

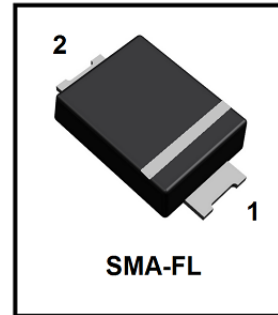
# SZAF \*\*\*A Series

Zener voltage regulator diodes

1 Watt Steady State

## Feature

- \* 1 W SMA-FL
- \* Zener voltage regulator diodes
- \* Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- \* We declare that the material of product compliance with RoHS requirements.
- \* Guarding for over voltage protection
- \* High temperature soldering guaranteed: 260°C/10 seconds at terminals
- \* IEC61000-4-2 ESD Air Contact  $\geq \pm 15KV$
- \* MSL: 1
- \* We declare that the material of product compliance with RoHS requirements and Halogen Free.



## Mechanical Data

**Case:** JEDEC SMA-FL molded plastic

**Terminals :**Plated terminals, solderable per MIL-STD-750,Method 2026

**Polarity:** Color band denoted cathode except Bipolar

**Mounting Position:** Any

**Weight :** 28mg

## 1.Electrical Characteristic

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

RATING	SYMBOL	VALUE	UNITS
Steady State Power Dissipation at $T_A = 50^\circ C$ (Note1)	$P_{M(AV)}$	1	Watts
Z-current	$I_Z$	PV/VZ	mA
Operating and Storage Temperature Range	$T_J, T_{STG}$	-50 to +150	°C

NOTES:

1. 8.0mm<sup>2</sup> (.013mm thick) land areas

# SZAF \*\*\*A Series

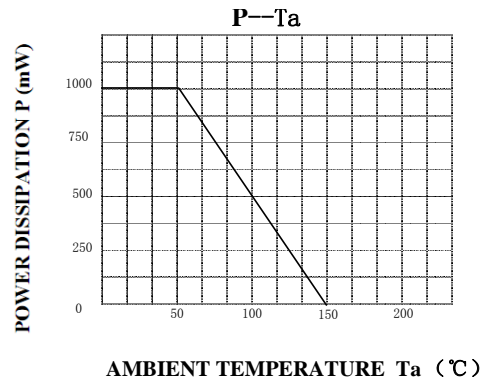
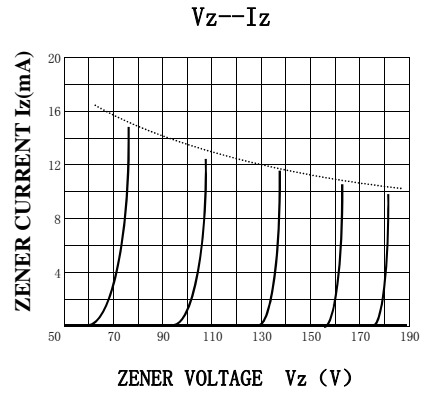
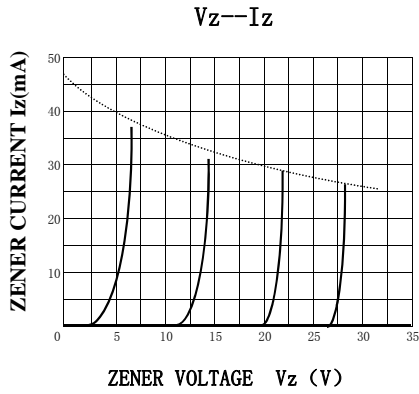
## 2.Product Characteristic

Vz tolerance : ±5%; Ta=25°C Vmax =1.2V @ IF = 200mA P=1 W

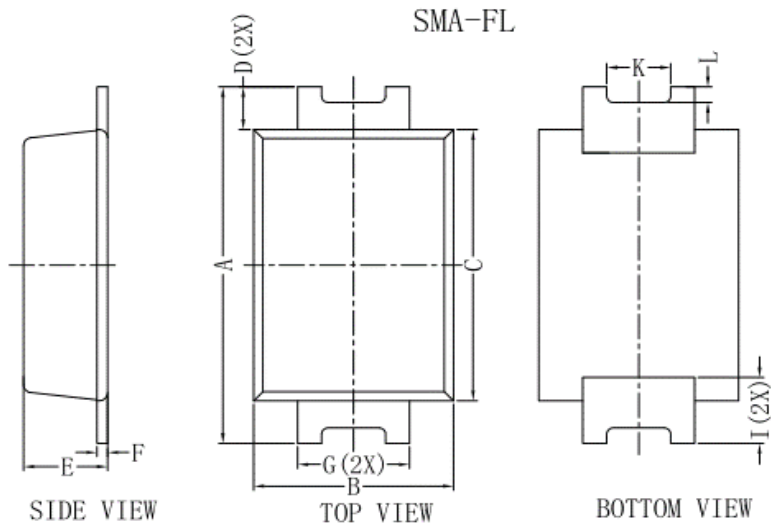
Type	Device marking code	Zener	Current	A and B Suffix only			Leakage Current		Maximum Regulator Current(2)	
		Voltage	I zt	Z zt @ I zt	Z zk@ Izk	Z zk@ Izk	I <sub>R</sub>	V <sub>R</sub>	I <sub>ZM</sub> @ Tamb =50 ° C	
		Vz@Lzt								
		Volts	mA	Ohms	Ohms	m A	uA Max	Volts	mA	
SZAF2.4A	Z2.4	2.4	102	30	1200	1	100	1.0	252	
SZAF2.5A	Z2.5	2.5	98	30	1250	1		1.0	241	
SZAF2.7A	Z2.7	2.7	90	30	1300	1		1.0	222	
SZAF2.8A	Z2.8	2.8	87	30	1400	1		1.0	216	
SZAF3.0A	Z3.0	3.0	82	29	1600	1		1.0	201	
SZAF3.3A	Z3.3	3.3	76	28	400	1		1.0	184	
SZAF3.6A	Z3.6	3.6	69	24	400	1		1.0	168	
SZAF3.9A	Z3.9	3.9	64	23	400	1		1.0	158	
SZAF4.3A	Z4.3	4.3	58	22	400	1		1.0	142	
SZAF4.7A	Z4.7	4.7	53	19	400	1		1.0	129	
SZAF5.1A	Z5.1	5.1	49	7	550	1		1.0	118	
SZAF5.6A	Z5.6	5.6	45	5	600			2.0	109	
SZAF6.2A	Z6.2	6.2	41	2	700			3.0	97	
SZAF6.8A	Z6.8	6.8	37	4	1300			4	133.3	
SZAF7.5A	Z7.5	7.5	34	4.5	1300			0.5	5	121
SZAF8.2A	Z8.2	8.2	31	5.5	1300			0.5	6	110
SZAF9.1A	Z9.1	9.1	28	6	1300	0.5		7	100	
SZAF10A	Z10	10	25	7	1300	0.25		7.6	91.3	
SZAF11A	Z11	11	23	8	1300		8.4	83.3		
SZAF12A	Z12	12	21	9	1300		9.1	76		
SZAF13A	Z13	13	19	10	1300		9.9	69.3		
SZAF15A	Z15	15	17	14	1300		11.4	61.3		
SZAF16A	Z16	16	15.5	16	1300		12.2	57.3		
SZAF18A	Z18	18	14	20	1300		13.7	50		
SZAF20A	Z20	20	12.5	22	1300		15.2	45.3		
SZAF22A	Z22	22	11.5	23	1300		16.7	41.3		
SZAF24A	Z24	24	10.5	25	1300		18.2	38		
SZAF27A	Z27	27	9.5	35	1300		20.6	34		
SZAF30A	Z30	30	8.5	40	1500		22.8	30		
SZAF33A	Z33	33	7.5	45	1500		25.1	27.3		
SZAF36A	Z36	36	7	50	1500		27.4	25.3		
SZAF39A	Z39	39	6.5	60	1500		29.7	23.3		
SZAF43A	Z43	43	6	70	2500		32.7	22		
SZAF47A	Z47	47	5.5	80	2500		35.8	19.3		
SZAF51A	Z51	51	5	95	2500		38.8	18		
SZAF56A	Z56	56	4.5	110	2500	42.6	16			
SZAF62A	Z62	62	4	125	2500	47.1	14			
SZAF68A	Z68	68	3.7	150	2500	51.7	13.3			
SZAF75A	Z75	75	3.3	175	2500	56	12			
SZAF82A	Z82	82	3	200	3000	62.2	11.3			
SZAF91A	Z91	91	2.8	250	3000	69.2	10			
SZAF100A	Z100	100	2.5	350	3000	76	9.3			
SZAF110A	Z110	110	2	550	5000	83	8			
SZAF120A	Z120	120	1.5	750	5500	90	7.3			
SZAF130A	Z130	130	1	900	6000	98	6			
SZAF150A	Z150	150	1	1200	6500	113	6			
SZAF160A	Z160	160	1	1350	7000	120	6			
SZAF180A	Z180	180	1	1650	8500	135	5.3			
SZAF200A	Z200	200	1	1950	10000	150	4			
SZAF220A	Z220	220	1	2300	12000	165	4			

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## 3.Characteristic Curves



## 4. OUTLINE AND DIMENSIONS



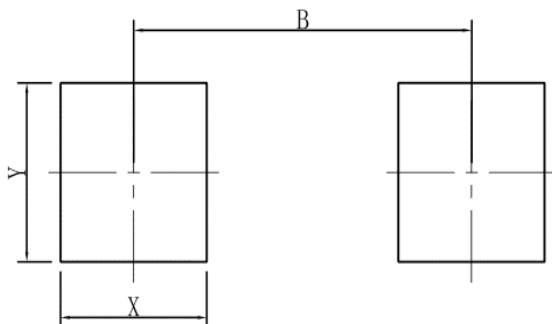
SMA-FL			
DIM	MIN	MAX	Typ.
A	4.40	4.80	4.60
B	2.30	2.70	2.60
C	3.30	3.70	3.50
D	-	-	0.55
E	0.90	1.20	1.05
F	0.11	0.21	0.17
G	1.30	1.50	1.40
I	-	-	0.90
K	-	-	0.80
L	-	-	0.20

All Dimensions in mm

### GENERAL NOTES

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

## 5. SOLDERING FOOTPRINT



SMA-FL	
DIM	(mm)
X	1.60
Y	1.80
B	3.70



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# Title: Power Packages Product Packing Specification

## 功率产品包装规范

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

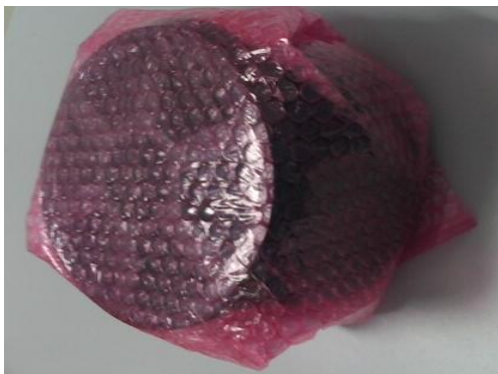


7英寸卷盘标签张贴及QA印章位置



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

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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，并在盒标签上盖章。



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。

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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

统一方向

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# Title: Power Packages Marking & Taping Specification

## 功率封装字模和编带规范

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### 8.2 Standard Products Taping Specification

标准产品编带规范

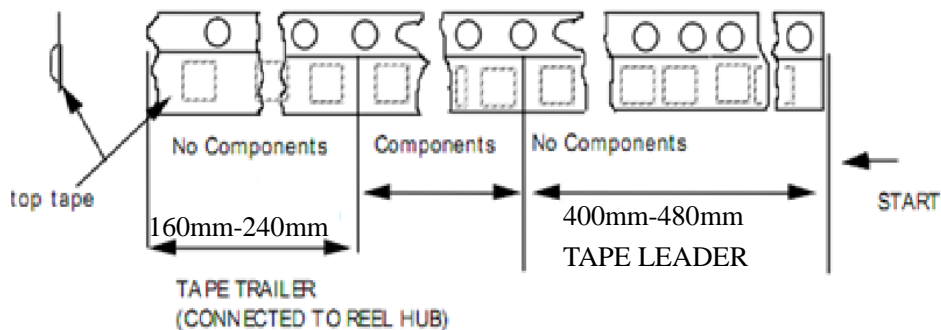
#### 8.2.1 Tape length of no component

空带长度说明

Taping leader length 引导部分:  $440\text{mm} \pm 40\text{mm}$  , Tape trailer 尾部:  $200\text{mm} \pm 40\text{mm}$

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



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## 8.2.3 Tape enwind orientation

编带缠绕方向要求



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