



sumate

森美特半導體股份有限公司

产 品 承 认 书

产品类别：TVS瞬态抑制二极管

产品型号：SM15T33A

修订部门：研发部

修订日期：2020-3-18



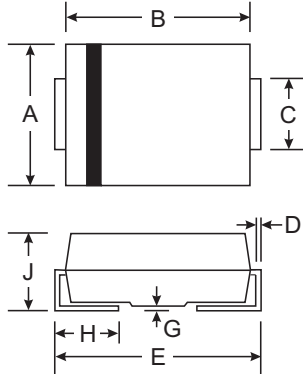
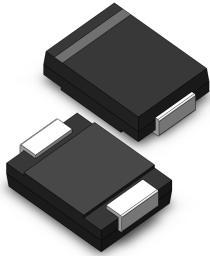
一、产品分类:

产品类别型号: SM15T33A

类别名称: 贴片TVS瞬态抑制二极管

■无铅产品

二、元器件封装外形尺寸图:



SMC/DO-214AB		
Dim	Min	Max
A	5.59	6.22
B	6.60	7.11
C	2.75	3.18
D	0.15	0.31
E	7.75	8.13
G	0.10	0.20
H	0.76	1.52
J	2.00	2.62
All Dimensions in mm		

三、本体印字方式:

名称	封装方式	本体印字	说明
SM15T33A	DO-214AB/SMC	XXXX GFG	XXXX:生产周期 GFG : 本体代码

四、数据表:

1.极限值和温度特征 TA=25°C 除非有规定

Maximum Ratings @ TA = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Pulse Power Dissipation (Non repetitive current pulse derated above TA = 25°C) (Note 1)	PPK	1500	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method) (Notes 1, 2, & 3)	IFSM	200	A
Steady State Power Dissipation @ TL = 75°C	PM(AV)	5.0	W
Instantaneous Forward Voltage @ IPP = 100A (Notes 1 & 3)	VF	See Note 5	V
Operating Temperature Range	Tj	-55 to +150	°C
Storage Temperature Range	TSTG	-55 to +175	°C

NOTES:1. Non-repetitive current pulse ,per Fig. 3 and derated above TA=25°C per Fig. 1.

2. Thermal Resistance junction to Lead.

3. 8.3ms single half-wave duty cycle=4 pulses per minutes maximum (uni-directional units only).



TYPE	Reverse Stand-Off Voltage	Breakdown Voltage Min. @ I _T	Breakdown Voltage Max. @ I _T	Test Current	Maximum Clamping Voltage @ I _{PP}	Peak Pulse Current	Reverse Leakage @ V _{RWM}
	V _{RWM} (V)	V _{BR MIN} (V)	V _{BR MAX} (V)	I _T (mA)	V _C (V)	I _{PP} (A)	I _R (uA)
SM15T33A	28.2	31.4	34.7	1.0	45.7	33.3	5.0

Ratings and Characteristic Curves T_A=25°C unless otherwise noted

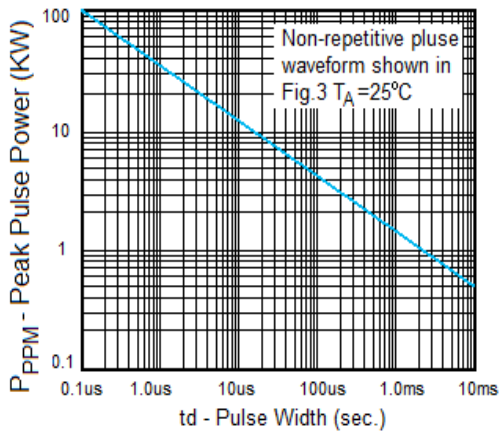


Fig. 1 Peak Pulse Power Rating

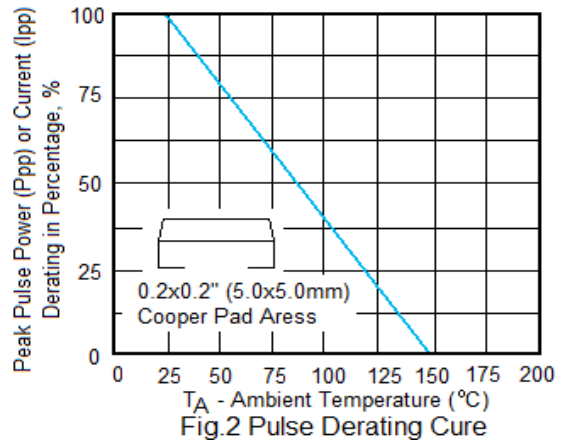


Fig.2 Pulse Derating Curve

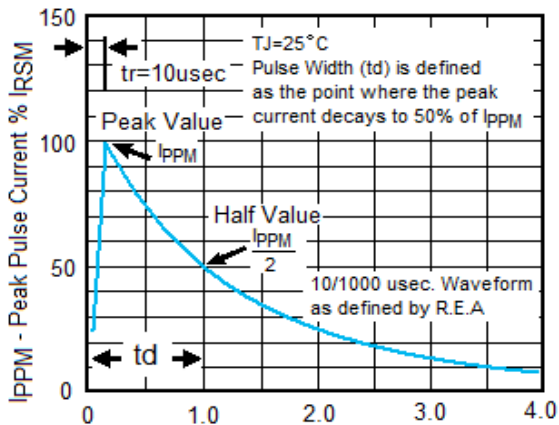


Fig.3 Pulse Waveform

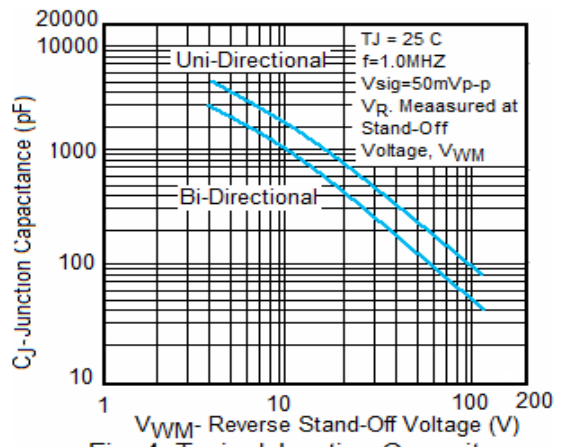
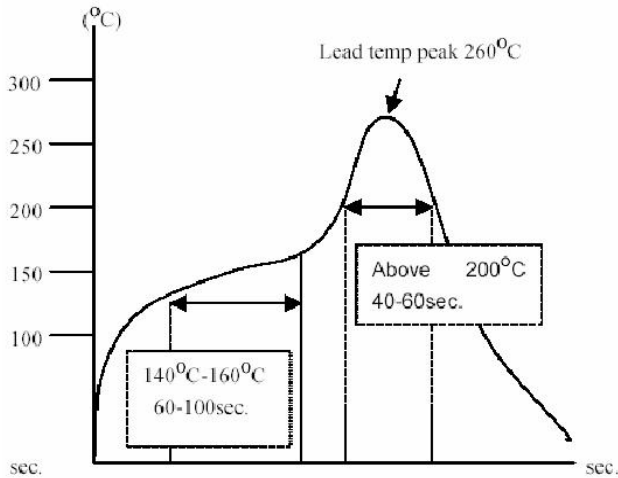


Fig. 4- Typical Junction Capacitance



3、回流焊的温度曲线



六、耐焊接热

温度 $280 \pm 5^{\circ}\text{C}$ ，时间 10 秒，测试 VZ、IR 符合规范要求。

七、元器件可靠性测试：

Reliability Test 可靠性测试	Test Conditions 测试条件	Sampling Plan 取样计划	Frequency 频率
Solderability Test 可焊性测试	Ta = $230 \pm 5^{\circ}\text{C}$, time = 3-6sec.	Sample size : 10 pcs Acc: 0/1	每批次抽测一次
Marking Permanence 印字测试	Per as IEC 682-45 method 1, solvent: 1,1,1-TCE and ethanol	Sample size : 10 pcs Acc: 0/1	每天每台机抽测一次
Thermal Shock 热冲击	0°C, 1 minute; 100°C, 3minute 10 cycles	Sample size : 20 pcs Acc: 0/1	各封装产品随机三个型号每月检测一次
High Temperature Storage Test 高温贮存测试	Ta= 150°C , 1000 Hours	Sample size : 20 pcs Acc: 0/1	各封装产品随机三个型号每月检测一次
Continuous Operation Test (Zener Only) 长期工作寿命测试	Dc voltage applied on reverse bias at full power, 1000hours	Sample size : 20 pcs Acc: 0/1	各封装产品随机三个型号每月检测一次
High Temperature/Humidity Storage Test 恒温/ 恒湿测试	Ta= 65°C , RH=98% 100hours	Sample size : 20 pcs Acc: 0/1	各封装产品随机三个型号每月检测一次
Pressure cooker 高压蒸煮	15 Psig , TA= 121°C , 4H	Sample size : 20 pcs Acc: 0/1	各封装产品随机三个型号每月检测一次
Soldering Heat 耐焊接热	Ta= 260°C , T=10s; Dipped up to a place 1-1.5mm apart from its body	Sample size : 20 pcs Acc: 0/1	各封装产品随机三个型号每月检测一次

八、包装

- a) 包装应防震、防潮、防压、无破损。
- c) 内包装有出厂检验合格证，生产日期、产品规格型号、内包装数量。
- d) 外包装上有制造厂名称、产品规格型号、内包装数量。