

# SM520A-E thru SM5100A-E

## Schottky Barrier Rectifiers

Reverse Voltage 20 to100V Forward Current 5.0A

### FEATURES

- \* Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- \* Low power loss,high efficiency
- \* For use in low voltage high frequency inverters, free wheeling,and polarity protection applications
- \* Guardring for over voltage protection
- \* High temperature soldering guaranteed: 260°C/10 seconds at terminals
- \* IEC61000-4-2 ESD Air Contact $\geq\pm 15KV$

### Mechanical Data

Case: JEDEC DO-214AC,

molded plastic over glass DIE

Terminals: Plated axial leads, solderable per

MIL-STD-750, Method 2026

Polarity: Color band denotes cathode end

Mounting Position: Any

Weight: 0.0023 oz., 0.065 g

Handling precautin:None

### 1.Electrical Characteristic

#### Maximum & Thermal Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter Symbol	symbol	SM520A -E	SM530A -E	SM540A -E	SM550A -E	SM560A -E	SM580A -E	SM5100 A-E	Unit
device marking code		S52●	S53●	S54●	S55●	S56●	S58●	S510●	
Maximum repetitive peak reverse voltage	$V_{RRM}$	20	30	40	50	60	80	100	V
Maximum RSM voltage	$V_{RSM}$	14	21	28	35	42	56	70	V
Maximum DC blocking voltage	$V_{DC}$	20	30	40	50	60	80	100	V
Maximum average forward rectified current at $T_A = 80^\circ C$	IF(AV)	5.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	100							A
Typical thermal resistance (Note 1)	$R_{\theta JA}$	50							$^\circ C/W$
Operating junction and storage temperature range	$T_J$ , TSTG	-40 to +150							$^\circ C$

#### Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter Symbol	symbol	SM520A -E	SM530A -E	SM540A -E	SM550A -E	SM560A -E	SM580A -E	SM5100 A-E	Unit
Maximum instantaneous forward voltage at 5.0A	$V_F$	0.50			0.70		0.85		V
Maximum DC reverse current $T_A = 25^\circ C$ at rated DC blocking voltage $T_J = 125^\circ C$	IR				0.1				mA
Typical junction capacitance at 4.0V, 1MHz	CJ				110				PF

NOTES:

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



We declare that the material of product compliance with ROHS requirements

## SM520A-E thru SM5100A-E

### 2. Ratings and Characteristic Curves (TA = 25°C unless otherwise noted)

Fig. 1 - Forward Current Derating Curve

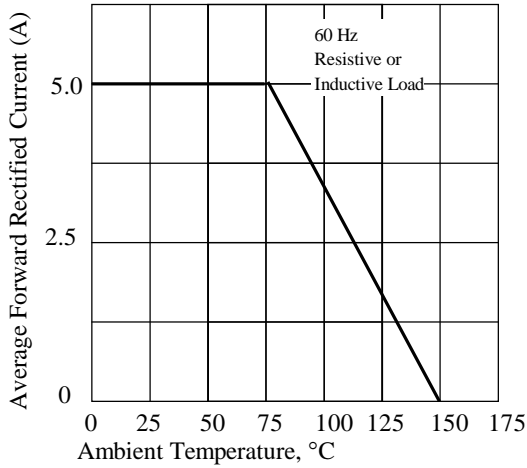


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

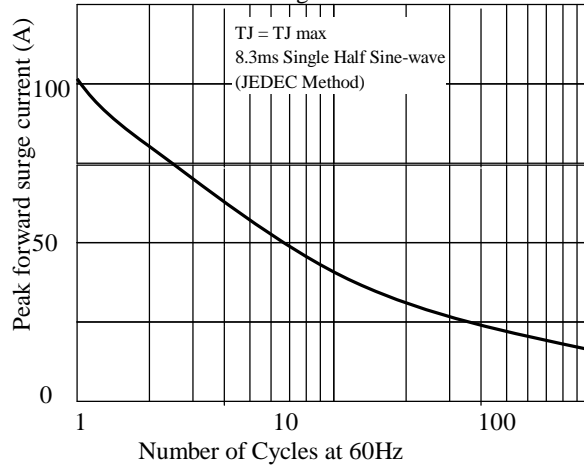


Fig 3. - Typical Instantaneous Forward Characteristics

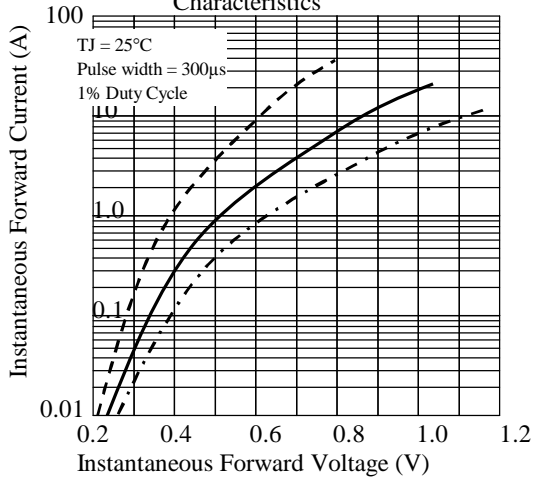


Fig 4. - Typical Reverse Characteristics

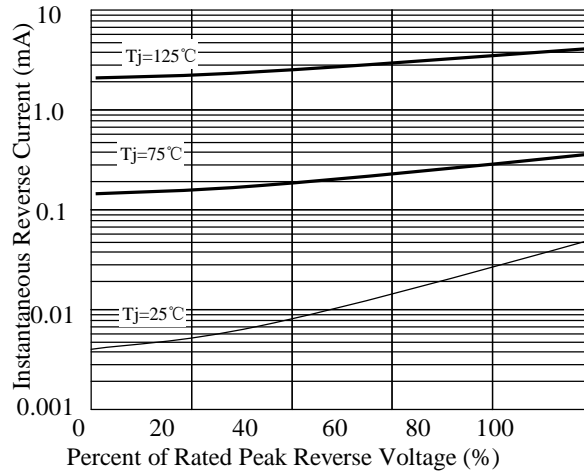


Fig 5. - typical transient thermal impedance

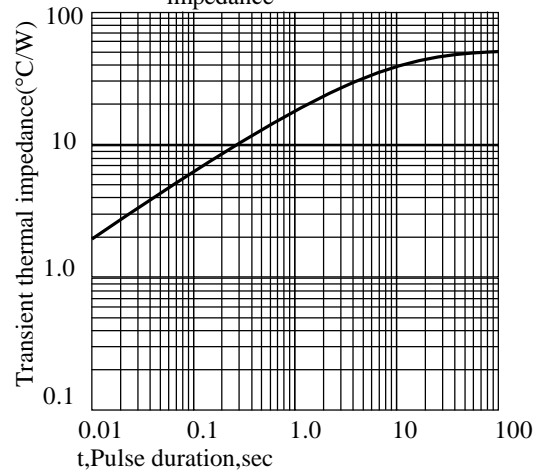
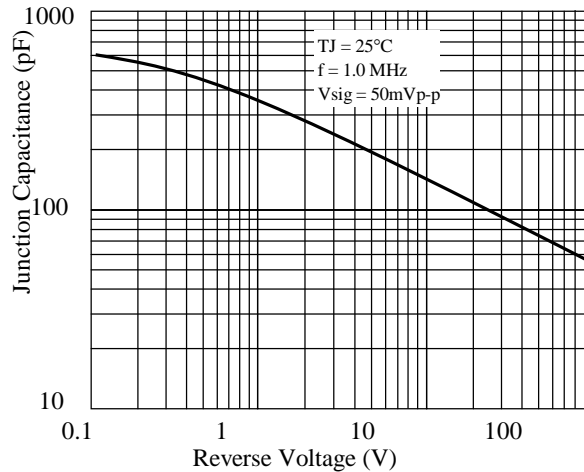
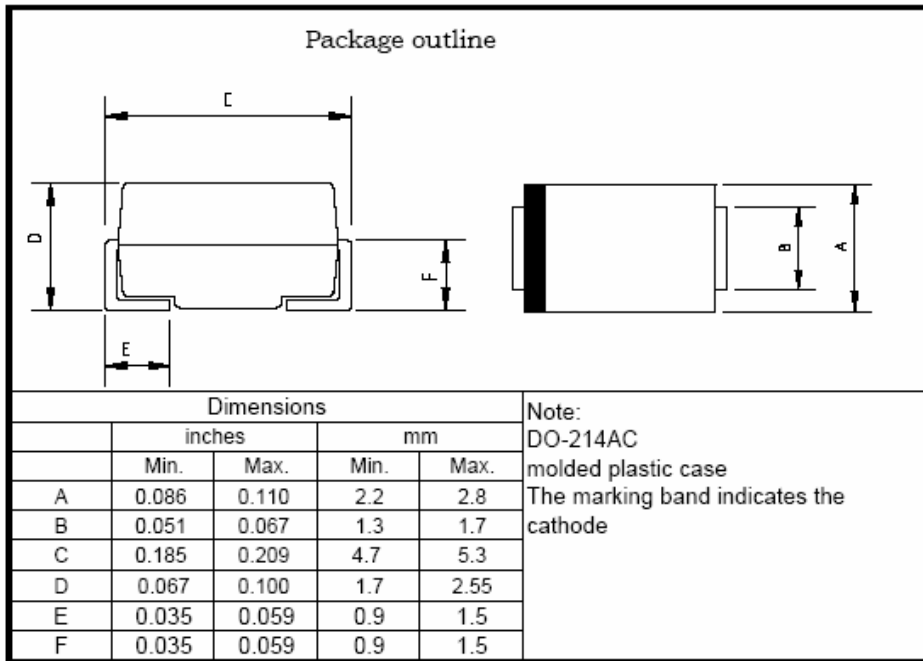


Fig 6. - Typical Junction Capacitance

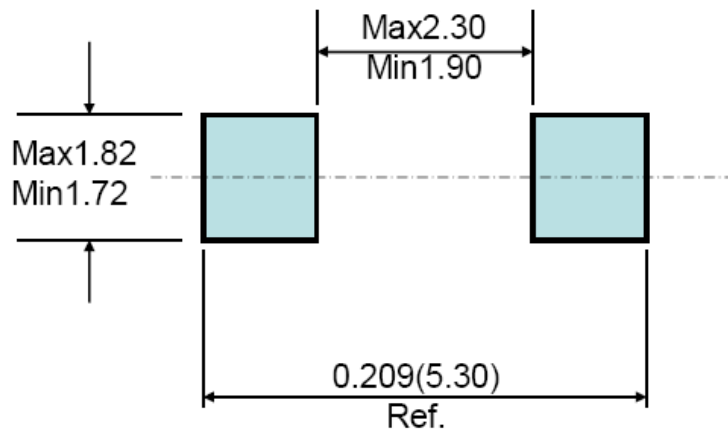


## SM520A-E thru SM5100A-E

### 3. dimension:



### Mounting Pad Layout ---SMA



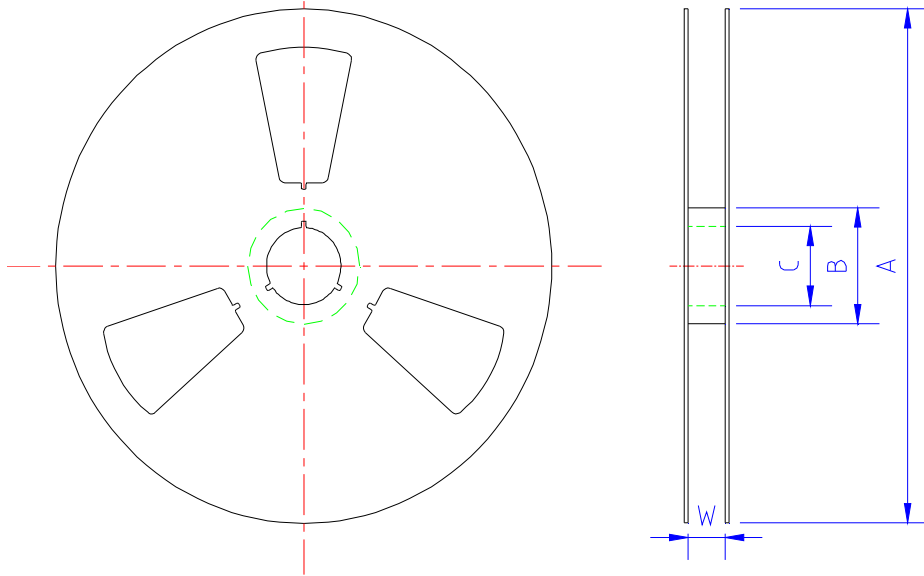
SM540A-E: "S"--肖特基产品; "M"--表面贴装; "5"--正向电流5A; "40"--VB为40V; "A"--SMA封装;  
 "E"--满足ESD大于15KV.

标题Title: <b>塑封生产线SMD产品包装规范</b> <b>Packaging specification of SMD</b>	文件编号: WI-258
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	第 2 页

SMD产品通用包装材料规格以及包装产品数量  
General packaging materials spec. and quantity

1.1 卷装 reel

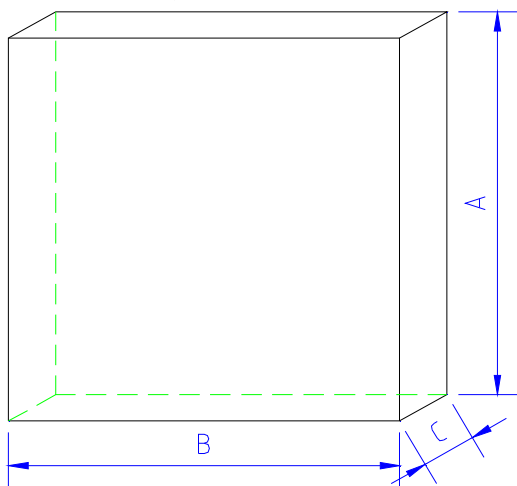
A. 卷盘规格 reel spec



单位: mm

规格	A	B	C	W	每卷数量
SMA 7"卷盘	177.0±2.0	54.0±0.5	13.0±0.5	13.2±0.2	2K
SMA13"卷盘	330.0±2.0	75.0±0.5	13.0±0.5	13.2±0.2	5K
SMB13"卷盘	330.0±2.0	75.0±0.5	13.0±0.5	13.5±0.5	3K
SMC13"卷盘	330.0±2.0	75.0±0.5	13.0±0.5	17.0±0.5	3K

B. 13"卷盘内盒 inner box



单位: mm

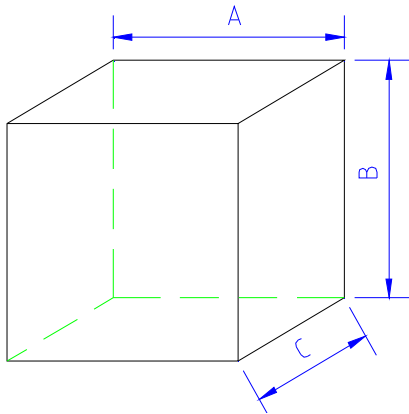
	A	B	C
尺寸	335±5.0	335±2.0	40±1.0

按以上包装方式, 产品包装数量: quantity

规格	每盒数量
SMA13"卷盘	10K
SMB13"卷盘	6K
SMC13"卷盘	6K

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C. 7"卷盘盒 box



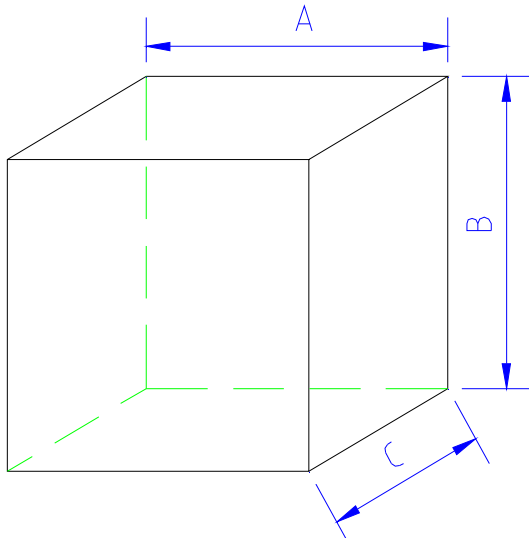
单位: mm

	A	B	C
尺寸	188±2.0	188±2.0	138±2.0

按以上包装方式, 产品包装数量: quantity

	每盒数量
7"卷盘	16K

D. 卷盘外箱 reel carton



单位: mm

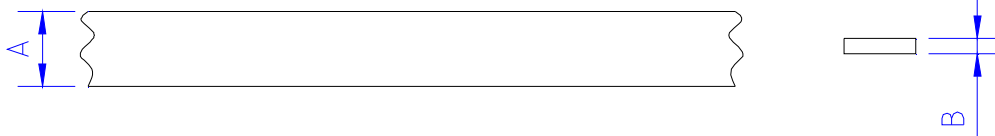
	A	B	C
尺寸	350±2.0	340±2.0	350±2.0

按以上包装方式, 产品包装数量:

规格	每箱数量
SMA 7"卷盘	80K
SMA13"卷盘	80K
SMB13"卷盘	48K
SMC13"卷盘	36K

1.2 编带规格 tape spec

A. 盖带 Cover tape



单位: mm

	A	B
SMA	9.30±0.10	0.068±0.005
SMB		
SMC		

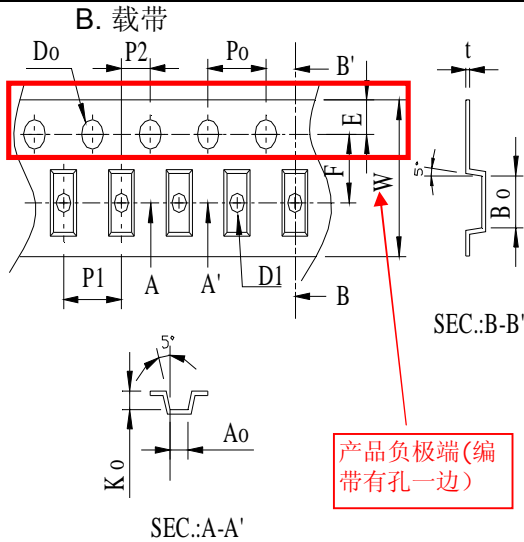
标题Title:

**塑封生产线SMD产品包装规范**  
**Packaging specification of SMD**

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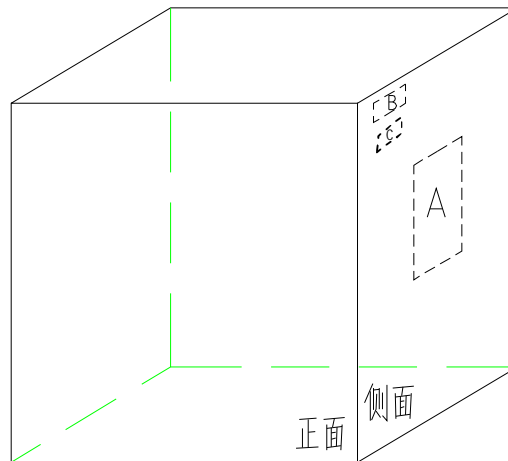
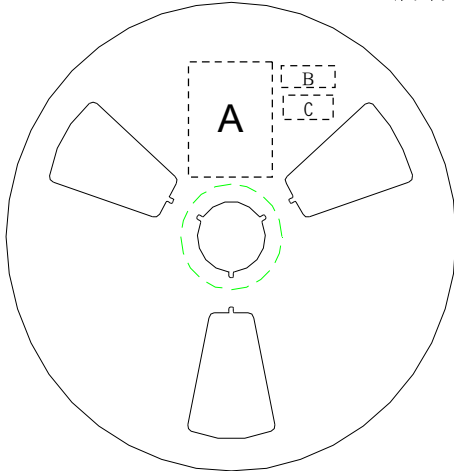
类型	SMA	SMB	SMC
W	12±0.3	12±0.3	16±0.3
P1	4±0.1	8±0.1	8±0.1
E	1.75±0.1	1.75±0.1	1.75±0.1
F	5.5±0.05	5.5±0.05	7.5±0.05
D0	1.55±0.05	1.55±0.05	1.55±0.05
D1	1.5±0.1	1.55±0.05	1.55±0.05
P0	4±0.1	4±0.1	4±0.1
P2	2±0.05	2±0.05	2±0.05
10P0	40±0.2	40±0.2	40±0.2
A0	2.79±0.1	3.8±0.1	6.05±0.1
B0	5.33±0.1	5.4±0.1	8.31±0.1
K0	2.36±0.1	2.45±0.1	2.54±0.1
T	0.25±0.05	0.25±0.05	0.25±0.05

2、SMD产品通用包装规范 General spec of SMD

5.2.1国内客户domestic

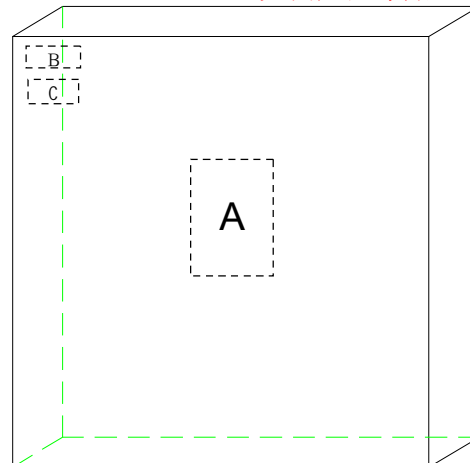
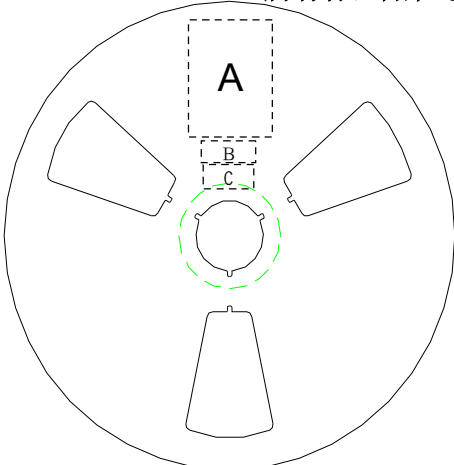
A. 7"卷盘reel

所有标签贴在卷盘负极 all the label on cathode side



A处:贴LRC标签; B处:贴ROHS标签 C处:贴无卤标签 HF label

B. 13"卷盘 所有标签贴在卷盘负极 all the label (无卤产品才贴HF only)




A处:贴LRC标签; B处:贴ROHS标签 C处:贴无卤标签 (无卤产品才贴HF only)

标题Title: <b>塑封生产线SMD产品包装规范</b> <b>Packaging specification of SMD</b>	文件编号: WI-258
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C. 标签要求label spec:

LRC标签label

型号 TYPE	*****	← LRC产品型号 type
数量(只) QTY(PCS)	*****	← 产品数量 quantity
批号 LOT	*****	← 产品批号 LOT
日期 DATE	*****	← 产品生产日期 date
检验员: CHECKER		

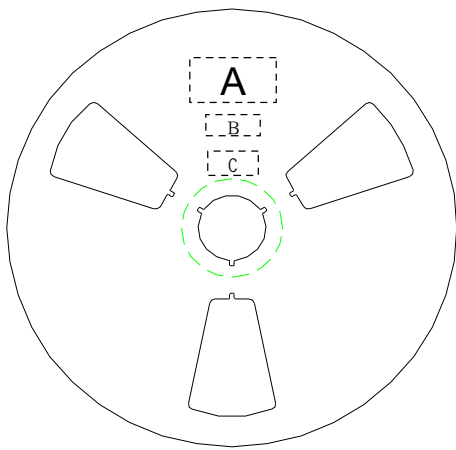
ROHS标签



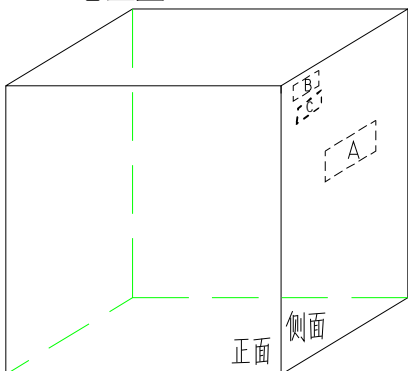
无卤标签 HF label



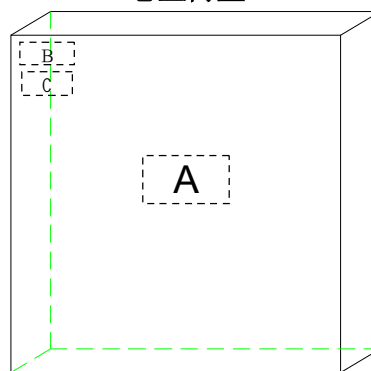
2.2 国外客户 overseas 所有标签贴在卷盘负极 all the label on cathode side



7"卷盘盒 inner box



13"卷盘内盒inner box



A处:贴LRC标签;

B处: 贴ROHS标签

C处: 贴无卤标签HF label

(无卤产品才贴HF only)

标题Title: <b>塑封生产线SMD产品包装规范</b> <b>Packaging specification of SMD</b>	文件编号: WI-258
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LRC标签label

<b>TYPE:*****</b>	← LRC产品型号
<b>MARK:*****</b>	← 印字型号
<b>Q'TY:*****</b>	← 产品数量
<b>DATE:*****</b>	← 产品生产日期

ROHS标签



无卤标签 HF label



**注意事项NOTE:**

- 13"卷盘内盒装好产品,需用热缩膜包装;13"reel'inner box must be packed by shrink film
- 所有编带产品卷装完成后,用白色胶带将编带粘牢;  
every tape after packing, must be fixed by white adhesive tape

**3.1产品出厂检验报告 testing report of the OQC**

每批出货时,需要附上出厂检验报告 every lot must with test report

**3.2尾箱**

同一编码每批次只允许出现一个尾数箱,对于尾数物料,须用缓冲材料对空余部分填充好,保证物料在受到一定的外作用力下不发生明显移动,且物料间无碰撞。

The same coding is only one ending for each batch box materials for the mantissa to be good filled with cushioning material.



## SM520A-E thru SM5100A-E

### 4. Update Record

版次	更新记录	更新作者	更新日期
1	第一版	周杰	2011-3-5
2	1. 增加包装规范; 2. 修正RMS为RSM;	周杰	2012-5-18