

瞬态电压抑制二极管: 1.5SMC 系列

1500 W 表面贴装型



■ 特性

- 1. 适合表面贴装型应用
- 2. 符合RoHS与无卤要求
- 3. 可靠且低价的塑料成型技术
- 4. 玻璃钝化结
- 5. 可提供单向与双向产品
- 6. 响应时间快速
- 7. 优异的限压抑制电压能力



■ 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

1	.	5	S	M	C	6	.	8	C	A
1	2	3	4	5	6	7	8	9	10	11

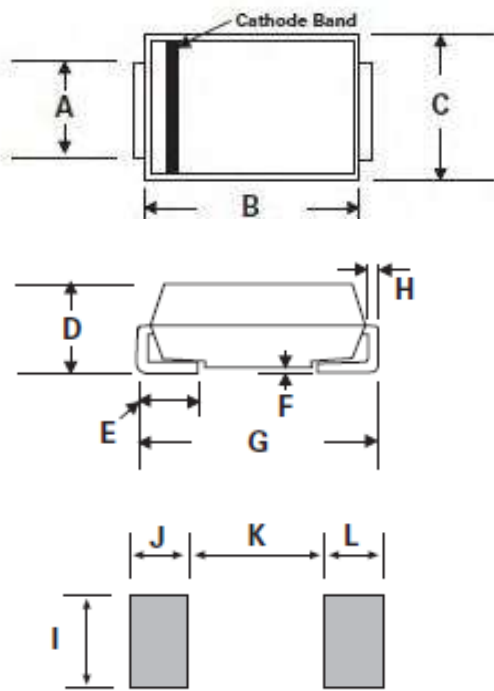
瞬态电压抑制二极管: 1.5SMC 系列

1500 W 表面贴装型



■ 结构与尺寸

SMC/DO-214AB



代号	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.75	3.25	0.108	0.128
B	6.60	7.11	0.260	0.280
C	5.59	6.22	0.220	0.245
D	2.00	2.70	0.079	0.103
E	0.76	1.52	0.030	0.060
F	-	0.203	-	0.008
G	7.75	8.13	0.305	0.320
H	0.152	0.305	0.006	0.012
I	3.30	-	0.129	-
J/L	2.40	-	0.094	-
K	-	4.20	-	0.165

■ 最大标称资料 (T_A=25℃)

参数	代号	数值	单位
10/1000μs 波型峰值脉冲功耗(Note1, Fig.1)	P _{PPM}	1500	W
10/1000us 波型峰值脉冲电流.(Note1, Fig.3)	I _{PPM}	See Table	A
峰值正向浪涌电流 (Note 2)	I _{FSM}	200	A
稳态功耗 (Fig.5).	P _{M(AV)}	6.5	W
工作结温和存储温度范围	T _J , T _{STG}	-55~+150	℃

注: 1. 非重复性电流脉冲如 Fig. 3, 及25℃以上减额曲线如 Fig. 2.

2. 8.3ms 单半正弦波,或相当于每分钟最多四个脉冲的方波.

瞬态电压抑制二极管: 1.5SMC 系列

1500 W 表面贴装型



■ 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 VC @ I _{pp}	最大脉冲峰值 电流	最大反向 漏电流 IR @ V _{RWM}	印字	
		V _{RWM} (V)	Min(V)	Max(V)	I _T (mA)	VC(V)	I _{pp} (A)	IR(μA)	UNI	BI
1.5SMC6.8A	1.5SMC6.8CA	5.8	6.46	7.14	10	10.5	142.86	1000	6V8A	6V8C
1.5SMC7.5A	1.5SMC7.5CA	6.4	7.13	7.88	10	11.3	132.74	500	7V5A	7V5C
1.5SMC8.2A	1.5SMC8.2CA	7.0	7.79	8.61	10	12.1	123.97	200	8V2A	8V2C
1.5SMC9.1A	1.5SMC9.1CA	7.8	8.65	9.56	1	13.4	111.94	50	9V1A	9V1C
1.5SMC10A	1.5SMC10CA	8.6	9.50	10.50	1	14.5	103.45	10	10A	10C
1.5SMC11A	1.5SMC11CA	9.4	10.45	11.55	1	15.6	96.15	5	11A	11C
1.5SMC12A	1.5SMC12CA	10.2	11.40	12.60	1	16.7	89.82	5	12A	12C
1.5SMC13A	1.5SMC13CA	11.1	12.35	13.65	1	18.2	82.42	1	13A	13C
1.5SMC15A	1.5SMC15CA	12.8	14.25	15.75	1	21.2	70.75	1	15A	15C
1.5SMC16A	1.5SMC16CA	13.6	15.20	16.80	1	22.5	66.67	1	16A	16C
1.5SMC18A	1.5SMC18CA	15.3	17.10	18.90	1	25.2	59.52	1	18A	18C
1.5SMC20A	1.5SMC20CA	17.1	19.00	21.00	1	27.7	54.15	1	20A	20C
1.5SMC22A	1.5SMC22CA	18.8	20.90	23.10	1	30.6	49.02	1	22A	22C
1.5SMC24A	1.5SMC24CA	20.5	22.80	25.20	1	33.2	45.18	1	24A	24C
1.5SMC27A	1.5SMC27CA	23.1	25.65	28.35	1	37.5	40.00	1	27A	27C
1.5SMC30A	1.5SMC30CA	25.6	28.50	31.50	1	41.4	36.23	1	30A	30C
1.5SMC33A	1.5SMC33CA	28.2	31.35	34.65	1	45.7	32.82	1	33A	33C
1.5SMC36A	1.5SMC36CA	30.8	34.20	37.80	1	49.9	30.06	1	36A	36C
1.5SMC39A	1.5SMC39CA	33.3	37.05	40.95	1	53.9	27.83	1	39A	39C
1.5SMC43A	1.5SMC43CA	36.8	40.85	45.15	1	59.3	25.30	1	43A	43C
1.5SMC47A	1.5SMC47CA	40.2	44.65	49.35	1	64.8	23.15	1	47A	47C
1.5SMC51A	1.5SMC51CA	43.6	48.45	53.55	1	70.1	21.40	1	51A	51C
1.5SMC56A	1.5SMC56CA	47.8	53.20	58.80	1	77.0	19.48	1	56A	56C
1.5SMC62A	1.5SMC62CA	53.0	58.90	65.10	1	85.0	17.65	1	62A	62C
1.5SMC68A	1.5SMC68CA	58.1	64.60	71.40	1	92.0	16.30	1	68A	68C
1.5SMC75A	1.5SMC75CA	64.1	71.25	78.75	1	103.0	14.56	1	75A	75C
1.5SMC82A	1.5SMC82CA	70.1	77.90	86.10	1	113.0	13.27	1	82A	82C
1.5SMC91A	1.5SMC91CA	77.8	86.45	95.55	1	125.0	12.00	1	91A	91C
1.5SMC100A	1.5SMC100CA	85.5	95.00	105.00	1	137.0	10.95	1	100A	100C

瞬态电压抑制二极管: 1.5SMC 系列

1500 W 表面贴装型



■ 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 VC @ I _{pp}	最大脉冲峰值 电流	最大反向 漏电流 IR @ V _{RWM}	印字	
		VRWM (V)	Min(V)	Max(V)	IT(mA)	VC(V)	Ipp(A)	IR(μA)	UNI	BI
1.5SMC110A	1.5SMC110CA	94.0	104.50	115.50	1	152.0	9.87	1	110A	110C
1.5SMC120A	1.5SMC120CA	102.0	114.00	126.00	1	165.0	9.09	1	120A	120C
1.5SMC130A	1.5SMC130CA	111.0	123.50	136.50	1	179.0	8.38	1	130A	130C
1.5SMC150A	1.5SMC150CA	128.0	142.50	157.50	1	207.0	7.25	1	150A	150C
1.5SMC160A	1.5SMC160CA	136.0	152.00	168.00	1	219.0	6.85	1	160A	160C
1.5SMC170A	1.5SMC170CA	145.0	161.50	178.50	1	234.0	6.41	1	170A	170C
1.5SMC180A	1.5SMC180CA	154.0	171.00	189.00	1	246.0	6.10	1	180A	180C
1.5SMC200A	1.5SMC200CA	171.0	190.00	210.00	1	274.0	5.47	1	200A	200C
1.5SMC220A	1.5SMC220CA	185.0	209.00	231.00	1	328.0	4.57	1	220A	220C
1.5SMC250A	1.5SMC250CA	214.0	237.50	262.50	1	344.0	4.36	1	250A	250C
1.5SMC300A	1.5SMC300CA	256.0	285.00	315.00	1	414.0	3.62	1	300A	300C
1.5SMC350A	1.5SMC350CA	299.3	332.50	367.50	1	482.0	3.11	1	350A	350C
1.5SMC380A	1.5SMC380CA	324.9	361.00	399.00	1	524.4	2.86	1	380A	380C
1.5SMC400A	1.5SMC400CA	342.0	380.00	420.00	1	548.0	2.72	1	400A	400C
1.5SMC440A	1.5SMC440CA	376.2	418.00	462.00	1	602.0	2.47	1	440A	440C
1.5SMC500A	1.5SMC500CA	427.5	475.00	525.00	1	690.0	2.17	1	500A	500C
1.5SMC520A	1.5SMC520CA	444.6	494.00	546.00	1	717.6	2.09	1	520A	520C
1.5SMC550A	1.5SMC550CA	470.3	522.50	577.50	1	759.0	1.98	1	550A	550C
1.5SMC600A	1.5SMC600CA	513.0	570.00	630.00	1	828.0	1.81	1	600A	600C

■ 特性曲线图 ($T_A=25^\circ\text{C}$)

FIG.1 - PULSE RATING CURVE

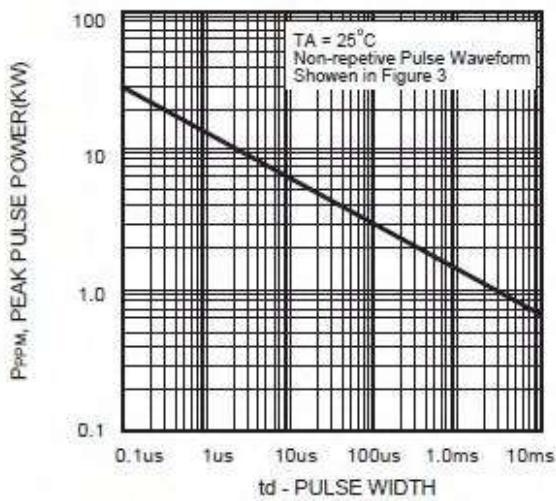


FIG.2 - PULSE DERATING CURVE

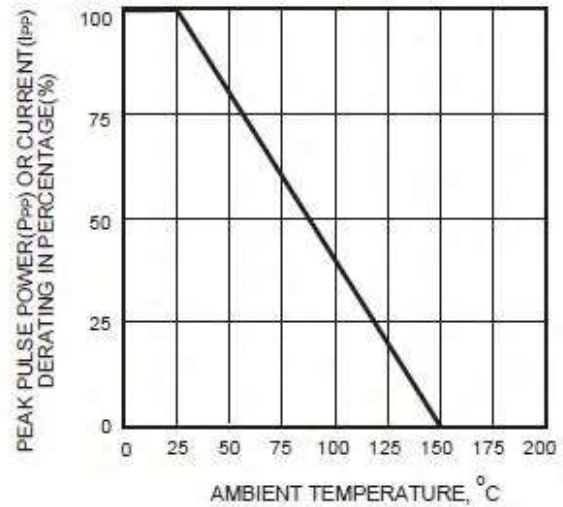


FIG.3 - PULSE WAVEFORM

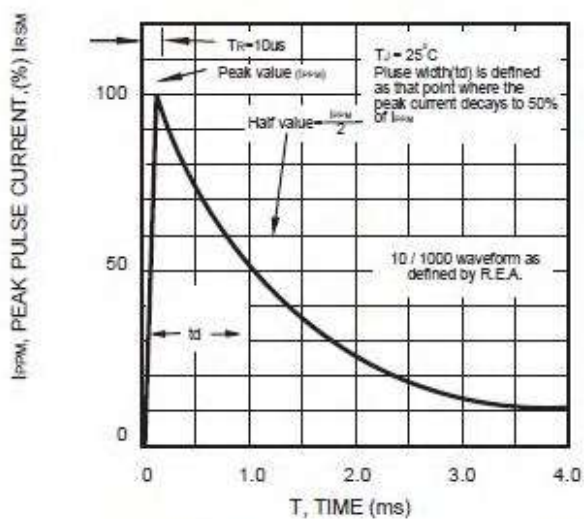


FIG.4 - TYPICAL JUNCTION CAPACITANCE

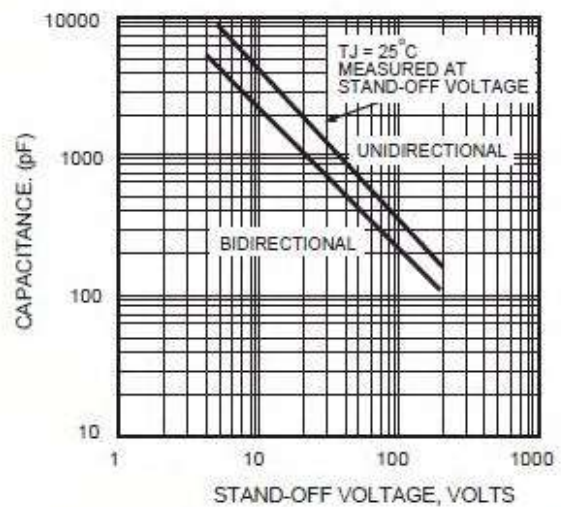
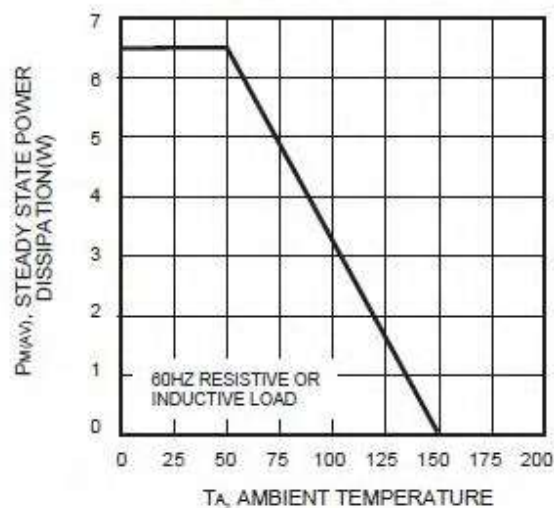


FIG.5 - STEADY STATE POWER DERATING CURVE

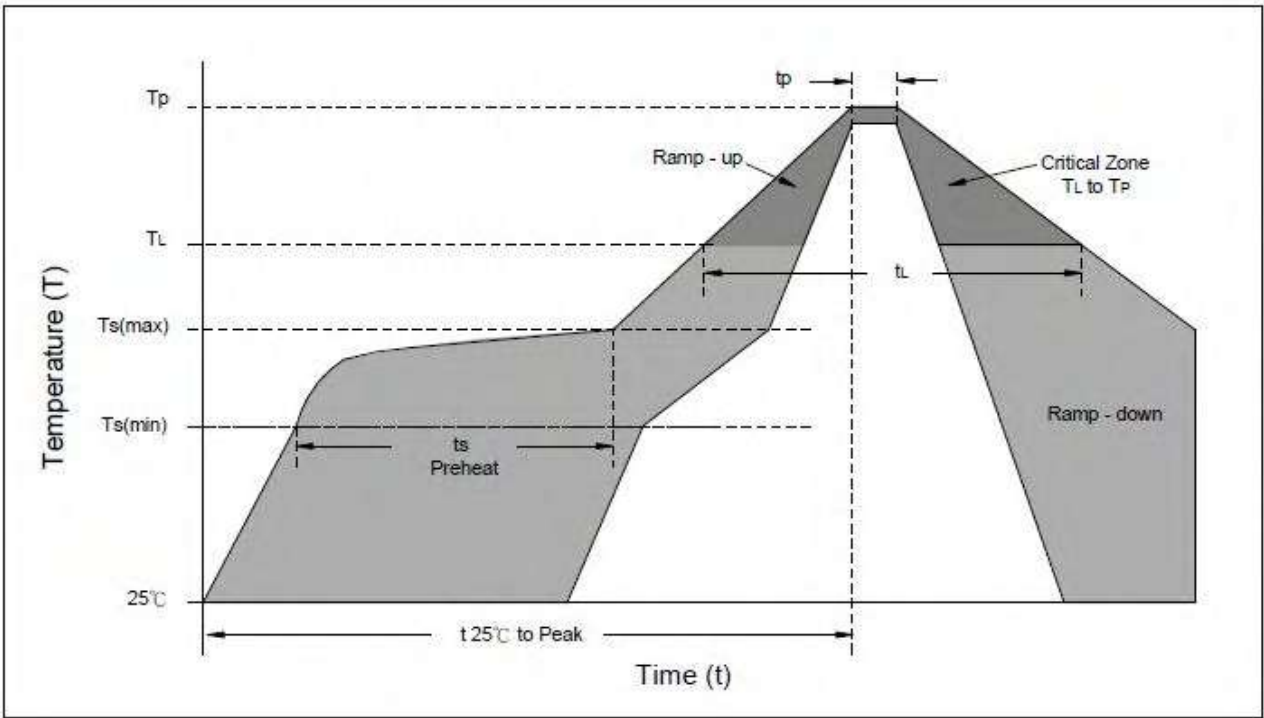


瞬态电压抑制二极管: 1.5SMC 系列

1500 W 表面贴装型



■ 推荐焊接条件



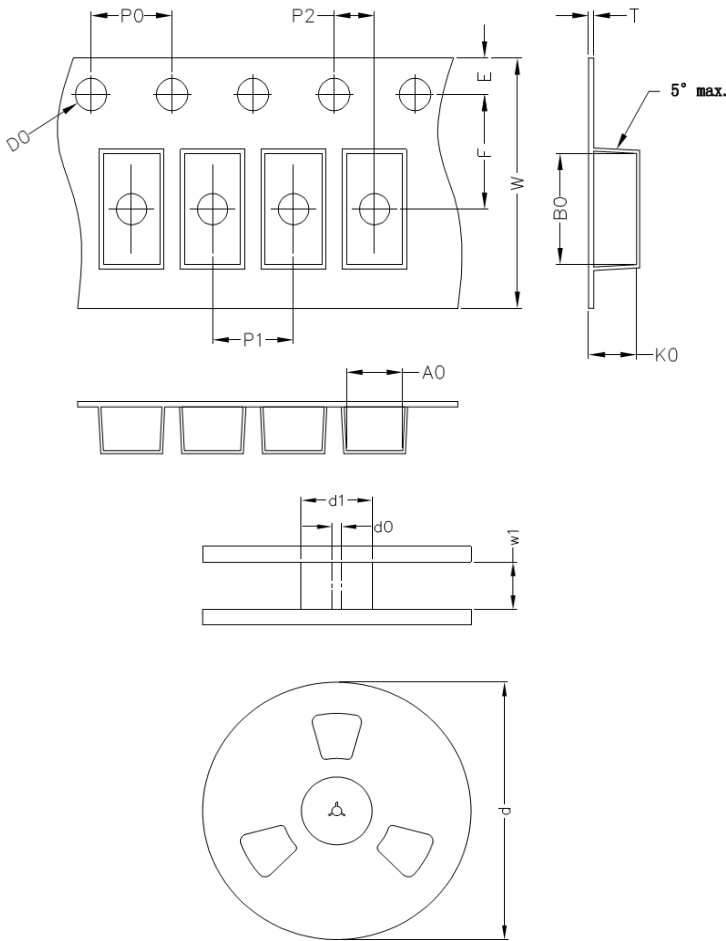
Reflow Condition	Lead-free assembly
Preheat -Temperature Min(Ts min) -Temperature Min(Ts max) -Time (min to max) (ts)	150℃ 200℃ 60 – 180 seconds
Average ramp up rate -Temperature Liquidus (TL) to peak	3℃/second max
Ts(max) to TL -Ramp-up Rate	3℃/second max.
Reflow -Temperature Liquidus (TL) -Time (tL)	217℃ 60 – 150 seconds
Peak Temperature (TP)	260℃
Time within 5℃ of actual peak Temperature(tp)	20 – 40 seconds
Ramp-down Rate	6℃/second max.
Time 25℃ to peak Temperature(TP)	8 minutes max.
Do not exceed	260℃

瞬态电压抑制二极管: 1.5SMC 系列

1500 W 表面贴装型



■ 包装



代号	DO-214AB (SMC) 单位: mm
A0	6.05
B0	8.31
K0	2.54
D0	1.55
E	1.75
F	7.50
P0	4.00
P1	8.00
P2	2.00
T	0.25
W	16.00
d (13")	330.00
d1	75
d0	13.50
w1	17.00

注:尺寸公差为 ±0.1mm, 卷轴公差 ±2mm

■ 数量

封装型式	尺寸	卷
	inch	Kpcs
SMC	13	3

■ 仓库存储条件

- 存储条件:
 - 1.储存温度: -10℃~+40℃
 - 2.相对湿度: ≤75%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