

SMF5.0A~SMF175A

Rev.D May.-2017

描述 / Descriptions

200W 表面贴装瞬态电压抑制器, V_{RMW} :5.0V~175V, 薄型 SOD-123FL 封装。

200W Surface Mount Transient Voltage Suppressor, Stand-Off Voltage: 5.0V~175V, SOD-123FL thin package.

特征 / Features

为优化电路板空间运用小体积表面贴装, 玻璃钝化芯片, 电感低, 塑料阻燃等级 94V-0。无卤产品。

For surface mounted applications in order to optimize board space, Glass passivated junction, Low inductance, Plastic package has Underwriters Laboratory Flammability Classifications 94V-0. Halogen free product.

用途 / Applications

一般用途.

General purpose.

内部等效电路 / Equivalent Circuit

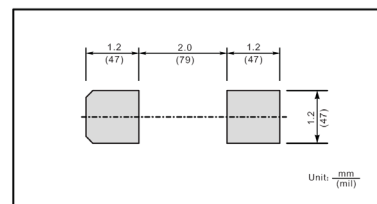


引脚排列 / Pinning



PIN	DESCRIPTION
1	Cathode
2	Anode

The recommended mounting pad size



印章代码 / Marking

见印章说明。See Marking Instructions.

极限参数 / Absolute Maximum Ratings(Ta=25°C)

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Peak Pulse Power Dissipation on T _a =25°C(Note1,2,5,Fig1)	P _{PPM}	200	W
Peak Forward Surge Current(Note3)	I _{FSM}	20	A
Peak Pulse Current on 10/1000us waveform (Note1)Fig2	I _{PPM}	See Table 1	A
Steady State Power Dissipation (Note4)	P _{M(AV)}	1	W
Operating Junction and Storage Range	T _j , T _{stg}	-55~150	°C
Typical Thermal Resistance	R _{θJA}	180	°C/W

Notes:

- 1、 Non-repetitive current pulse per Fig 3 and derated above T_a=25°C per Fig 2.
- 2、 Mounted on 5mm² copper pads to each terminal
- 3、 8.3ms single half sine wave, or equivalent square wave duty cycle=4 pulses per minutes maximum.
- 4、 Lead temperature at 75°C=T_L
- 5、 Peak pulse power. Wave form is t_p=10/1000us.
- 6、 A transient suppressor is selected according to the working peak reverse voltage (V_{RWM}), Which should be equal to or greater than the DC or continuous peak operating voltage level.

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DATA SHEET

电性能参数 / Electrical Characteristics(Ta=25°C)

Type	Marking	Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage	Max. Clamp Voltage	Peak Pulse Current
		V _{RMW}	V _{BR@IT}		I _T	I _{R@VRMW}	V _{C@IPP}	I _{PP}
			Min	Max				
		V	V	V				
SMF5.0A	AE	5.0	6.4	7.0	10	200	9.2	21.7
SMF6.0A	AG	6.0	6.7	7.4	10	100	10.3	19.4
SMF6.5A	AK	6.5	7.2	8.0	10	75	11.2	17.9
SMF7.0A	AM	7.0	7.8	8.6	10	50	12	16.7
SMF7.5A	AP	7.5	8.3	9.2	1.0	50	12.9	15.5
SMF8.0A	AR	8.0	8.9	9.8	1.0	25	13.6	14.7
SMF8.5A	AT	8.5	9.4	10.4	1.0	10	14.4	13.9
SMF9.0A	AV	9.0	10	11.1	1.0	5.0	15.7	13.0
SMF10A	AX	10	11.1	12.3	1.0	25	17	11.8
SMF11A	AZ	11	12.2	13.5	1.0	2.5	18.2	11.0
SMF12A	BE	12	13.2	14.7	1.0	25	19.9	10.1
SMF13A	BG	13	14.4	15.9	1.0	1.0	21.5	9.3
SMF14A	BK	14	15.6	17.2	1.0	1.0	23.2	8.6
SMF15A	BM	15	16.7	18.5	1.0	1.0	24.4	8.2
SMF16A	BP	16	17.8	19.7	1.0	1.0	26	7.7
SMF17A	BR	17	18.9	20.9	1.0	1.0	27.6	7.2
SMF18A	BT	18	20	22.1	1.0	1.0	29.2	6.8
SMF20A	BV	20	22.2	24.5	1.0	1.0	32.4	6.2
SMF22A	BX	22	24.4	26.9	1.0	1.0	35.5	5.6
SMF24A	BZ	24	26.7	29.5	1.0	1.0	38.9	5.1
SMF26A	CE	26	28.9	31.9	1.0	1.0	42.1	4.8
SMF28A	CG	28	31.1	34.4	1.0	1.0	45.4	4.4
SMF30A	CK	30	33.3	36.8	1.0	1.0	48.4	4.1
SMF33A	CM	33	36.7	40.6	1.0	1.0	53.3	3.8
SMF36A	CP	36	40	44.2	1.0	1.0	58.1	3.4

电性能参数 / Electrical Characteristics(Ta=25°C)

Type	Marking	Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage	Max. Clamp Voltage	Peak Pulse Current
		V _{RMW}	V _{BR@I_T}		I _T	I _{R@V_{RWM}}	V _{C@I_{PP}}	I _{PP}
			Min	Max				
		V	V	V				
SMF40A	CR	40	44.4	49.1	1.0	1.0	64.5	3.1
SMF43A	CT	43	47.8	52.8	1.0	1.0	69.4	2.9
SMF45A	CV	45	50	55.3	1.0	1.0	72.7	2.8
SMF48A	CX	48	53.3	58.9	1.0	1.0	77.4	2.6
SMF51A	CZ	51	56.7	62.7	1.0	1.0	82.4	2.4
SMF54A	DE	54	60	66.3	1.0	1.0	87.1	2.3
SMF58A	DG	58	64.4	71.2	1.0	1.0	93.6	2.1
SMF60A	DK	60	66.7	73.7	1.0	1.0	96.8	1.8
SMF64A	DM	64	71.1	78.6	1.0	1.0	103	1.7
SMF70A	DP	70	77.8	86	1.0	1.0	113	1.5
SMF75A	DR	75	83.3	92.1	1.0	1.0	121	1.4
SMF78A	DT	78	86.7	95.8	1.0	1.0	126	1.4
SMF85A	DV	85	94.4	104	1.0	1.0	137	1.3
SMF90A	DX	90	100	111	1.0	1.0	146	1.2
SMF100A	DZ	100	111	123	1.0	1.0	162	1.1
SMF110A	EE	110	122	135	1.0	1.0	177	1.0
SMF120A	EG	120	133	147	1.0	1.0	193	0.9
SMF130A	EK	130	144	159	1.0	1.0	209	0.8
SMF150A	EM	150	167	185	1.0	1.0	243	0.7
SMF160A	EP	160	178	197	1.0	1.0	259	0.7
SMF170A	ER	170	189	209	1.0	1.0	275	0.6
SMF175A	E5	175	198	214	1.0	1.0	284	0.6

电参数曲线图 / Electrical Characteristic Curve

Fig.1 Peak Pulse Power Rating Curve

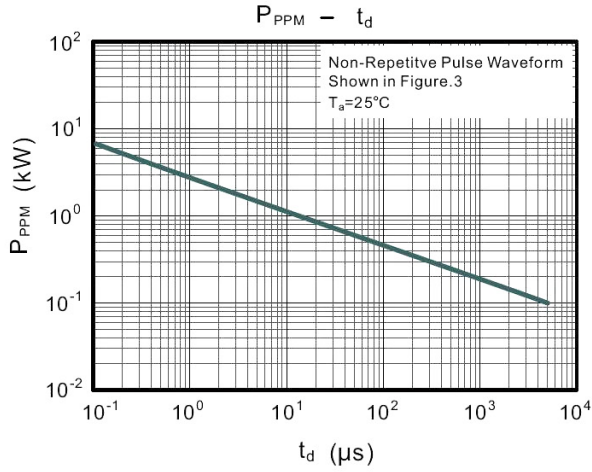


Fig.2 Derating Curve

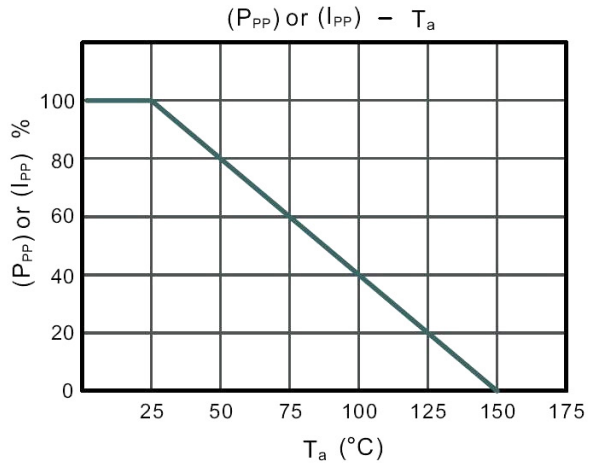


Fig.3 Pulse Waveform

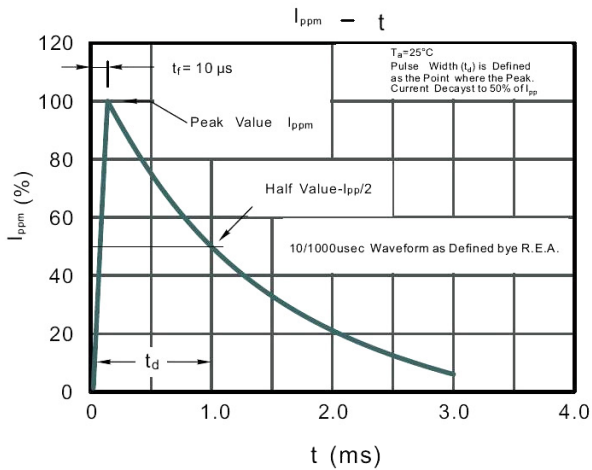


Fig.4 Typical Junction Capacitance

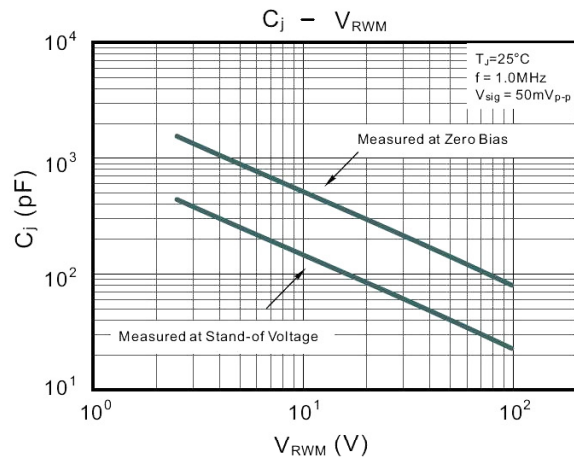
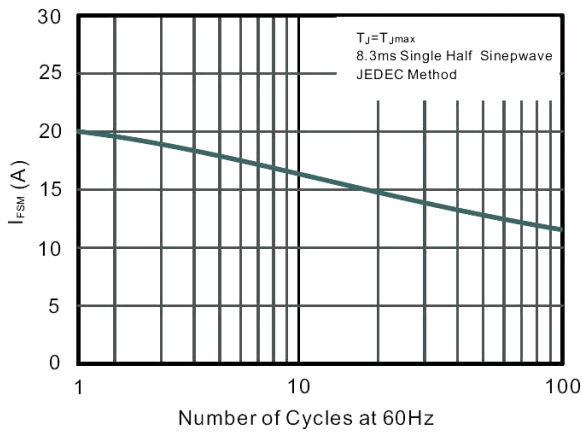
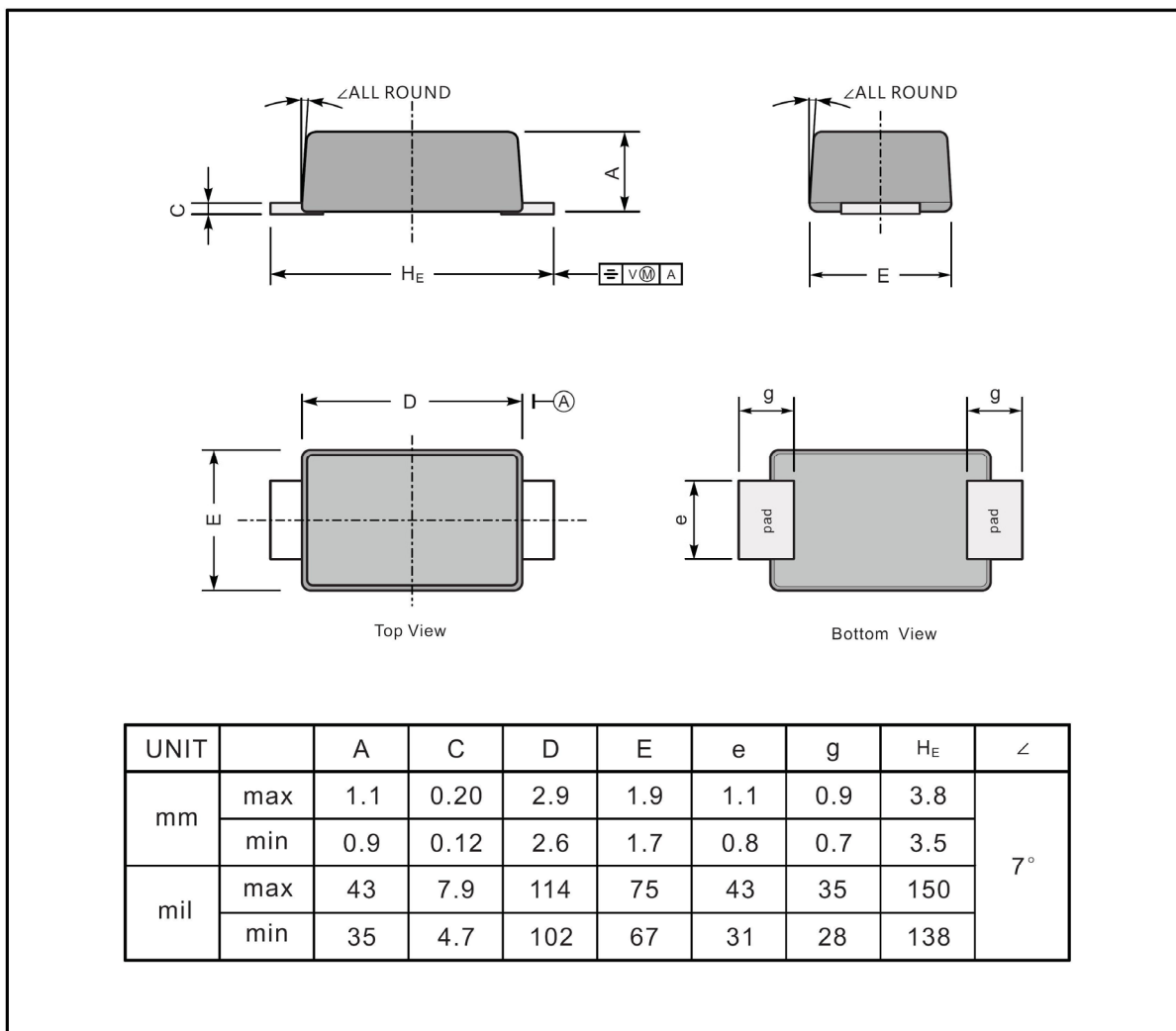


Fig.5 Maximum Non-Repetitive Peak



外形尺寸图 / Package Dimensions

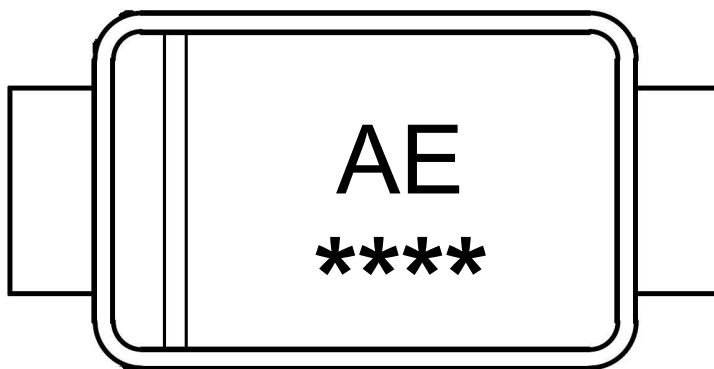
SOD-123FL




印章说明 / Marking Instructions

Type number	Marking
SMF5.0A	AE
SMF6.0A	AG
SMF6.5A	AK
SMF7.0A	AM
SMF7.5A	AP
SMF8.0A	AR
SMF8.5A	AT
SMF9.0A	AV
SMF10A	AX
SMF11A	AZ
SMF12A	BE
SMF13A	BG
SMF14A	BK
SMF15A	BM
SMF16A	BP
SMF17A	BR
SMF18A	BT
SMF20A	BV
SMF22A	BX
SMF24A	BZ
SMF26A	CE
SMF28A	CG
SMF30A	CK
SMF33A	CM
SMF36A	CP
SMF40A	CR
SMF43A	CT
SMF45A	CV
SMF48A	CX
SMF51A	CZ
SMF54A	DE
SMF58A	DG
SMF60A	DK
SMF64A	DM
SMF70A	DP
SMF75A	DR
SMF78A	DT
SMF85A	DV
SMF90A	DX
SMF100A	DZ
SMF110A	EE
SMF120A	EG
SMF130A	EK
SMF150A	EM
SMF160A	EP
SMF170A	ER
SMF175A	E5

印章说明 / Marking Instructions



说明：

AE： 为型号代码

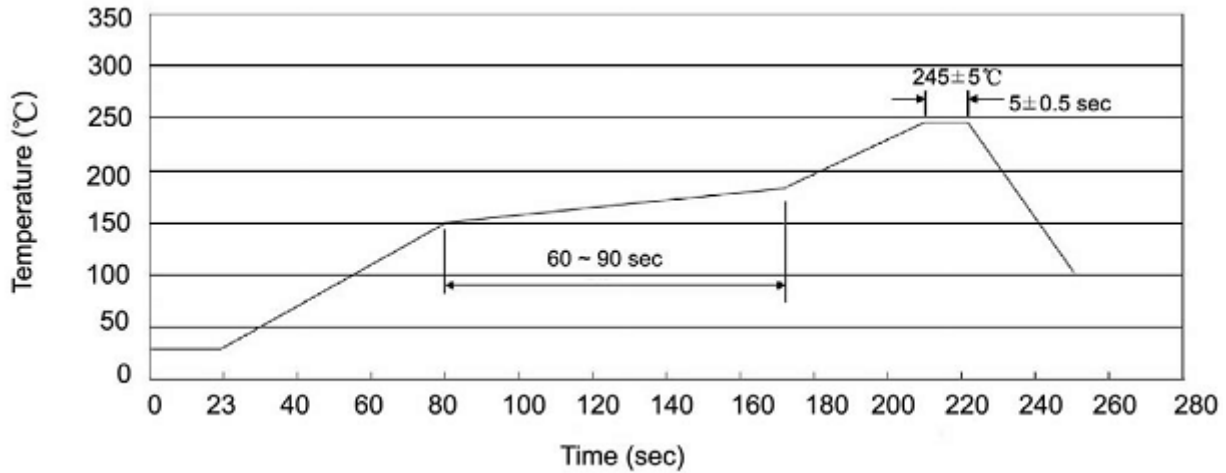
*****： 为生产批号追溯码，第1个*为年月代码，后面3个*为当月小批号代码

Note:

AE： Product Type Code

*****： Lot No. Code ,The 1st * means:YM Code ,The last 3 * means:little Lot No Code

回流焊温度曲线图(无铅) / Temperature Profile for IR Reflow Soldering(Pb-Free)



说明：

- 1、预热温度 25~150°C，时间 60~90sec；
- 2、峰值温度 245±5°C，时间持续为 5±0.5sec；
- 3、焊接制程冷却速度为 2~10°C/sec.

Note:

- 1.Preheating:25~150°C, Time:60~90sec.
- 2.Peak Temp.:245±5°C, Duration:5±0.5sec.
3. Cooling Speed: 2~10°C/sec.

耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions

温度：260±5°C

时间：10±1 sec.

Temp.:260±5°C

Time:10±1 sec

包装规格 / Packaging SPEC.

卷盘包装 / REEL

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Reel 只/卷盘	Reels/Inner Box 卷盘/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Reel	Inner Box 盒	Outer Box 箱
SOD-123FL	3000	8	24000	5	120000	7" ×11	185X180X105	390X385X205

使用说明 / Notices

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