SMC500A	1.5SMC500CA	475.00	525.00	1.0	5	427.5	2.2	690.0
1.5SMC520A	1.5SMC520CA	494.00	546.00	1.0	5	444.6	2.1	717.6
1.5SMC550A	1.5SMC550CA	522.50	577.50	1.0	5	470.3	2.0	750.0
1.5SMC600A	1.5SMC600CA	570.00	630.00	1.0	5	513.0	1.8	828.0

备注: Notes:

(1) 脉冲测试: t_p≤50ms Pulse test: t_p≤50ms

(2) 浪涌电流波形, 如图3, 功率降额曲线如图2.

Surge current waveform per Fig. 3 and derated per Fig.2.

(3) 对于双向型, V_{WM}在10V及10V以下, I_R值加倍

For bi-directional types having V_{WM} of 10 V and less, the I_R limit is doubled



■特性曲线 (典型) Characteristics(Typical)

图1: 最大脉冲功率曲线
FIG1: Peak Pulse Power Rating Curve

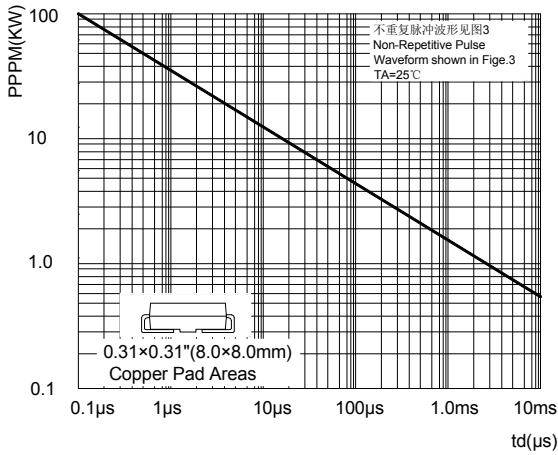


图3: 脉冲波形
FIG3: Pulse Waveform

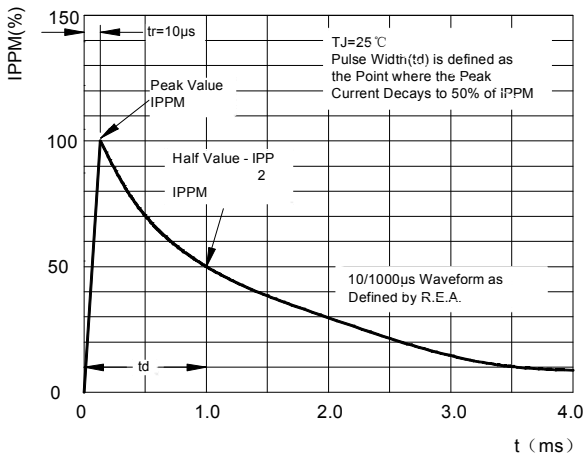


图5: 最大不重复浪涌电流
FIG5: Maximum Non-Repetitive Surge Current

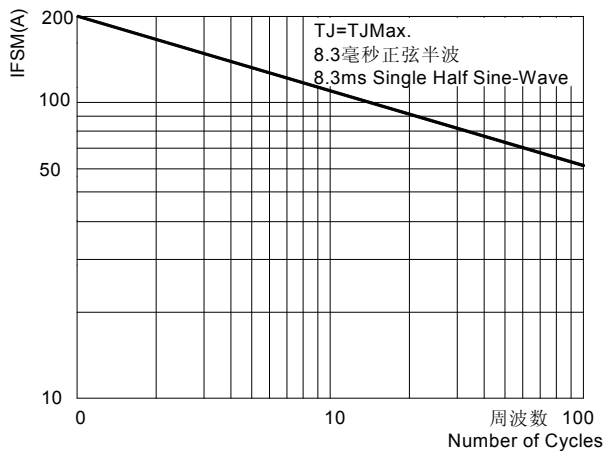


图2: 脉冲功率或电流与结温关系
FIG2: Pulse Power or Current vs. Initial Junction Temperature

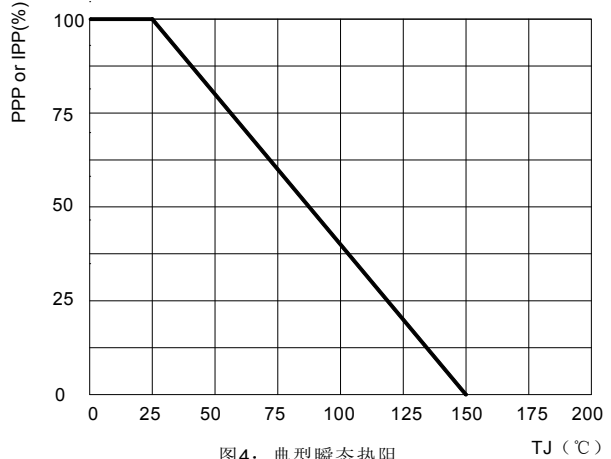


图4: 典型瞬态热阻
FIG4: Typical Transient Thermal Impedance

