



森美特半導體股份有限公司

产品承认书

产品类别: TVS瞬变二极管

产品型号: SM6T15A(CA)

修订部门: 研发部

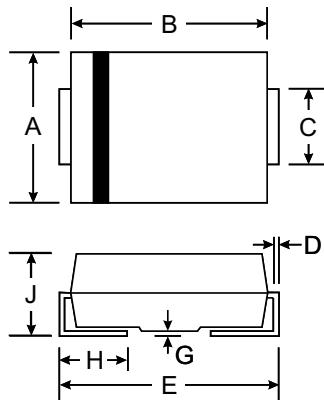
修订日期: 2023-5-30

一、产品分类:

 产品类别型号: SM6T15A(CA)

 类别名称: TVS瞬变二极管

■无铅产品

二、元器件封装外形尺寸图:


SMB(DO-214AA)		
Dim	Min	Max
A	3.30	3.94
B	4.06	4.70
C	1.91	2.21
D	0.15	0.31
E	5.00	5.59
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
SM6T15A	DO-214AA/SMB	XXXX LG	XXXX:生产周期 LG : 本体代码

名称	封装方式	本体印字	说明
SM6T15CA	DO-214AA/SMB	XXXX BG	XXXX:生产周期 BG : 本体代码

四、数据表:

 1. 极限值和温度特征 $T_A=25^\circ\text{C}$ 除非有规定

Maximum Ratings $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Pulse Power Dissipation (Non repetitive current pulse derated above $T_A = 25^\circ\text{C}$) (Note 1)	P _{PK}	600	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method) (Notes 1, 2, & 3)	I _{FSM}	100	A
Instantaneous Forward Voltage @ $I_{PP} = 35\text{A}$ $V_{BR} < 100\text{V}$ (Notes 1, 2, & 3)	V _F	3.5 5.0	V
Operating and Storage Temperature Range	T _j , T _{STG}	-55 to +150	°C

Notes: 1. Valid provided that terminals are kept at ambient temperature.

2. Measured with 8.3ms single half sine-wave. Duty cycle = 4 pulses per minute maximum.

3. Unidirectional units only.

ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified

TYPE		Marking		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}
(Uni)	(Bi)	(Uni)	(Bi)	V_{RWM} (V)	V_{BR} MIN(V)	V_{BR} MAX(V)	I_T (mA)	V_C (V)	I_{PP} (A)	I_R (uA)
SM6T15A	SM6T15CA	LG	BG	12.8	14.3	15.8	1.0	21.2	28.3	5.0

Note:

- (1) V_{BR} measured after I_T applied for 300 μ s., I_T = square wave pulse or equivalent.
- (2) Surge Current Waveform per Figure 5 and Derate per Figure 1
- (3) A Transient suppressor is normally selected according to the reverse " Stand-off Voltage " (V_{WM}) which should be equal to or greater than the D.C. or continuous peak operating voltage level.

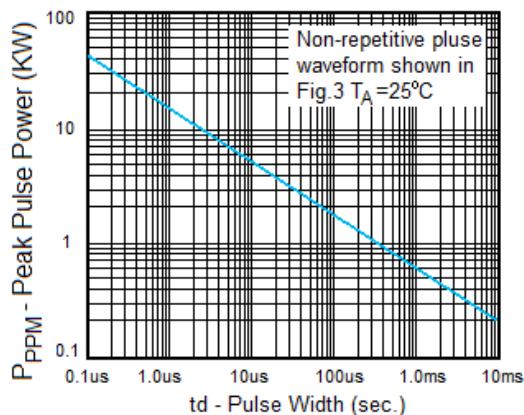


Fig. 1 Peak Pulse Power Rating

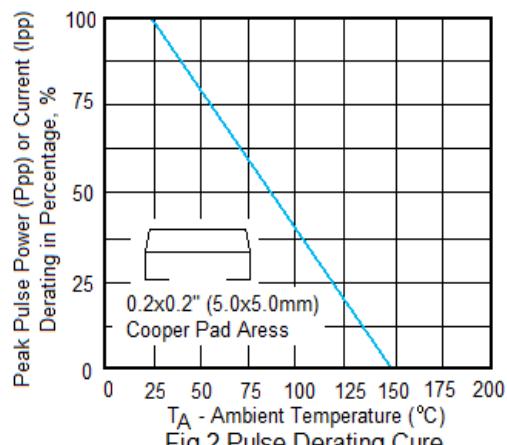


Fig. 2 Pulse Derating Curve

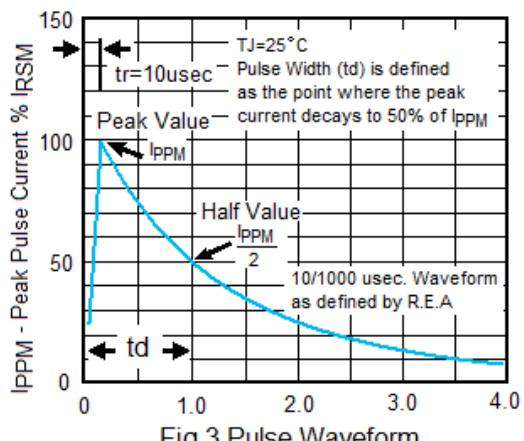


Fig. 3 Pulse Waveform

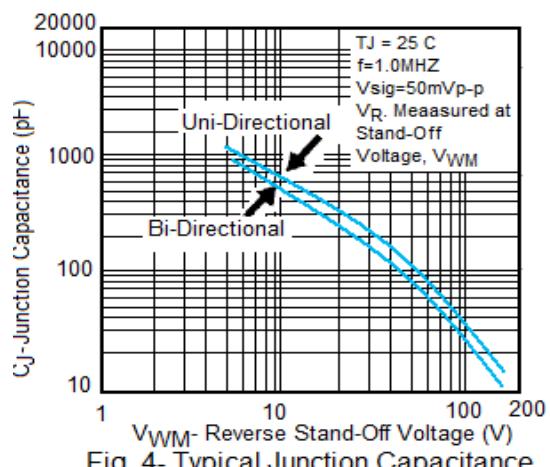
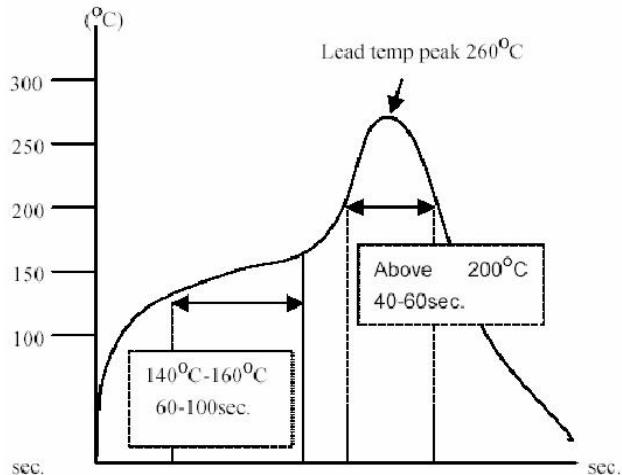


Fig. 4- Typical Junction Capacitance

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。