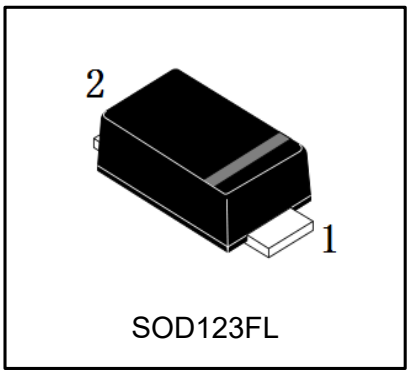
SODZ***A-SH Series

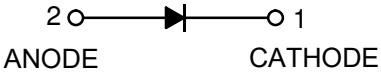
Surface Mount Zener Voltage Regulator Diodes
1.0 Watt Steady State

1. FEATURES

- 1.0 Watt SOD123FL zener voltage regulator diodes
- Low profile package for surface mounted applications in order to optimize board spaces
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- High temperature soldering guaranteed: 260°C / 10 seconds at terminals
- We declare that the material of product is compliant with RoHS and Halogen free requirements.
- MSL: Level 1



SOD123FL



2. MECHANICAL DATA

- Case: JEDEC SOD123FL / MINI SMA
  molded plastic over glass die
- Terminals: Plated terminals, solderable per
  MIL-STD-750, Method 2026
- Polarity: With color bands that denote cathode end
- Mounting Position: Any
- Weight: Approximately 0.0155 gram
- Quantity: 3000 Units / Tape&Reel

3. MAXIMUM RATINGS (T_A = 25ºC unless otherwise specified.)

Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

PARAMETERS	SYMBOLS	VALUE	UNITS
Steady State Power Dissipation at T_L = 75ºC (Note1)	$P_{M(AV)}$	1.0	Watt
Z-current	I_Z	P_V/V_Z	mA
Operating Junction Temperature Range	T_J	-55 to +150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

Notes:

1. 8.0mm^2 (0.013mm thick) land areas.
2. 8.3ms single half sine-wave, duty cycle= 4 pulses per minutes maximum.

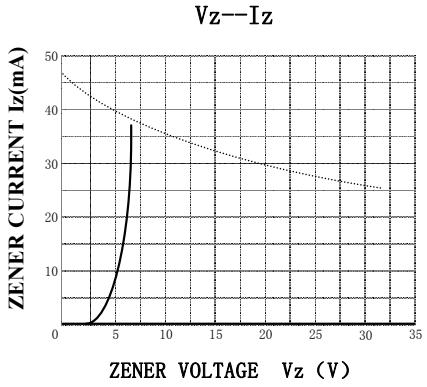
4. ELECTRICAL CHARACTERISTICS (TA = 25ºC unless otherwise specified.)

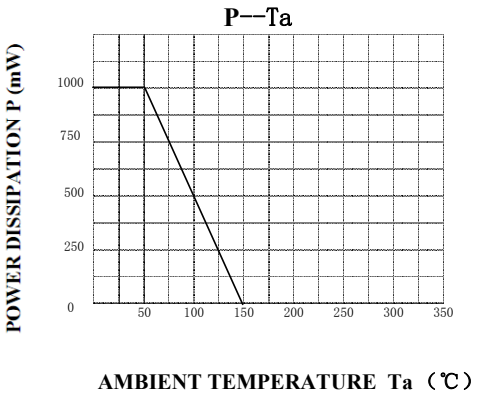
Vz tolerance : ±5%; Tested with pulse tp = 40ms; Vfmax = 1.2V@IF = 200mA; P = 1 W

Type	Device Marking Code	Zener Voltage	Zener Current	Dynamic Impedance			Leakage Current		Maximum Regulator Current
		Vz @Izt	Izt	Zzt @Izt	Zzk @Izk	Izk	I_R	V_R	I_{ZM} @ T_A=50°C
		Volts	mA	Ohms	Ohms	mA	uA Max	Volts	mA
SODZ2.4A-SH	Z2.4	2.4	5	95	500	1	600	1.0	178
SODZ2.7A-SH	Z2.7	2.7	5	95	500	1		1.0	164
SODZ3.0A-SH	Z3.0	3.0	5	95	500	1		1.0	146
SODZ3.3A-SH	Z3.3	3.3	5	95	500	1		1.0	133
SODZ3.6A-SH	Z3.6	3.6	5	95	500	1	100	1.0	121
SODZ3.9A-SH	Z3.9	3.9	5	95	500	1		1.0	110
SODZ4.3A-SH	Z4.3	4.3	5	95	500	1		1.0	100
SODZ4.7A-SH	Z4.7	4.7	5	95	500	1		1.0	100

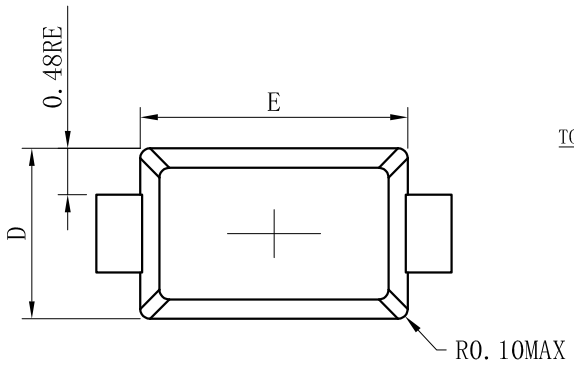
5. ELECTRICAL CHARACTERISTIC CURVES

3.Characteristic Curves

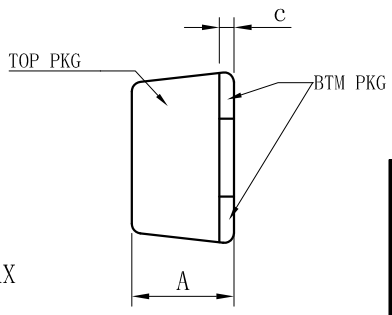




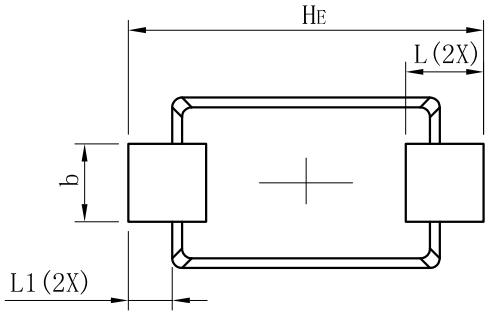
6. PACKAGE DIMENSIONS



TOP VIEW



SIDE VIEW



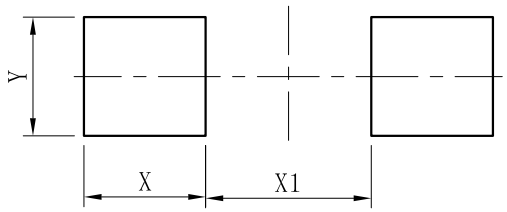
BOTTOM VIEW

SOD123FL			
DIM	MIN	NOR	MAX
A	0.90	1.05	1.15
b	0.75	0.80	0.95
L	0.50	0.80	1.10
E	2.60	2.75	2.90
D	1.60	1.75	1.90
HE	3.50	3.65	3.80
c	0.12	0.17	0.22
L1	0.25	0.45	0.65
All Dimensions in mm			

GENERAL NOTES

1. Top package surface finish Ra0.4±0.2um
2. Bottom package surface finish Ra0.7±0.2um
3. Side package surface finish Ra0.4±0.2um

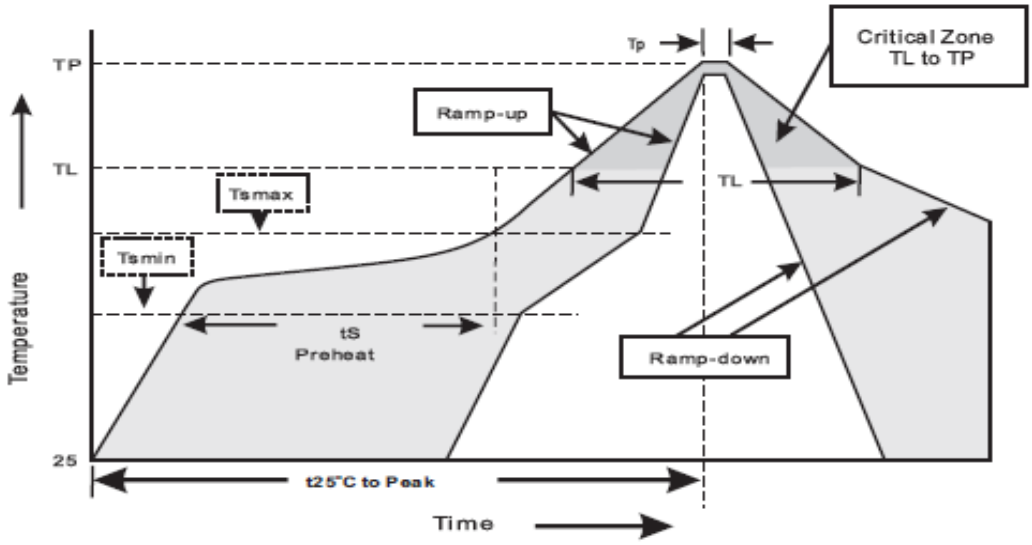
7. SOLDERING FOOTPRINT



DIM	(mm)
X	1.20
Y	1.10
X1	2.00

8. SUGGESTED THERMAL PROFILE FOR SOLDERING PROCESS

1. Storage environment：Temperature=5~40℃ Humidity=55±25%
2. Reflow soldering of surface-mount device



3. Reflow soldering conditions

Profile Feature	Soldering Condition
Average ramp-up rate(T_L to T_P)	<3℃/sec
Preheat - Temperature Min(Tsmin) - Temperature Max(Tsmax) - Time(min to max)(t_s)	 150℃ 200℃ 60~120sec
Tsmax to T_L - Ramp-up Rate	 <3sec
Time maintained above: - Temperature (T_L) - Time(t_L)	 217℃ 60-260sec
Peak Temperature(T_P)	255 -0/+5℃
Time within 5℃ of actual Peak Temperature(T_P)	10~30sec
Ramp-down Rate	<6℃/sec
Time 25℃ to Peak Temperature	<6minutes

9. HIGH RELIABILITY TEST CAPABILITIES

Item Test	Condition	Reference
Solder Resistance	at 260±5℃ for 10±2sec immerse body into solder 1/16" ± 1/32"	MIL-STD-750D METHOD-2031
Solderability	at 245±5℃ for 5 sec	MIL-STD-202F METHOD-208
High Temperature Reverse Bias	V_R=80% rate at T_j=150℃ for 168hrs	MIL-STD-750D METHOD-1038
Forward Operation Life	Rated average rectifier current T_A=25℃ for 500hrs	MIL-STD-750D METHOD-1027
Intermittent Operation Life	T_A=25℃，I_F=I_O On state:power on for 5 min. Off state:power off for 5 min. on and off for 500 cycles	MIL-STD-750D METHOD-1036
Pressure Cooker	15P_{SIG} at T_A=121℃ for 4hrs	JESD22-A102
Temperature Cycling	-55℃ to +125℃ dwelled for 30 min. and transferred for 5min. Total 10 cycles	MIL-STD-750D METHOD-1051
Thermal Shock	0℃ for 5min. Rise to 100℃ for 5min. Total 10 cycles	MIL-STD-750D METHOD-1056
Forward Surge	8.3ms single half sine-wave superimposed on rated load,one surge	MIL-STD-750D METHOD-4066-2
Humidity	at T_A=85℃，R_H=85% for 1000hrs	MIL-STD-750D METHOD-1021
High Temperature Storage Life	at 175℃ for 1000hrs	MIL-STD-750D METHOD-1031

DISCLAIMER

- Curve guarantee in the specification. The curve of test items with electric parameter is used as quality guarantee. The curve of test items without electric parameter is used as reference only.

- Before you use our Products for new Project, you are requested to carefully read this document and fully under--stand its contents. LRC shall not be in any way responsible or liable for failure, malfunction or accident arising from the use of any LRC’s Products against warning, caution or note contained in this document.

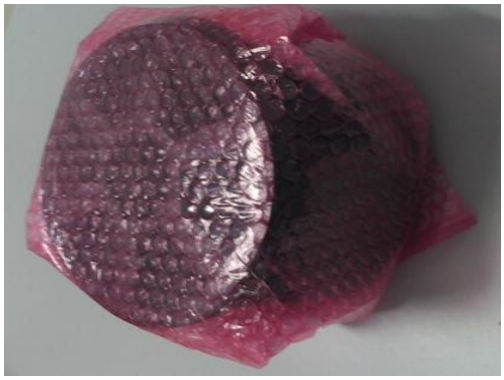
- All information contained in this document is current as of the issuing date and subject to change without any prior notice. Before purchasing or using LRC's Products,please confirm the latest information with a LRC sales represe--ntative.

8.1.2 Label position and QA stamp position.(Empty area) 标签张贴位置及QA印章位置。（印章盖 标签空白区

7英寸卷盘标签张贴及QA印章位置

13英寸卷盘标签张贴及QA印章位置

8.1.3 Ensure direction In the same reel. The same steel coil plate direction，With antistatic bubble to package reel。Refer to the below picture.
同一箱内的卷盘方向一致,用防静电泡沫对卷盘进行包裹。



7英寸卷盘防静电泡沫包裹

13英寸卷盘防静电泡沫包裹

8.1.4 Put in the antistatic packing box after packaged reels. And QA stamp on the box label .
将包装好的卷盘放入防静电纸箱中，并 盒标签上盖章。

7 英寸卷盘内盒及标签

13 英寸卷盘内盒及标签

8.1.5 Product use printing inner box. 产品使用LRC印字内箱。

7英寸卷盘内箱印字（侧面）

13英寸卷盘内箱印字（正面）

8.1.6 Inner box packing quantity requirement.内盒包装数量要求。

Product Description	QTY
SOD123-FL	1-10Reels
SOD323-HE	1-10Reels
SMA-FL	1-7Reels
SMB-FL	1-4Reels

8.1.7 With transparent tape sealing. 透明胶带封箱。

7英寸内箱封盒

13英寸内箱封盒

8.1.8 Outer box size and packing quantity requirement,外箱尺寸及包装数量要求。

Product Description	卷盘尺寸	Height（H）	Width（W）	Length（L）	Max. Qty
Power Device	7 英寸	410mm	400mm	445mm	12
Power Device	13 英寸	410mm	400mm	445mm	5

7 英寸卷盘产品装箱

13 英寸卷盘产品装箱

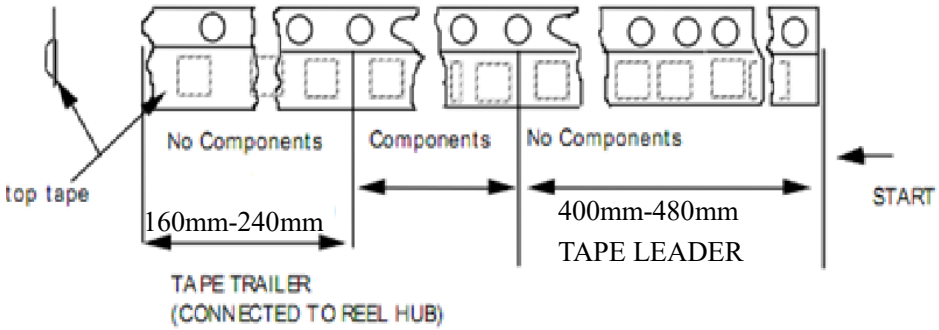
8. 2 Standard Products Taping Specification
标准产品编带规范

8.2.1 Tape length of no component
空带长度说明

Taping leader length 引导部分：440mm±40mm ， Tape trailer 尾部：200mm±40mmt

Figure 4

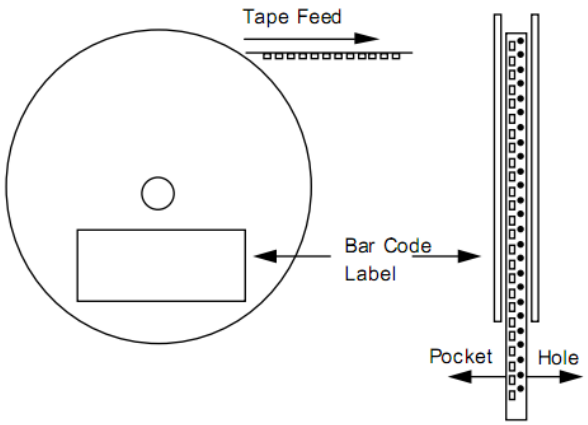
Tape Ends For Finished Goods Reel



8.2.2 Component packaging orientation: The cathode lead is close to the carrier tape's index hole.
产品放置方向：印阴极带引脚邻近载带索引孔

8.2.3 Tape enwind orientation

编带缠绕方向要求



单击下面可查看定价，库存，交付和生命周期等信息

>>LRC(乐山无线电)