

# HFM301 thru HFM308

Surface Mount Glass Passivated High Efficiency Rectifiers  
Reverse Voltage 50 to 1000V Forward Current 3.0A

## FEATURES

- \* Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- \* Ideally suited for use in very high frequency switching power supplies, inverters and as free wheeling diodes
- \* Ultrafast recovery time for high efficiency
- \* Excellent high temperature switching
- \* Soft recovery characteristics
- \* Cavity-free glass passivated junction
- \* High temperature soldering guaranteed:
- \* 260°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

## Mechanical Data

**Case:** JEDEC DO-214AB/SMC, 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:** 0.21g

**Handling precaution:** None

## 1. Electrical Characteristic

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

Parameter Symbol	symbol	HFM 301	HFM 302	HFM 303	HFM 304	HFM 305	HFM 306	HFM 307	HFM 308	Unit
Device marking code		HFM 301	HFM 302	HFM 303	HFM 304	HFM 305	HFM 306	HFM 307	HFM 308	
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	300	400	600	800	1000	V
Maximum RSM voltage	$V_{RSM}$	35	70	140	210	280	420	560	700	V
Maximum DC blocking voltage	$V_{DC}$	50	100	200	300	400	600	800	1000	V
Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_A = 75^\circ\text{C}$	$I_F(AV)$	3.0								A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	150								A
Maximum full load reverse current, full cycle average, 0.375" (9.5mm) lead lengths at $T_A = 55^\circ\text{C}$	$I_R(AV)$	100								$\mu\text{A}$
Typical thermal resistance (Note 2)	$R_{\theta JA}$	50								$^\circ\text{C/W}$
Operating junction and storage temperature range	$T_J, T_{STG}$	-50 to +150								$^\circ\text{C}$

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

Parameter Symbol	symbol	HFM 301	HFM 302	HFM 303	HFM 304	HFM 305	HFM 306	HFM 307	HFM 308	Unit	
Maximum instantaneous forward voltage at 3.0A	$V_F$	1.00		1.30		1.85				V	
Maximum DC reverse current $T_A = 25^\circ\text{C}$ at rated DC blocking voltage $T_A = 100^\circ\text{C}$	$I_R$	5.0					50				$\mu\text{A}$
Typical reverse recovery time (Note 1)	$t_{rr}$	50					75				ns
Typical junction capacitance at 4.0V, 1MHz	$C_J$	17								PF	

NOTES:

1.  $I_F = 0.5\text{A}$ ,  $I_R = 1.0\text{A}$ ,  $IRR = 0.25\text{A}$
2. Mounted on Copper Leaf area of 1.57in<sup>2</sup>(40mm<sup>2</sup>).



We declare that the material of product compliance with ROHS requirements

# HFM301 thru HFM308

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

Fig. 1 - Forward Current Derating Curve

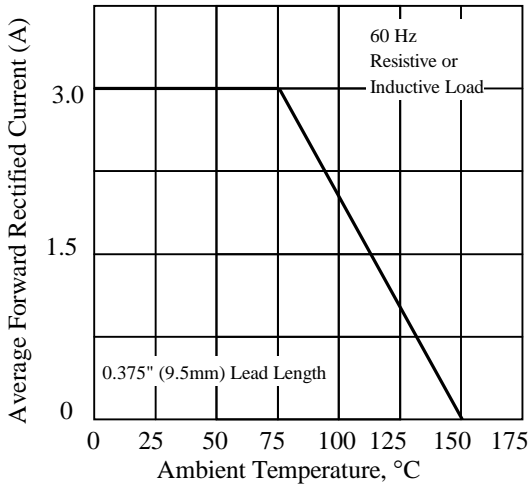


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

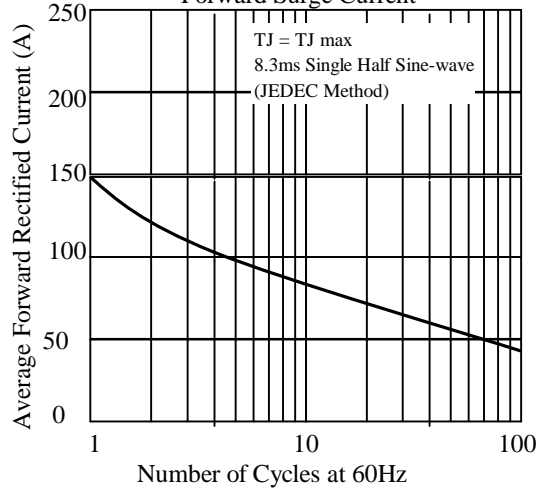


Fig 3. - Typical Instantaneous Forward Characteristics

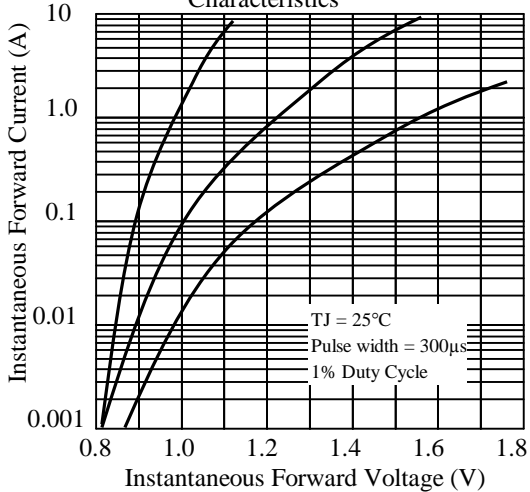


Fig 4. - Typical Reverse Characteristics

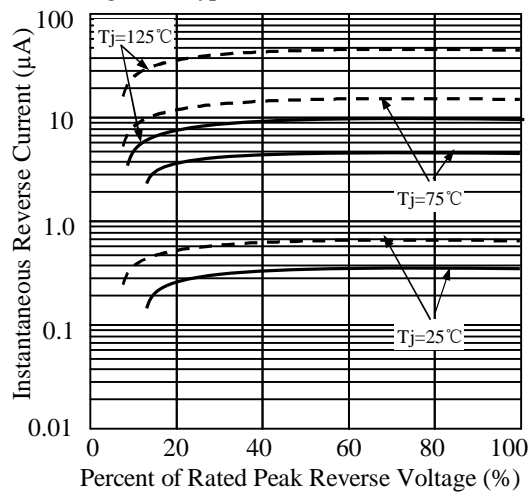


Fig 5. - typical transient thermal impedance

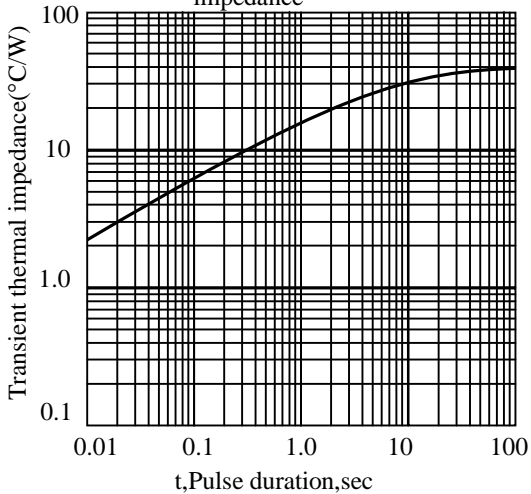
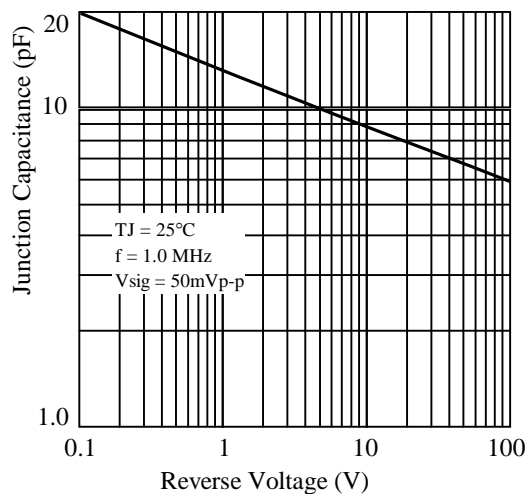
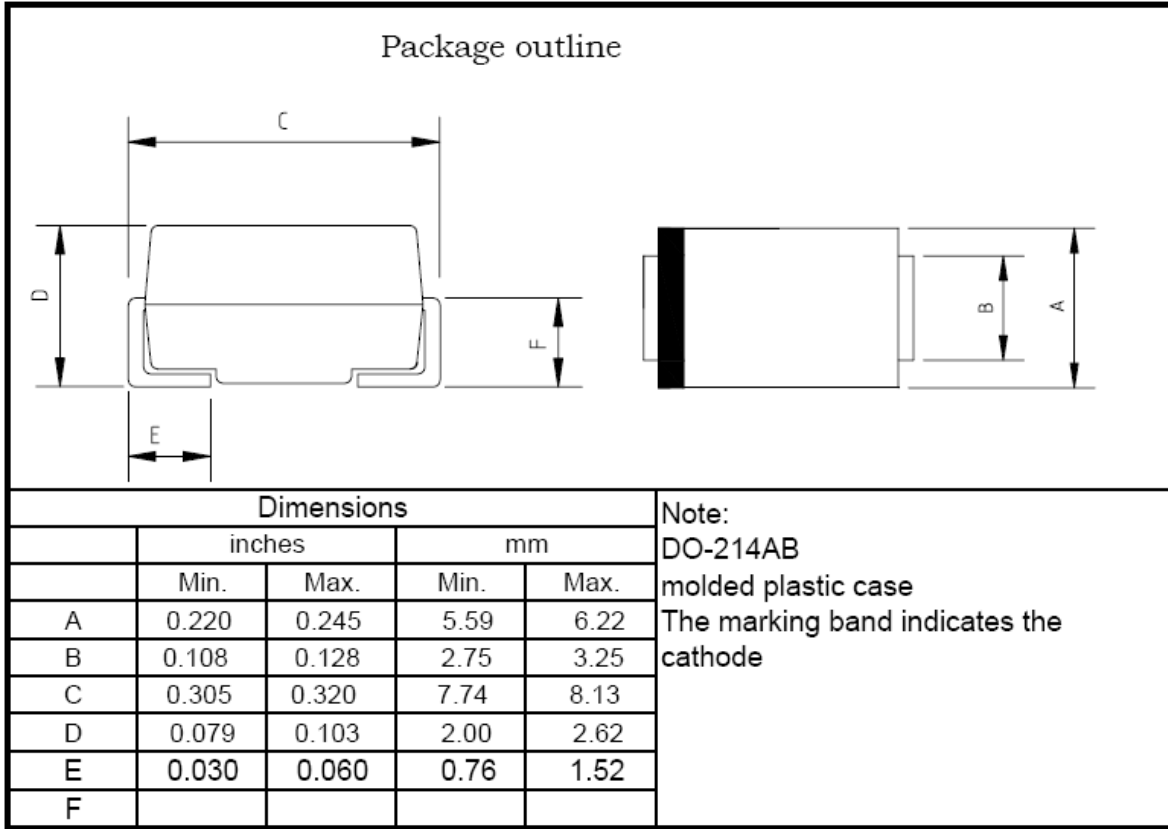


Fig 6. - Typical Junction Capacitance

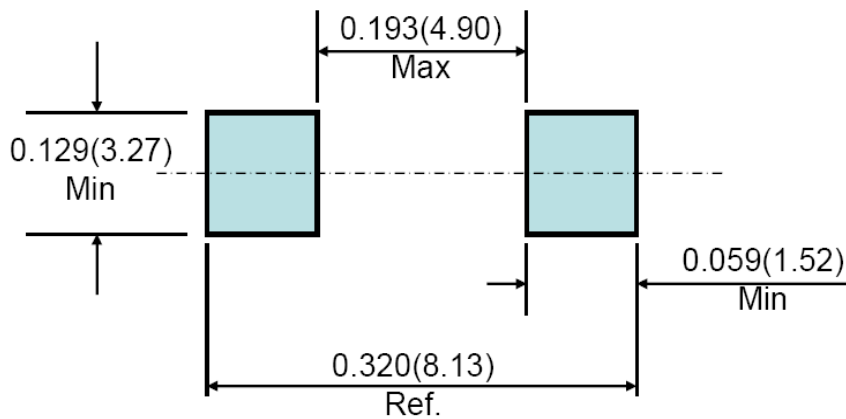


## HFM301 thru HFM308

### 3. dimension:



### Mounting Pad Layout ---SMC

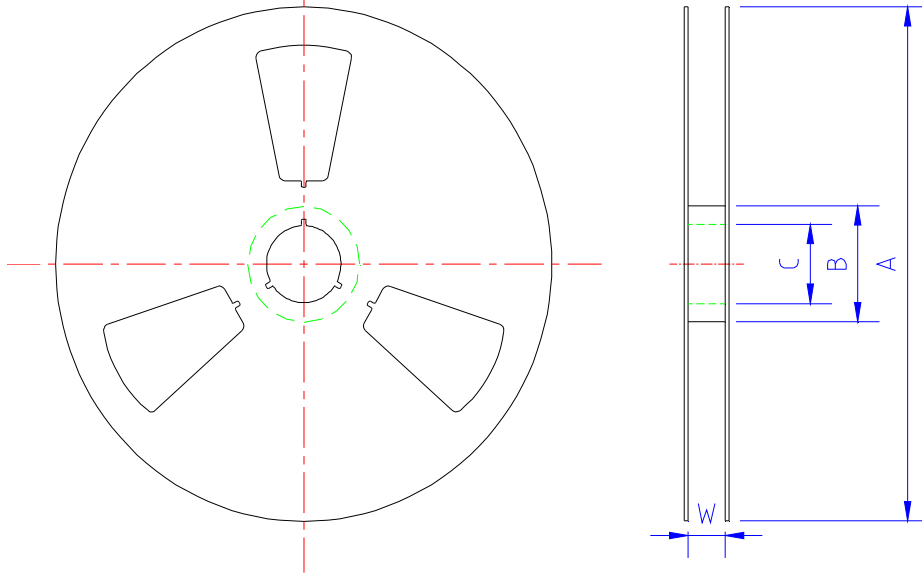


标题Title: <b>塑封生产线SMD产品包装规范</b> <b>Packaging specification of SMD</b>	文件编号: WI-258
	第 3 版 第 0 次修改
	第 2 页

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

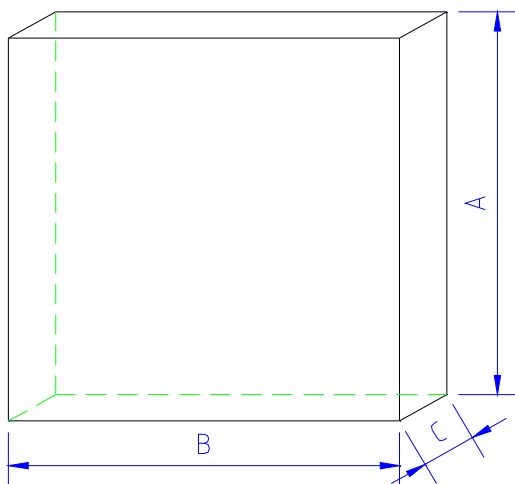
A. 卷盘规格 reel spec



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

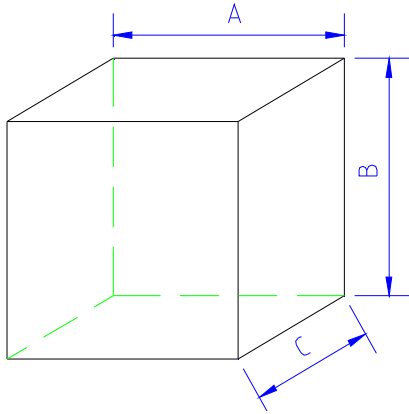
	A	B	C
尺寸	335±5.0	335±2.0	40±1.0

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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	文件编号: WI-258
	第 3 页

C. 7"卷盘盒 box



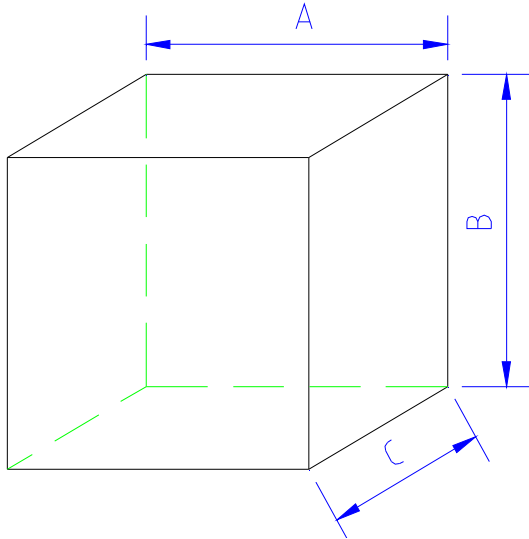
单位: mm

	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

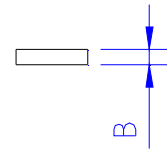
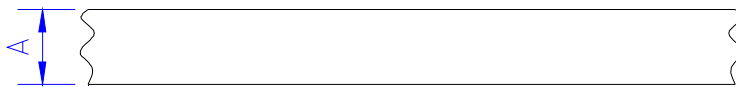
	A	B	C
尺寸	350±2.0	340±2.0	350±2.0

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

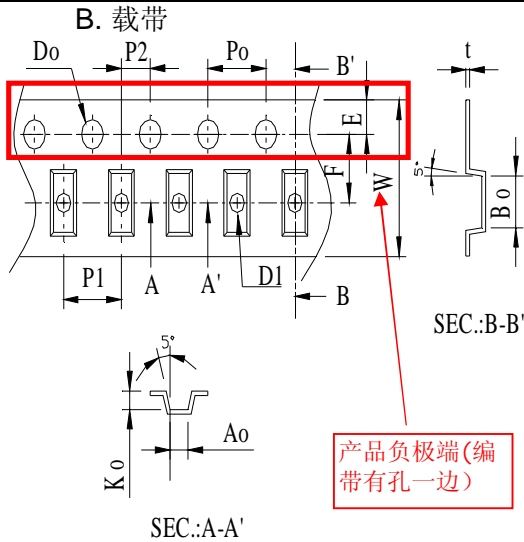
A. 盖带 Cover tape



单位: mm

	A	B
SMA	9.30±0.10	0.068±0.005
SMB		
SMC		

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	第 3 版 第 0 次修改
	第 4 页



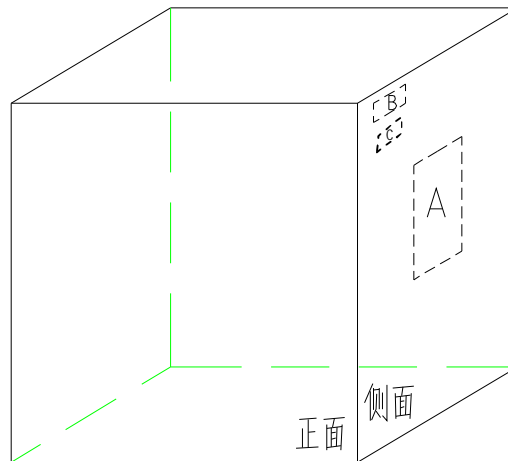
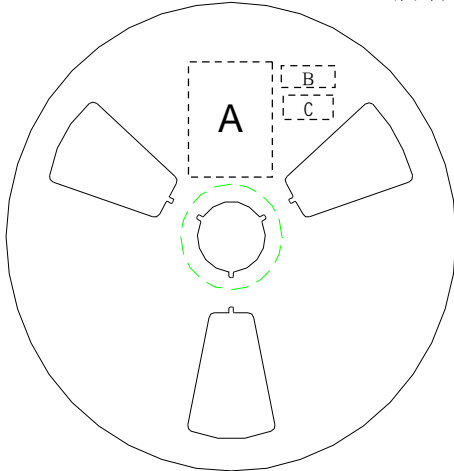
类型	SMA	SMB	SMC
W	12±0.3	12±0.3	16±0.3
P1	4±0.1	8±0.1	8±0.1
E	1.75±0.1	1.75±0.1	1.75±0.1
F	5.5±0.05	5.5±0.05	7.5±0.05
D0	1.55±0.05	1.55±0.05	1.55±0.05
D1	1.5±0.1	1.55±0.05	1.55±0.05
P0	4±0.1	4±0.1	4±0.1
P2	2±0.05	2±0.05	2±0.05
10P0	40±0.2	40±0.2	40±0.2
A0	2.79±0.1	3.8±0.1	6.05±0.1
B0	5.33±0.1	5.4±0.1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

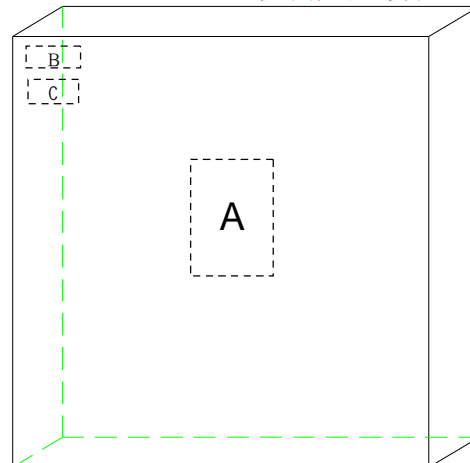
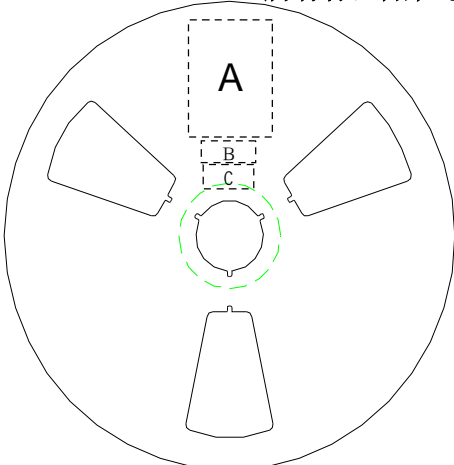
#### A. 7"卷盘reel

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
	第 3 版 第 0 次修改
	第 5 页

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

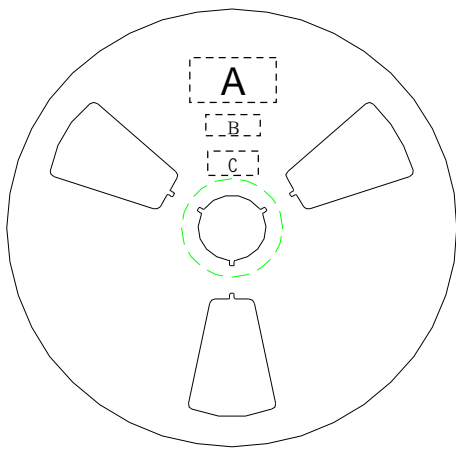


无卤标签 HF label

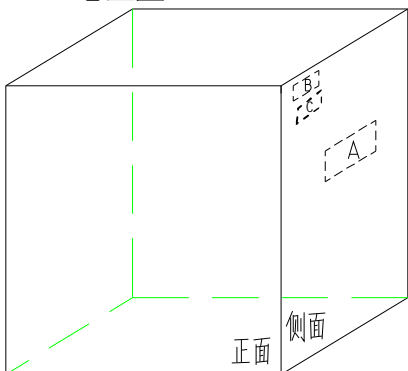


2.2 国外客户  
overseas

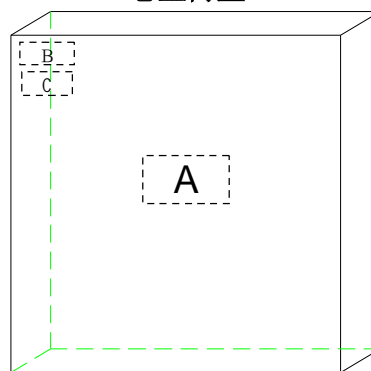
所有标签贴在卷盘负极 all the label on cathode side



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
	第 3 版 第 0 次修改
	第 6 页

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.



## HFM301 thru HFM308

### 4. Update Record

版次	更新记录	更新作者	更新日期
1	第一版	周杰	2011-3-12
2	增加包装规范	周杰	2011-6-18
3	更新版面。	周杰	2012-8-2