

SM520B thru SM5100B

Schottky Barrier Rectifiers

Reverse Voltage 20 to 100V 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

Mechanical Data

Case: JEDEC DO-214AA / SMB

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: 0.098 g

Handling precaution: None

Electrical Characteristic

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

| Parameter Symbol | symbol | SM520B | SM530B | SM540B | SM550B | SM560B | SM580B | SM5100B | Unit |
|--|-----------------|-------------|--------|--------|--------|--------|--------|---------|------|
| device marking code | | SM520B | SM530B | SM540B | SM550B | SM560B | SM580B | SM5100B | |
| 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 0.375" (9.5mm) lead length (See fig. 1) | 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 | | | | | | | °C/W |
| Operating junction and storage temperature range | T_J, T_{STG} | -40 to +150 | | | | | | | °C |

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

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|---|--------|--------|--------|--------|--------|--------|--------|---------|------|----|
| Maximum instantaneous forward voltage at 5.0A | V_F | 0.50 | | | 0.70 | | 0.85 | | V | |
| Maximum DC reverse current $T_A = 25^\circ\text{C}$ at rated DC blocking voltage $T_A = 100^\circ\text{C}$ | IR | 0.5 | | | | 10.0 | | | | mA |
| Typical junction capacitance at 4.0V, 1MHz | CJ | 110 | | | | | | | PF | |

NOTES:

1. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted



We declare that the material of product compliance with ROHS requirements

SM520B thru SM5100B

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

Fig. 1 - Forward Current Derating Curve

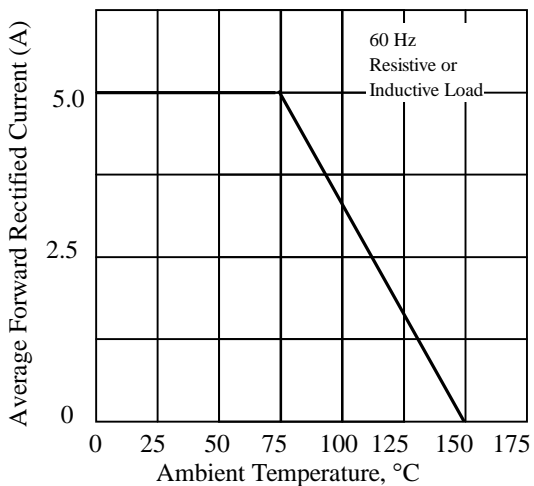


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

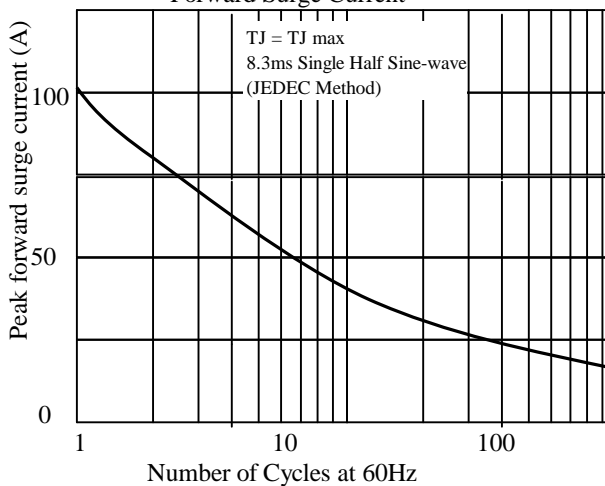


Fig 3. - Typical Instantaneous Forward Characteristics

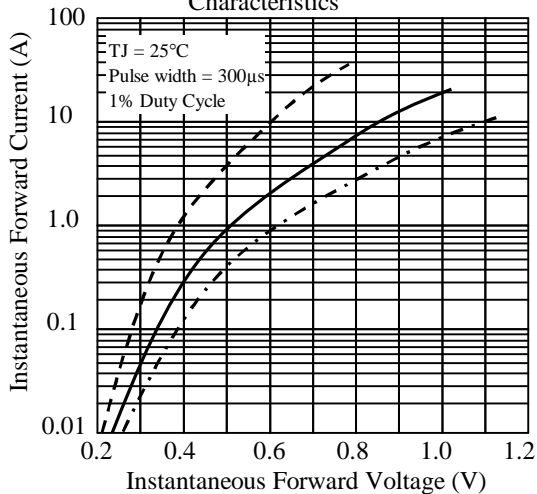


Fig 4. - Typical Reverse Characteristics

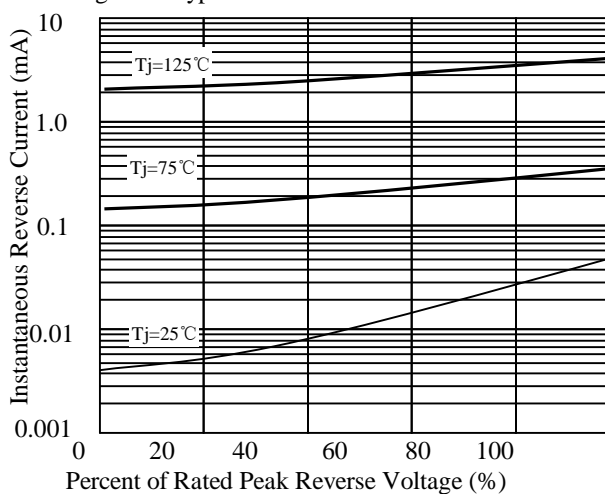


Fig 5. - typical transient thermal impedance

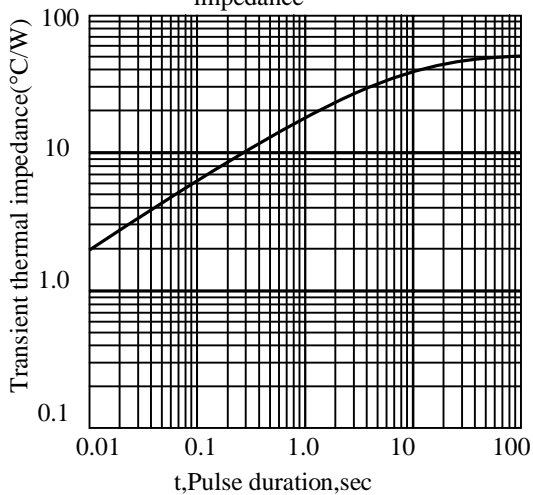
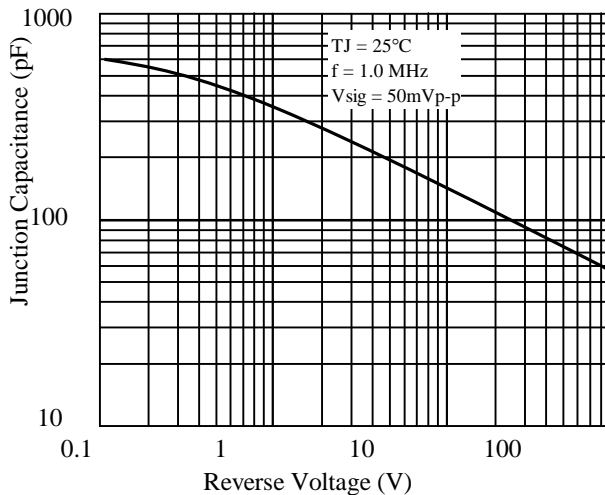
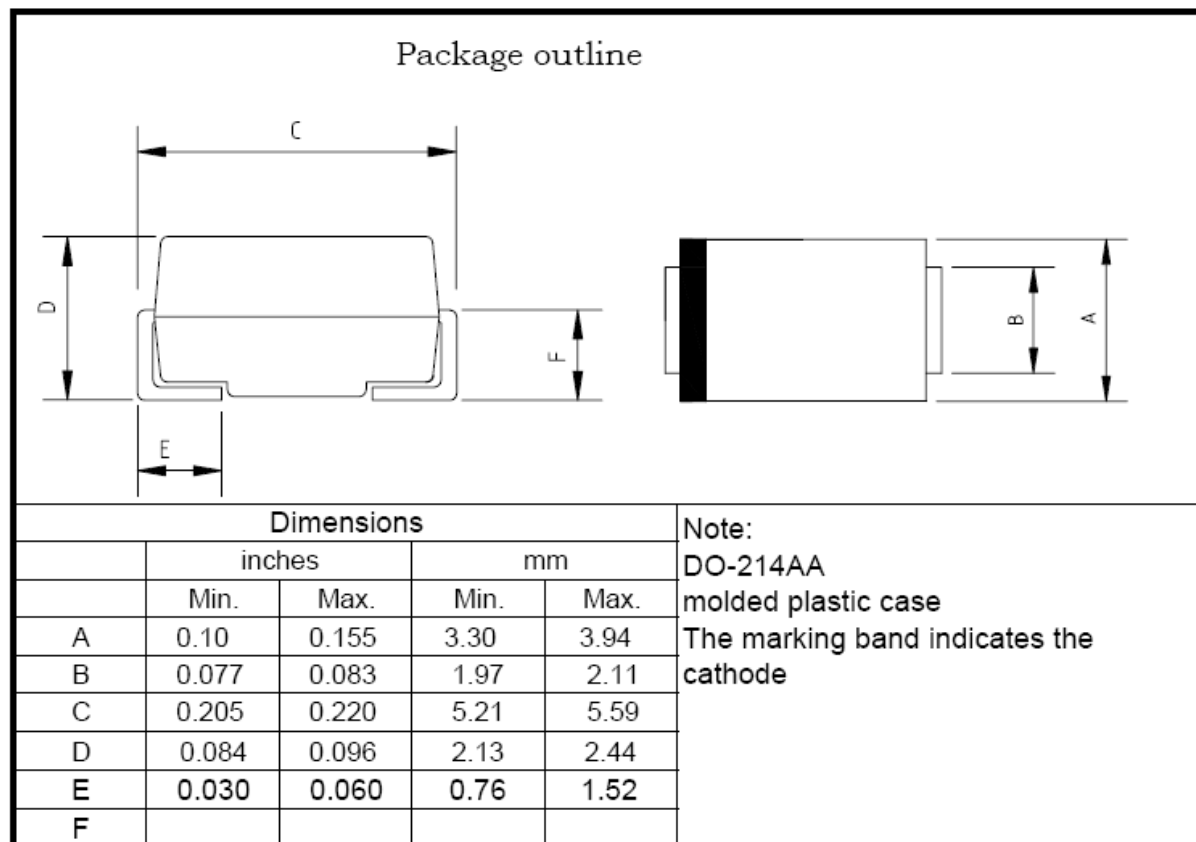


Fig 6. - Typical Junction Capacitance



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3. dimension:



标题Title:

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

文件编号: WI-258

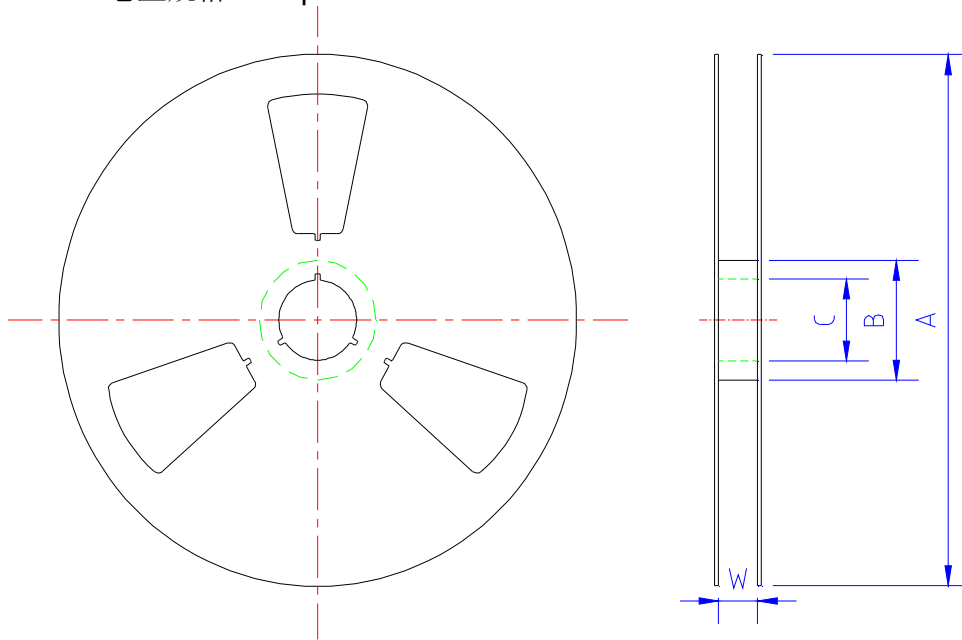
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SMD产品通用包装材料规格以及包装产品数量
General packaging materials spec. and quantity

1.1 卷装 reel

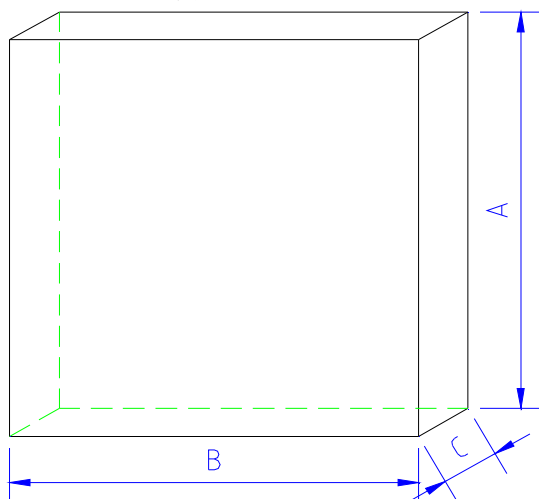
A. 卷盘规格 reel spec



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 |

标题Title:

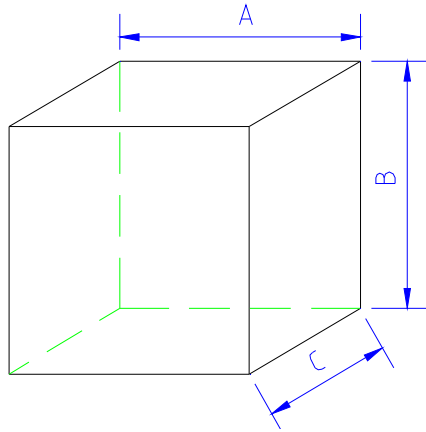
塑封生产线SMD产品包装规范
Packaging specification of SMD

文件编号: WI-258

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C. 7"卷盘盒 box



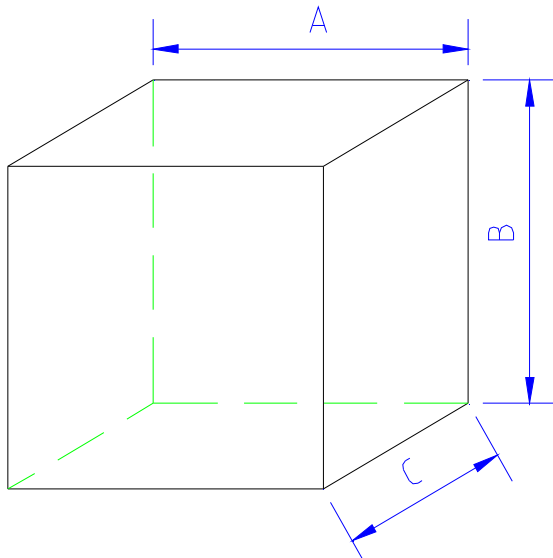
单位: mm

| | 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

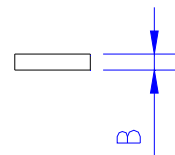
| | A | B | C |
|----|---------|---------|---------|
| 尺寸 | 350±2.0 | 340±2.0 | 350±2.0 |

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 | 13.30±0.10 | |

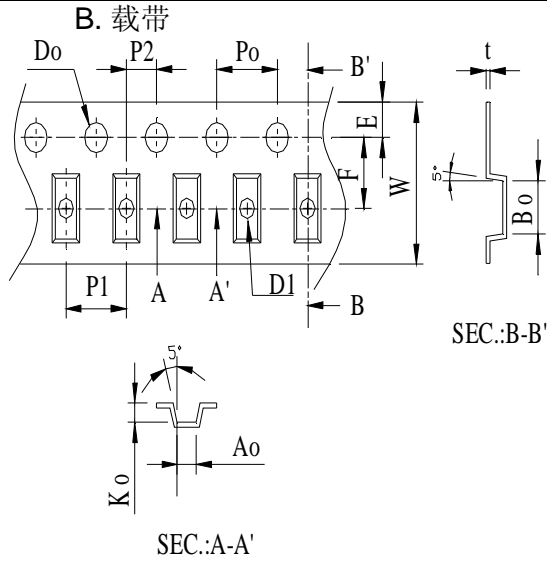
标题Title:

塑封生产线SMD产品包装规范
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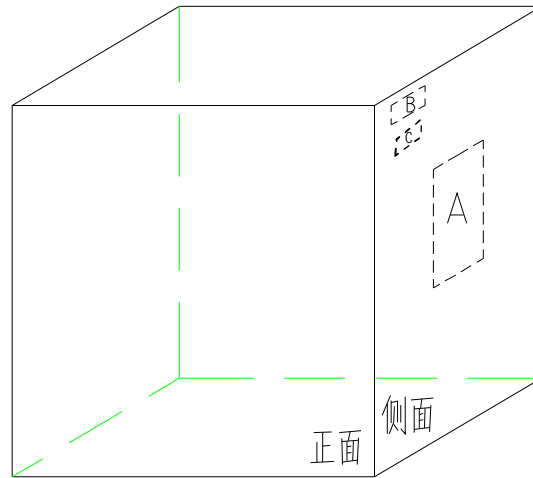
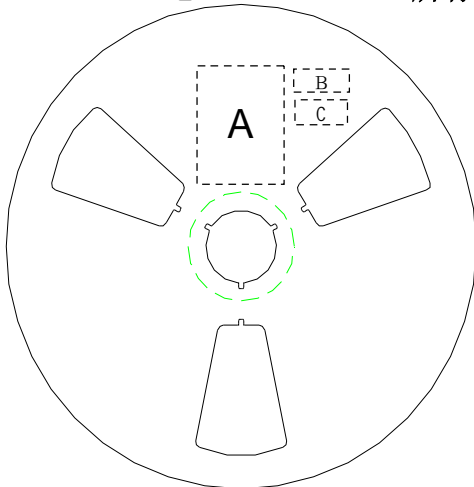
| 类型 | SMA | SMB | SMC |
|------|-----------|-----------|-----------|
| W | 12±0.3 | 12±0.3 | 16±0.3 |
| P1 | 4±0.1 | 8±0.1 | 8±0.1 |
| E | 1.75±0.1 | 1.75±0.1 | 1.75±0.1 |
| F | 5.5±0.05 | 5.5±0.05 | 7.5±0.05 |
| D0 | 1.55±0.05 | 1.55±0.05 | 1.55±0.05 |
| D1 | 1.5±0.1 | 1.55±0.05 | 1.55±0.05 |
| P0 | 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

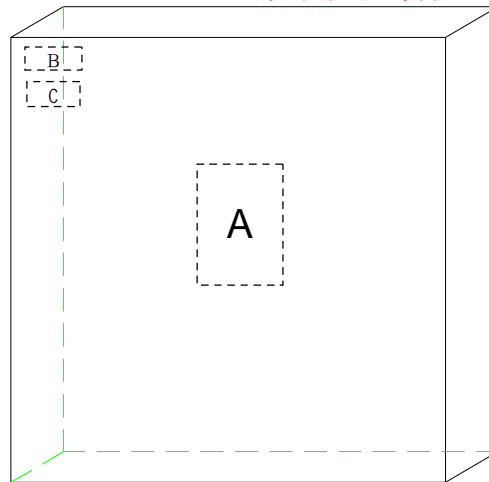
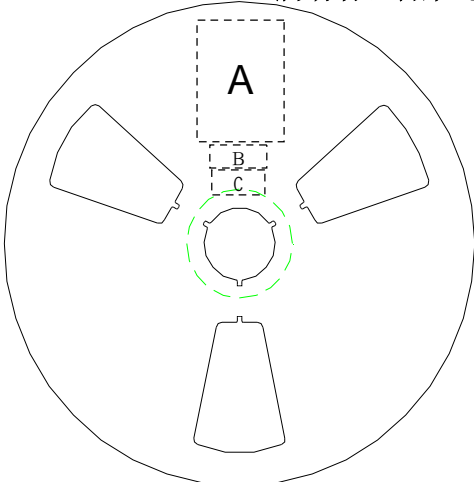
所有标签贴在卷盘负极 all the label on cathode side



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:

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


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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

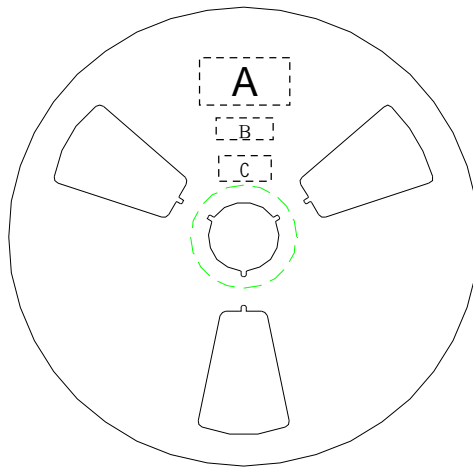


无卤标签 HF Label

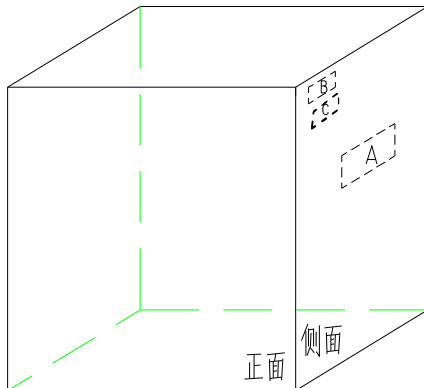


2.2 国外客户
overseas

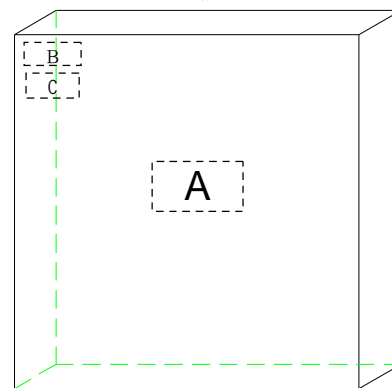
所有标签贴在卷盘负极 all the label on cathode side



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:

塑封生产线SMD产品包装规范
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LRC标签label

| |
|-------------------|
| TYPE:***** |
| MARK:***** |
| Q'TY:***** |
| DATE:***** |

← LRC产品型号

← 印字型号

← 产品数量

← 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.

SM520B thru SM5100B

4. Update Record

| 版次 | 更新记录 | 更新作者 | 更新日期 |
|----|------|------|----------|
| 1 | 第一版 | 周杰 | 2011-3-4 |