

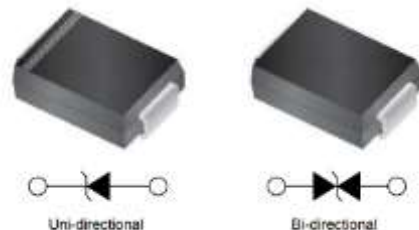
瞬态电压抑制二极管: 1.5SMC 系列



1500W 表面贴装型

■ 特性

1. 玻璃钝化芯片
2. 响应时间快速
3. 钳位电压低
4. 漏电流小
5. 满足MSL1
6. JESD22-A114-B HBM: 15KV
7. JEDEC EIA/JESD22-C101F CDM: 500V
8. JEDEC EIA/JESD22-A115 MM: 400V
9. 符合IEC 61000-4-2 $\pm 30\text{kV}$ (接触)、 $\pm 30\text{kV}$ (空气)
10. 符合RoHS与无卤要求



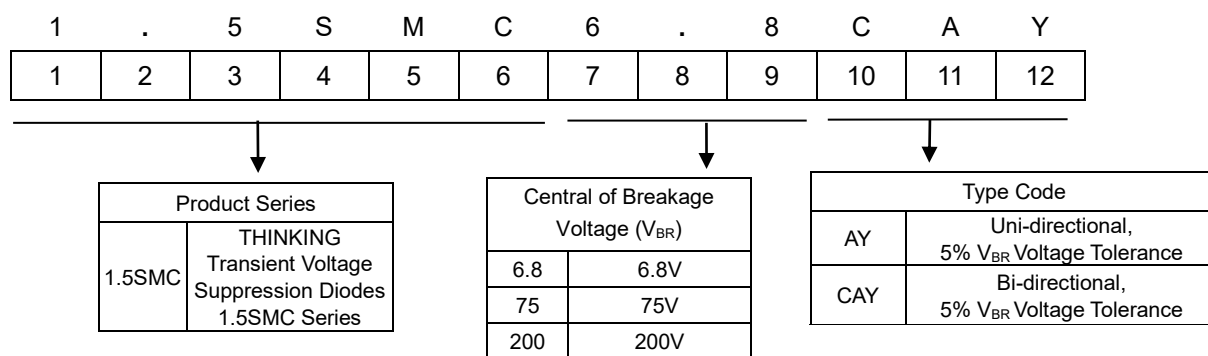
■ 用途

1. 通信设备
2. 计算机
3. 工业设备
4. 消费电子设备

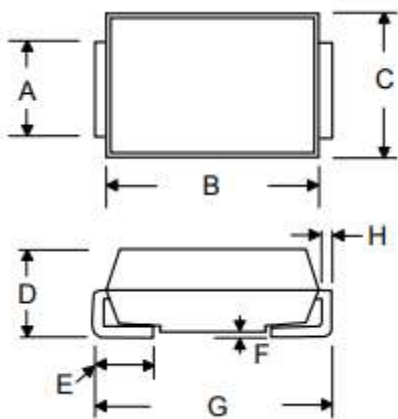
■ 机械数据

1. 封装型式: DO-214AB (SMC), 封装塑料符合防火等级UL94-V0
2. 镀锡引脚可焊性符合 MIL-STD-750, Method 2026.
3. 极性:有带状标示为阴极 (注:没有极性符号为双极性产品)

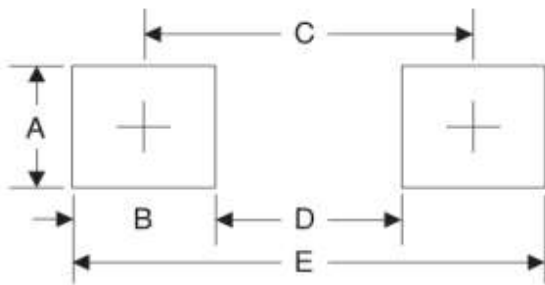
■ 编码规则



■ 结构与尺寸



Symbol	Dimensions in millimeters	
	Min	Max
A	2.90	3.20
B	6.60	7.11
C	5.59	6.22
D	2.06	2.62
E	0.76	1.52
F	-	0.20
G	7.75	8.13
H	0.15	0.31



Symbol	Unit (mm)	Unit (inch)
A	3.30	0.130
B	2.50	0.098
C	6.80	0.268
D	4.40	0.173
E	9.40	0.370

■ 最大标称资料 (T_A=25°C)

参数	代号	数值	单位
10/1000μs 波型峰值脉冲功耗(Note1, 2)	P _{PPM}	1500	W
10/1000us 波型峰值脉冲电流.(Note1)	I _{PPM}	See next table	A
峰值正向浪涌电流 (Note 3)	I _{FSM}	200	A
稳态功耗 (T _L =75°C)	P _D	6.5	W
热阻	R _{θJA}	75	°C/W
热阻	R _{θJL}	15	°C/W
工作结温和存储温度范围	T _J , T _{STG}	-55 to +150	°C

注: 1.非重复性电流脉冲如图3, 及25°C以上减额曲线如图2。

2.安装在8.0 x 8.0mm的铜板上。

3.8.3ms 单半正弦波, 占空比最大为每分钟4个脉冲。

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■ 电气特性 (T_A=25°C)

型号. (单向)	型号. (双向)	反向截止 电压	反向击穿电压 V _{BR} @ I _T		测试 电流	最大限制 电压 V _C @ I _{pp}	最大脉冲峰值 电流	最大反向 漏电流 I _R @ V _{RWM}	印字	
			V _{RWM} (V)	Min (V)					Max (V)	I _T (mA)
1.5SMC6.8AY	1.5SMC6.8CAY	5.8	6.45	7.14	10	10.5	143	1000	6V8A	6V8C
1.5SMC7.5AY	1.5SMC7.5CAY	6.4	7.13	7.88	10	11.3	133	500	7V5A	7V5C
1.5SMC8.2AY	1.5SMC8.2CAY	7.02	7.79	8.61	10	12.1	124	200	8V2A	8V2C
1.5SMC9.1AY	1.5SMC9.1CAY	7.78	8.65	9.55	1	13.4	112	50	9V1A	9V1C
1.5SMC10AY	1.5SMC10CAY	8.55	9.5	10.5	1	14.5	103	10	10A	10C
1.5SMC11AY	1.5SMC11CAY	9.4	10.5	11.6	1	15.6	96.2	5	11A	11C
1.5SMC12AY	1.5SMC12CAY	10.2	11.4	12.6	1	16.7	89.8	5	12A	12C
1.5SMC13AY	1.5SMC13CAY	11.1	12.4	13.7	1	18.2	82.4	5	13A	13C
1.5SMC15AY	1.5SMC15CAY	12.8	14.3	15.8	1	21.2	70.8	1	15A	15C
1.5SMC16AY	1.5SMC16CAY	13.6	15.2	16.8	1	22.5	66.7	1	16A	16C
1.5SMC18AY	1.5SMC18CAY	15.3	17.1	18.9	1	25.2	59.5	1	18A	18C
1.5SMC20AY	1.5SMC20CAY	17.1	19	21	1	27.7	54.2	1	20A	20C
1.5SMC22AY	1.5SMC22CAY	18.8	20.9	23.1	1	30.6	49	1	22A	22C
1.5SMC24AY	1.5SMC24CAY	20.5	22.8	25.2	1	33.2	45.2	1	24A	24C
1.5SMC27AY	1.5SMC27CAY	23.1	25.7	28.4	1	37.5	40	1	27A	27C
1.5SMC30AY	1.5SMC30CAY	25.6	28.5	31.5	1	41.4	36.2	1	30A	30C
1.5SMC33AY	1.5SMC33CAY	28.2	31.4	34.7	1	45.7	32.8	1	33A	33C
1.5SMC36AY	1.5SMC36CAY	30.8	34.2	37.8	1	49.9	30.1	1	36A	36C
1.5SMC39AY	1.5SMC39CAY	33.3	37.1	41	1	53.9	27.8	1	39A	39C
1.5SMC43AY	1.5SMC43CAY	36.8	40.9	45.2	1	59.3	25.3	1	43A	43C
1.5SMC47AY	1.5SMC47CAY	40.2	44.7	49.4	1	64.8	23.1	1	47A	47C
1.5SMC51AY	1.5SMC51CAY	43.6	48.5	53.6	1	70.1	21.4	1	51A	51C
1.5SMC56AY	1.5SMC56CAY	47.8	53.2	58.8	1	77	19.5	1	56A	56C
1.5SMC62AY	1.5SMC62CAY	53	58.9	65.1	1	85	17.6	1	62A	62C
1.5SMC68AY	1.5SMC68CAY	58.1	64.6	71.4	1	92	16.3	1	68A	68C
1.5SMC75A	1.5SMC75CAY	64.1	71.3	78.8	1	104	14.6	1	75A	75C
1.5SMC82AY	1.5SMC82CAY	70.1	77.9	86.1	1	113	13.3	1	82A	82C
1.5SMC91AY	1.5SMC91CAY	77.8	86.5	95.5	1	125	12	1	91A	91C
1.5SMC100AY	1.5SMC100CAY	85.5	95	105	1	137	10.9	1	100A	100C

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			V _{RWM} (V)	Min (V)					Max (V)	I _T (mA)
1.5SMC110AY	1.5SMC110CAY	94	105	116	1	152	9.9	1	110A	110C
1.5SMC120AY	1.5SMC120CAY	102	114	126	1	165	9.1	1	120A	120C
1.5SMC130AY	1.5SMC130CAY	111	124	137	1	179	8.4	1	130A	130C
1.5SMC150AY	1.5SMC150CAY	128	143	158	1	207	7.2	1	150A	150C
1.5SMC160AY	1.5SMC160CAY	136	152	168	1	219	6.8	1	160A	160C
1.5SMC170AY	1.5SMC170CAY	145	162	179	1	234	6.4	1	170A	170C
1.5SMC180AY	1.5SMC180CAY	154	171	189	1	246	6.1	1	180A	180C
1.5SMC200AY	1.5SMC200CAY	171	190	210	1	274	5.5	1	200A	200C
1.5SMC220AY	1.5SMC220CAY	185	209	231	1	328	4.6	1	220A	220C
1.5SMC250AY	1.5SMC250CAY	214	237	263	1	344	4.4	1	250A	250C
1.5SMC300AY	1.5SMC300CAY	256	285	315	1	414	3.7	1	300A	300C
1.5SMC350AY	1.5SMC350CAY	300	332	368	1	482	3.2	1	350A	350C
1.5SMC400AY	1.5SMC400CAY	342	380	420	1	548	2.8	1	400A	400C
1.5SMC440AY	1.5SMC440CAY	376	418	462	1	602	2.5	1	440A	440C
1.5SMC480AY	1.5SMC480CAY	408	456	504	1	658	2.3	1	480A	480C
1.5SMC510AY	1.5SMC510CAY	434	485	535	1	698	2.1	1	510A	510C
1.5SMC530AY	1.5SMC530CAY	450	503.5	556.5	1	725	2.1	1	530A	530C
1.5SMC540AY	1.5SMC540CAY	459	513	567	1	740	2	1	540A	540C

■ 特性曲线图 (TA=25°C)

Fig.1 - Peak Pulse Power Rating Curve

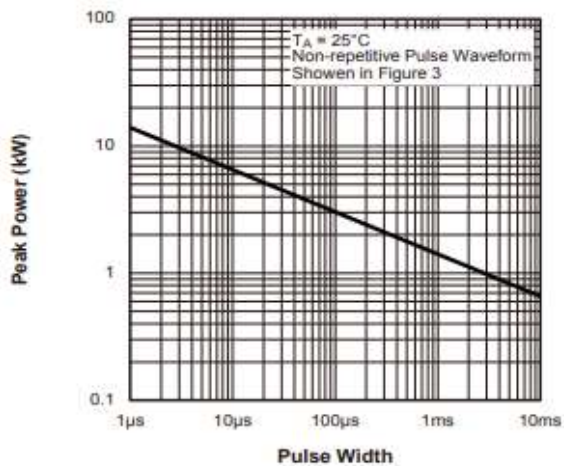


Fig.2 - Pulse Derating Curve

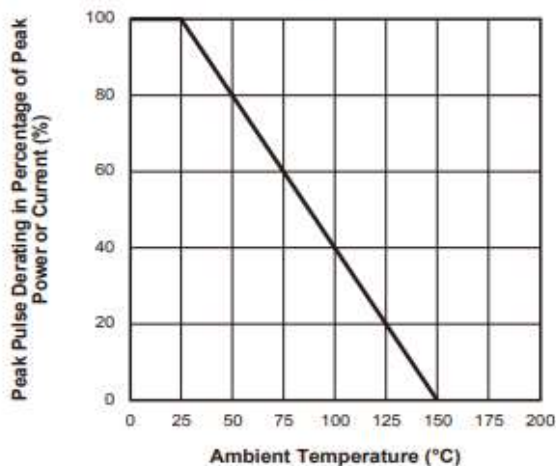


Fig.3 - Pulse Waveform

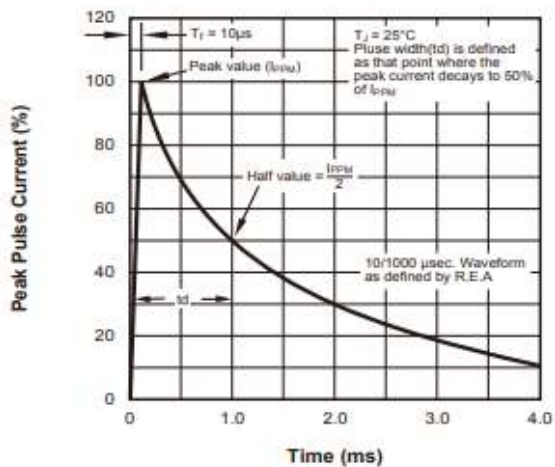
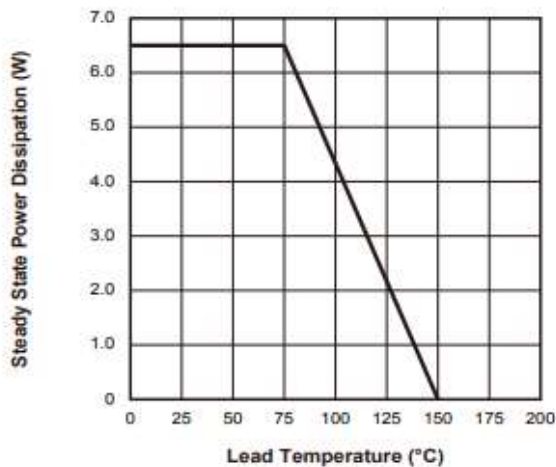
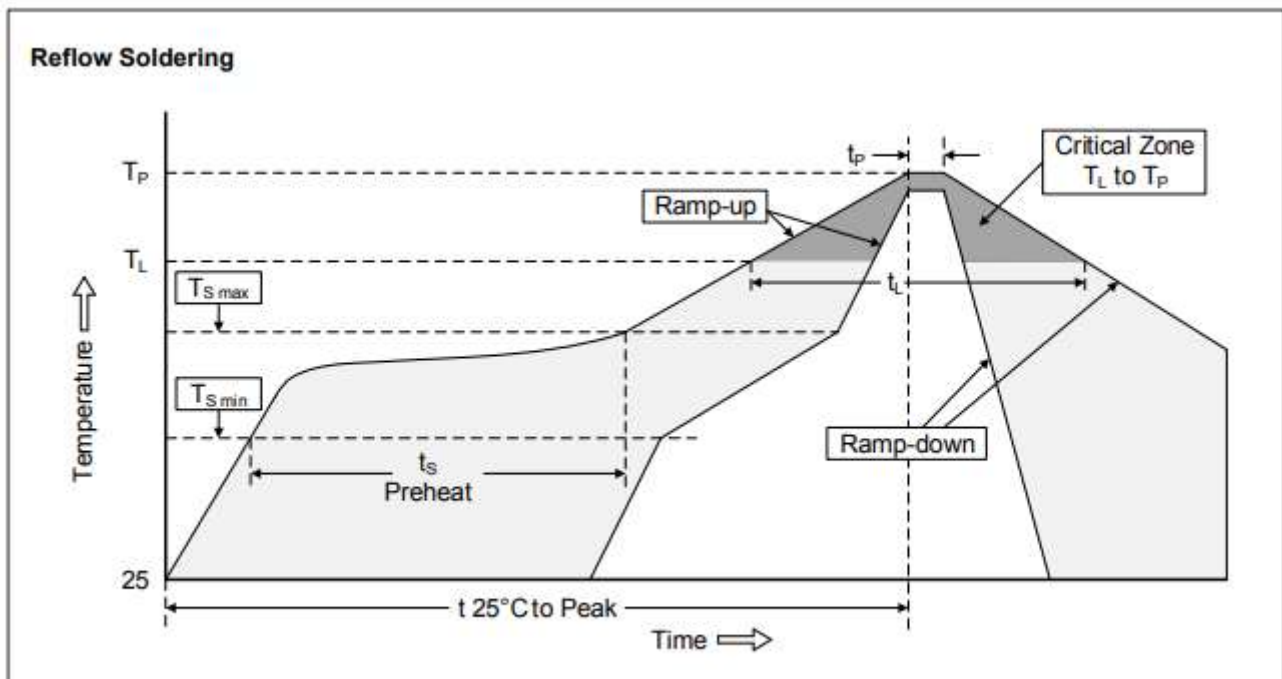


Fig.4 - Steady State Power Derating Curve



■ 推荐焊接条件



Recommended Conditions

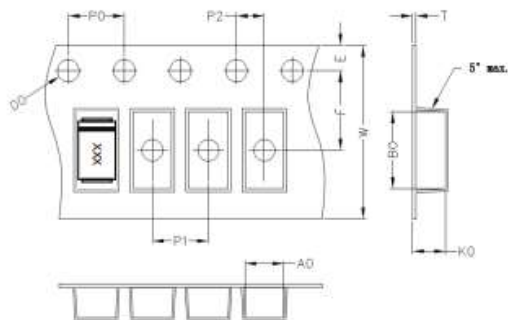
Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3°C/second max.
Preheat	
-Temperature Min ($T_{S\ min}$)	150°C
-Temperature Max ($T_{S\ max}$)	200°C
-Time (min to max) (t_S)	60-180 seconds
$T_{S\ max}$ to T_L	
-Ramp-up Rate	3°C/second max.
Time maintained above:	
-Temperature (T_L)	217°C
-Time (t_L)	60-150 seconds
Peak Temperature (T_P)	260°C
Time within 5°C of actual Peak Temperature (t_P)	20-40 seconds
Ramp-down Rate	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max.

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■ 包装



A0	B0	K0	D0	E	F
6.05	8.31	2.54	1.55	1.75	7.50
P0	P1	P2	T	W	Tolerance
4.0	8.0	2.0	0.25	16	0.1

■ 数量

113

系列	包装	数量	包装规范
1.5SMC	Tape and reel	3000pcs/reel	EIA STD RS-4815

■ 仓库存储条件

- 存储条件:
 1. 储存温度: $-10^{\circ}\text{C} \sim +40^{\circ}\text{C}$
 2. 相对湿度: $\leq 75\% \text{RH}$
 3. 不要将本产品存放在有腐蚀性气体或是阳光直接照射的环境中保管
- 存储期限: 1 年