

致尊敬的顾客

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瑞萨电子公司网址：<http://www.renesas.com>

2010年4月1日
瑞萨电子公司

【发行】瑞萨电子公司（<http://www.renesas.com>）

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标准线性

标准带包装和料盒的规格

1. 出货形态和数量

本公司的包装规格如表1所示，能对应各安装厂的自动组装机。

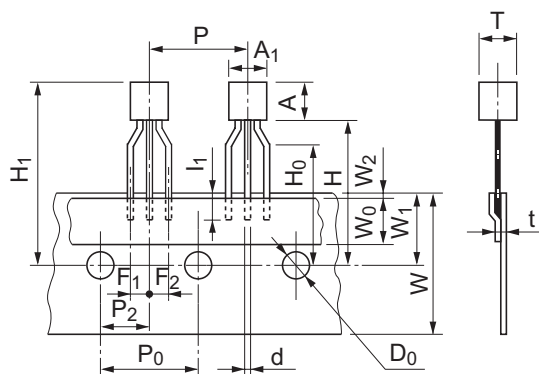
表1 出货形态和数量

封装	出货形态	数量
TO-92MOD	径向带包装（折叠箱）	2,500个/箱
TO-92	径向带包装（折叠箱）	2,500个/箱
SOP	带包装	2,000个/卷（2,500个/卷）
TSSOP	带包装（卷盘）	2,000个/卷（3,000个/卷）
UPAK	横向型料盒包装	25个/条
	带包装（卷盘）	1,000个/卷
MPAK-5	带包装（卷盘）	3,000个/卷
MPAK	带包装（卷盘）	3,000个/卷
CMPAK-5	带包装（卷盘）	3,000个/卷

2. 径向带包装的规格（符合JEITA规格ET-7102标准）（TO-92MOD）

2.1 带包装的尺寸

适用于卷盘和折叠包装。



名称	符号	大小 (mm)	
		TO-92MOD	TO-92
产品宽度	A ₁	5.2Max	5.2Max
产品高度	A	8.5Max	5.2Max
产品厚度	T	4.2Max	4.2Max
引脚宽度	d	0.55Typ* ¹	0.5Typ* ¹
粘贴引脚的长度	l ₁	2.5* ³	2.5* ³
产品间距	P	12.7Typ	12.7Typ
输送孔间距	P ₀	12.7Typ* ²	12.7Typ* ²
输送孔位置	P ₂	6.35Typ	6.35Typ
引脚间隔	F ₁	2.5Typ	2.5Typ
引脚间隔	F ₂	2.5Typ	2.5Typ
带的宽度	W	18.0Typ	18.0Typ
粘贴胶带的宽度	W ₀	6.0Typ	6.0Typ
输送孔位置	W ₁	9.0Typ	9.0Typ
粘贴胶带的位置	W ₂	0.5* ³	0.5* ³
引脚弯曲部的高度	H ₀	16.0Typ	16.0Typ
产品的上部位置	H ₁	≤ 28.0	≤ 24.7
输送孔径	D ₀	4.0Typ	4.0Typ
带的厚度 (总厚度)	t	0.7Typ	0.7Typ
产品的底部位置	H	19.0Typ	19.0Typ

【注】 1. 厚度 0.5mm Typ
2. 累积间距的误差: ±1mm/20 个间距
3. 参考值

图1 径向带包装的尺寸图

3. TO-92、TO-92MOD 带包装的规格

3.1 使用部件

- 带包装IC
- 衬纸
- 粘贴胶带
- 纸箱

3.2 数量

- 标准2,500个/箱

3.3 折叠方法

1. 按照径向型带包装尺寸，以1列25个元件的长度进行折叠。
2. 在带包装的带头和带尾至少需要4个元件的空带部分。

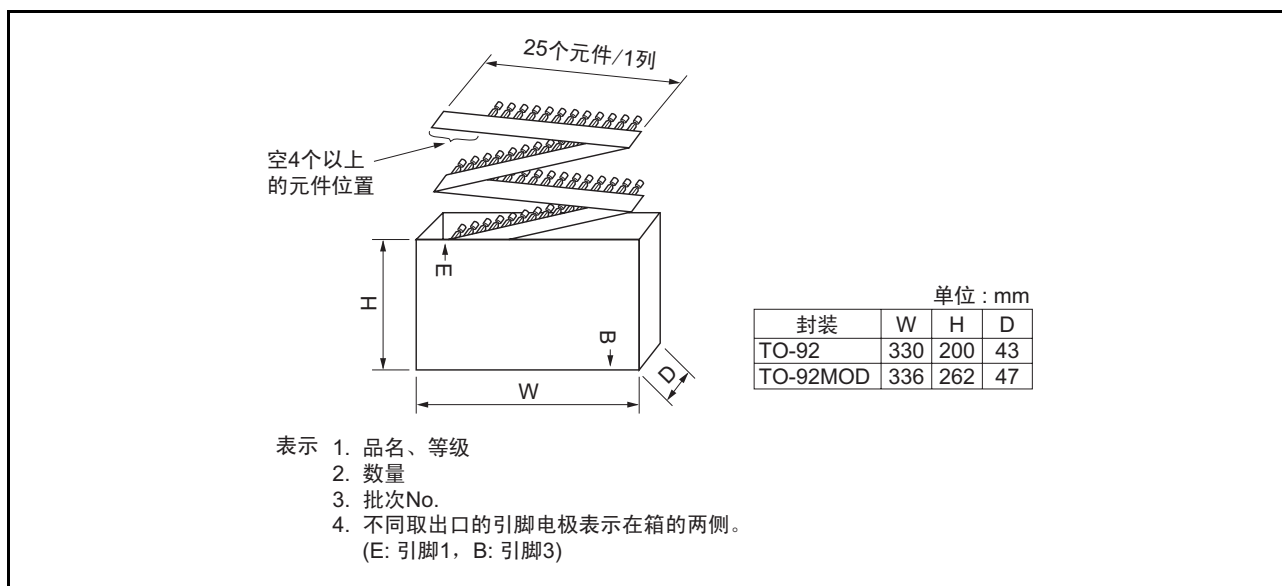


图2 折叠箱的尺寸和表示

3.4 脱落

- 连续脱落的IC不超过3个。

3.5 连接方法

- 带的连接方法（在带结束或者被剪断时）如图3所示，用连接标签（胶带）进行连接。

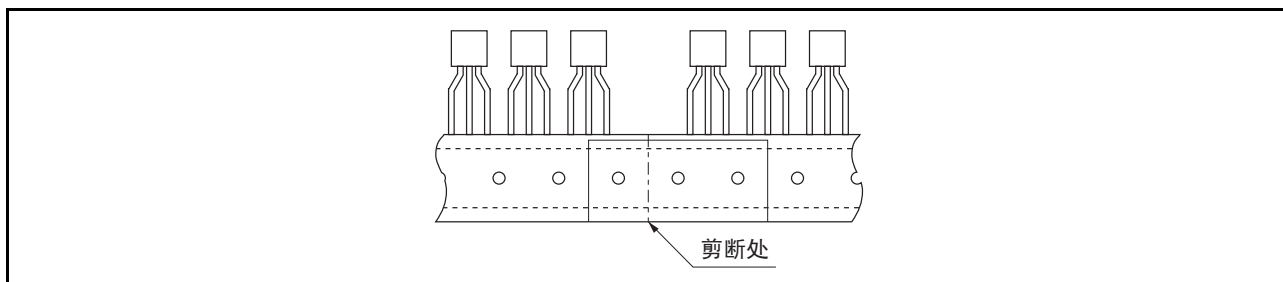


图3 连接方法

- 连接的要点
 - 带的剪断方法
在连接时，重叠带的两头，然后用剪刀剪断2个输送孔的中央部。
 - 带的连接
在剪断后，按照前项表示的连接标签（胶带）进行连接。
- 【注】
 - 不能剪断输送孔。
 - 将标签贴在带的两面（粘贴面和反面）。
 - 贴的标签不能少于3个孔。
 - 连接后的带总厚度 $\leq 1.5\text{mm}$ 。
 - 标签的边沿不能贴在输送孔上。

- 接缝的精度

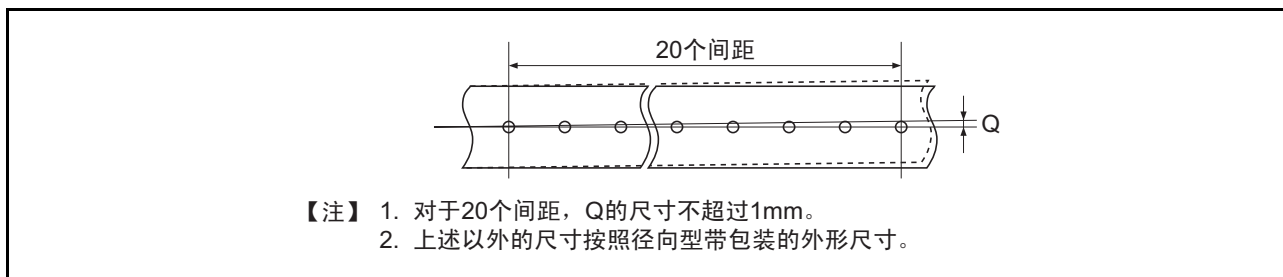


图4 接缝的精度

4. UPAK标准包装的规格

4.1 UPAK横向型的料盒规格

UPAK原先就是横向型料盒包装，所以在横向型料盒包装时没有特别的区分代码。

名称	品名 + 标记
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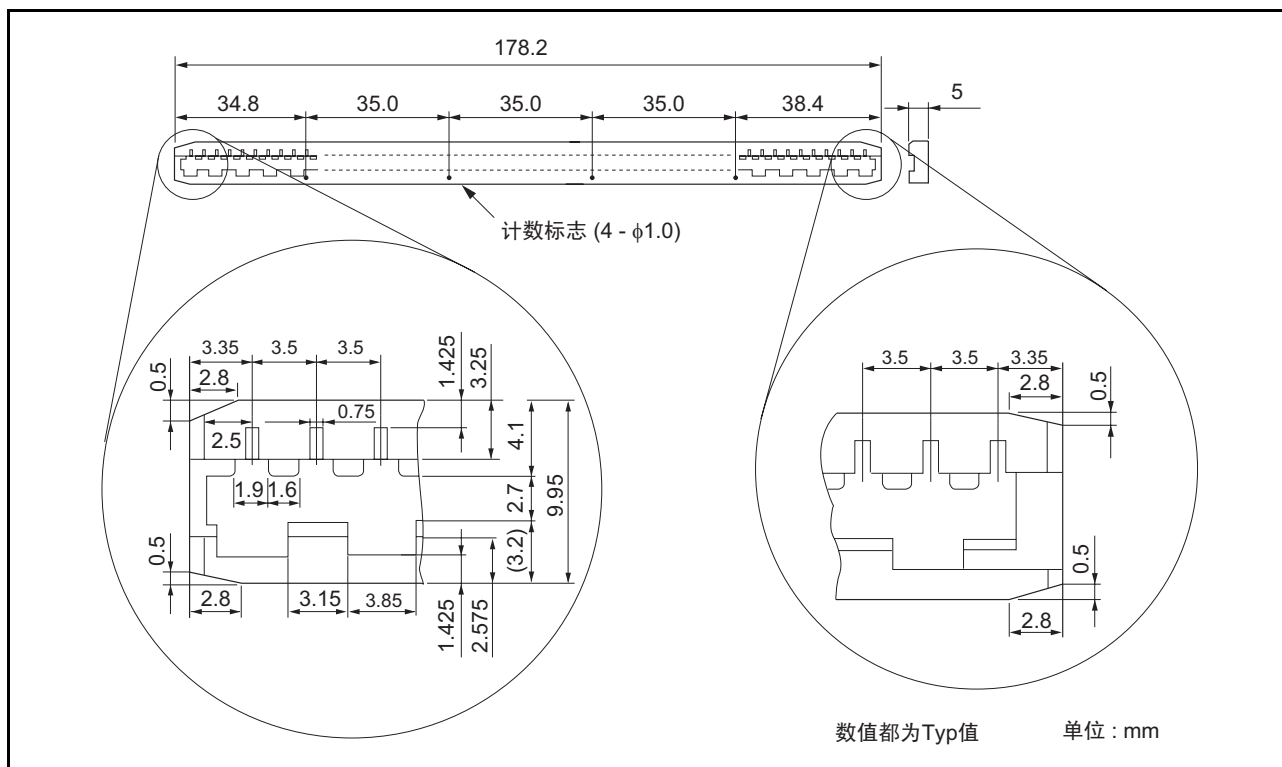


图5 UPAK横向型料盒的尺寸图

4.2 UPAK带包装的规格

- 带头部分和空带部分

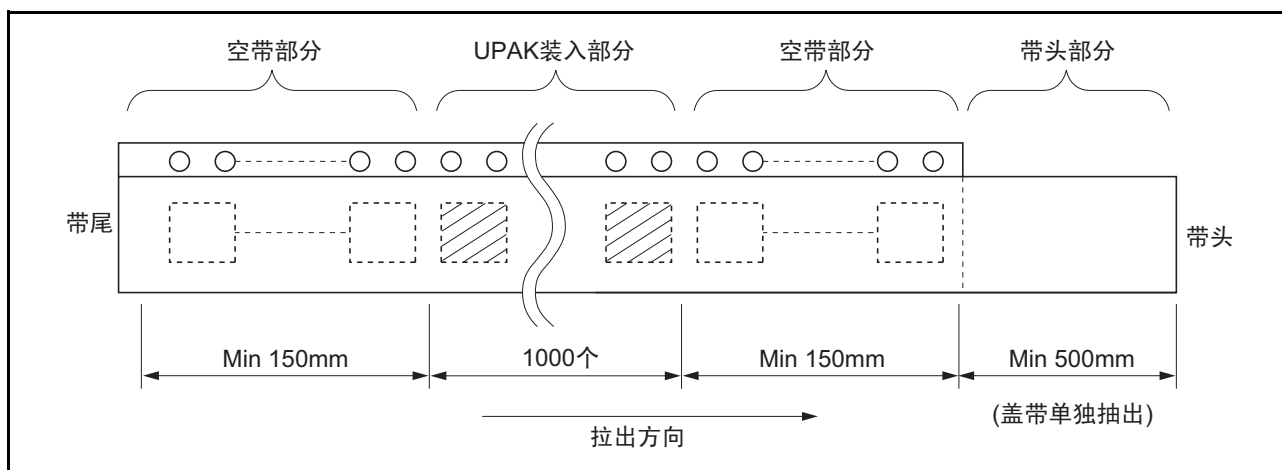


图6 带头部分和空带部分

- 产品的方向

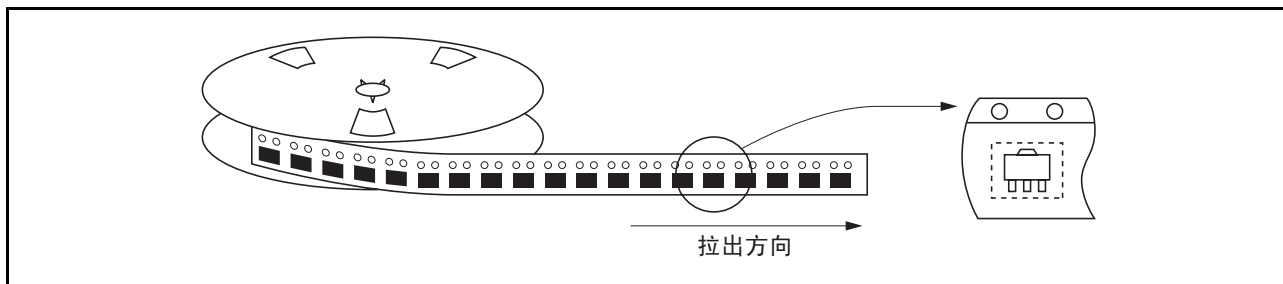


图7 产品的方向

- 产品的插入

如图8所示，将产品的印字面朝上、安装面朝下插入。

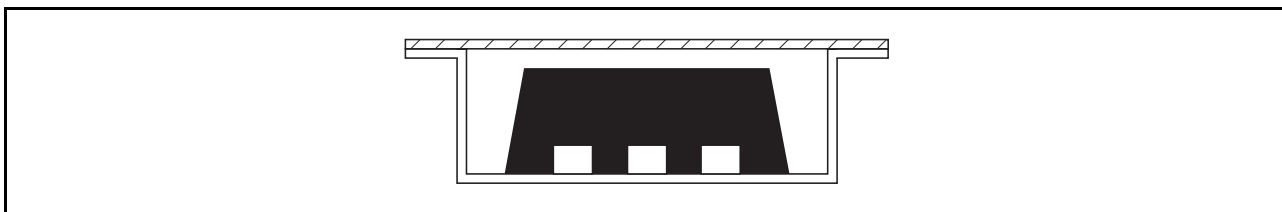


图8 产品的插入例子

- IC的漏插

漏插为Max 0.1%，但是不能连续漏插。

4.3 UPAK 卷带的规格

- 形状和尺寸

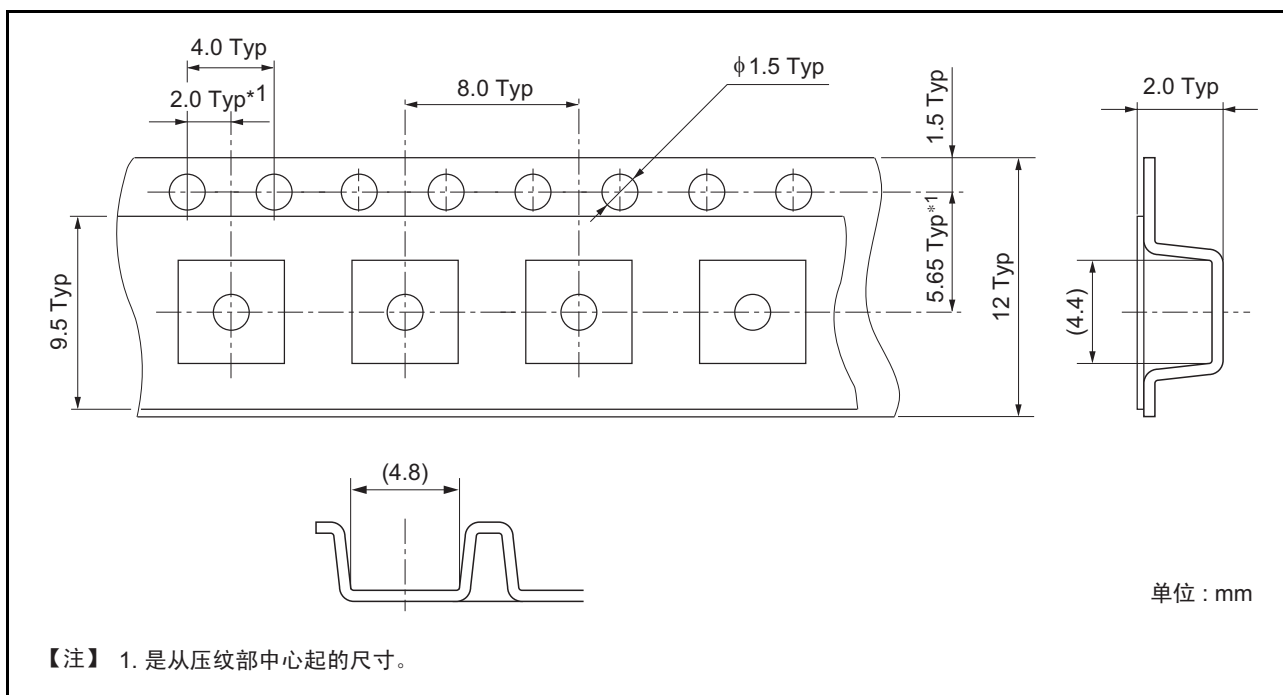


图9 卷带的尺寸图

4.4 UPAK 卷盘的规格

- 形状和尺寸

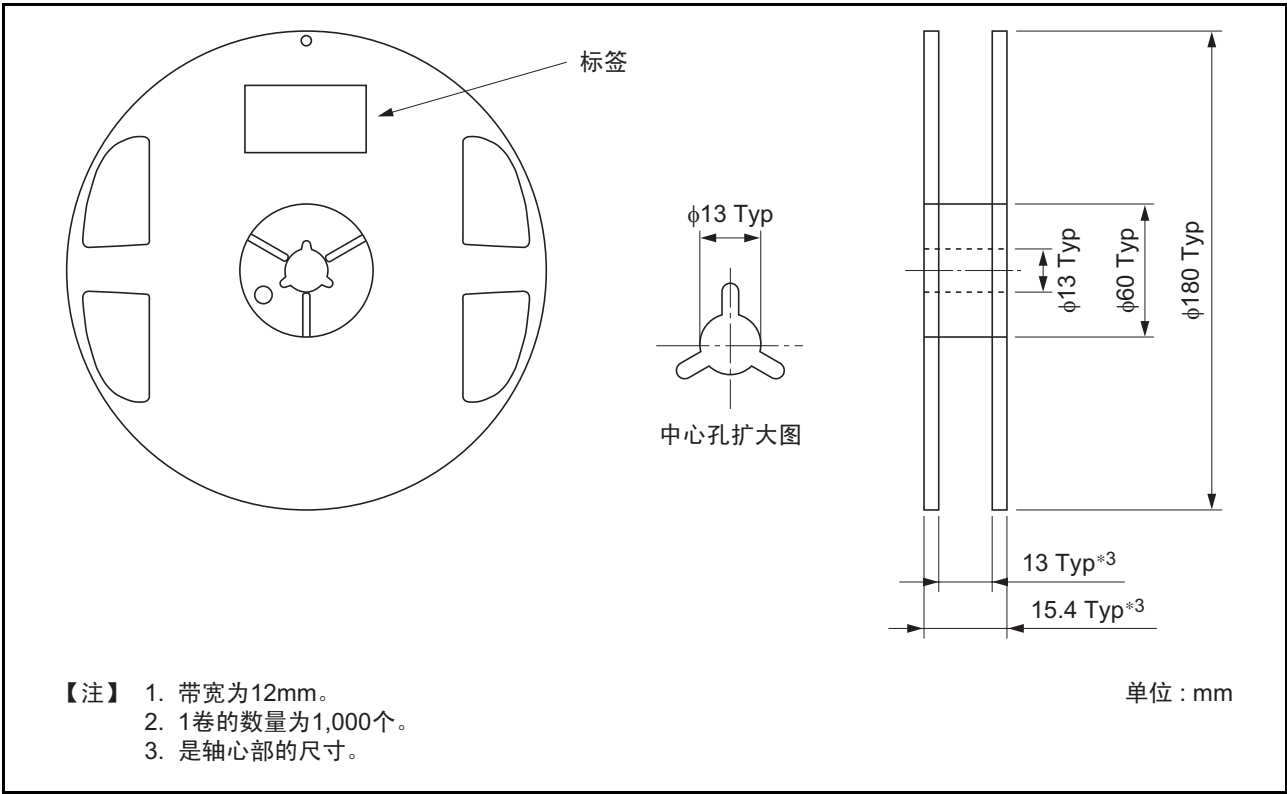


图10 卷盘的尺寸图

5. MPAK-5压纹带的规格

5.1 MPAK-5带包装的规格

- 带头部分和空带部分

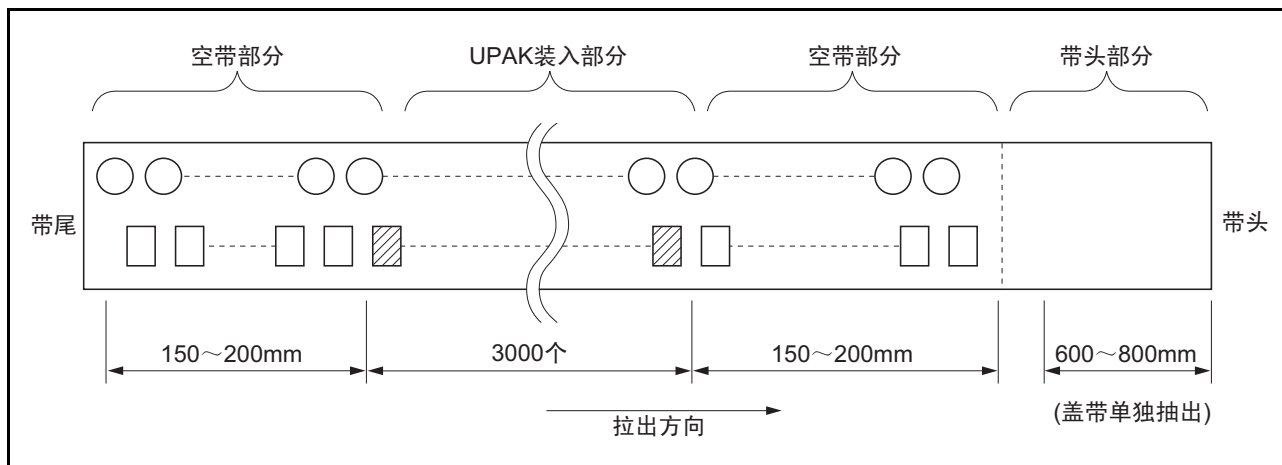


图11 带头部分和空带部分

- 带包装
对着卷带的拉出方向，引脚1必须在右侧。

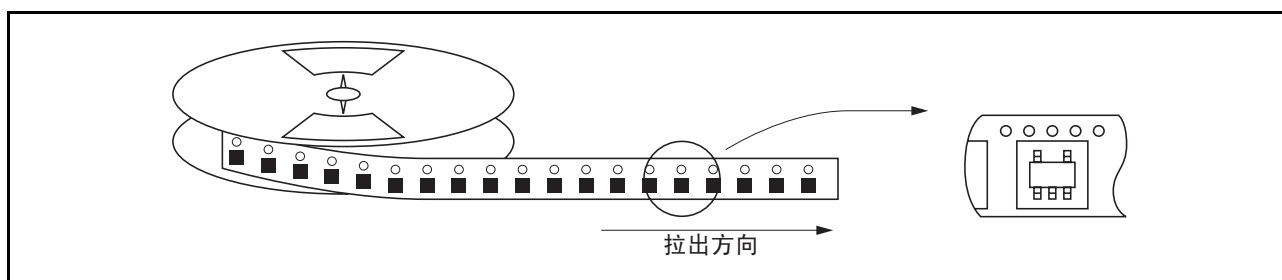


图12 带包装的方向

- 产品的插入
如图13所示，将产品的印字面朝上、安装面朝下插入。

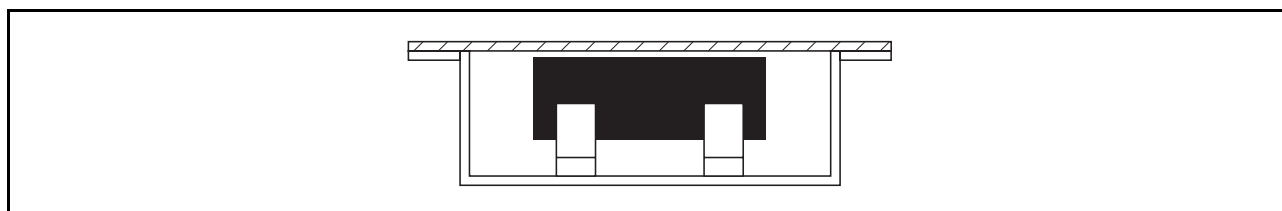


图13 产品的插入例子

- IC漏插
漏插为Max 0.2%，但是不能连续漏插。

5.2 MPAK-5 卷带的规格

- 形状和尺寸

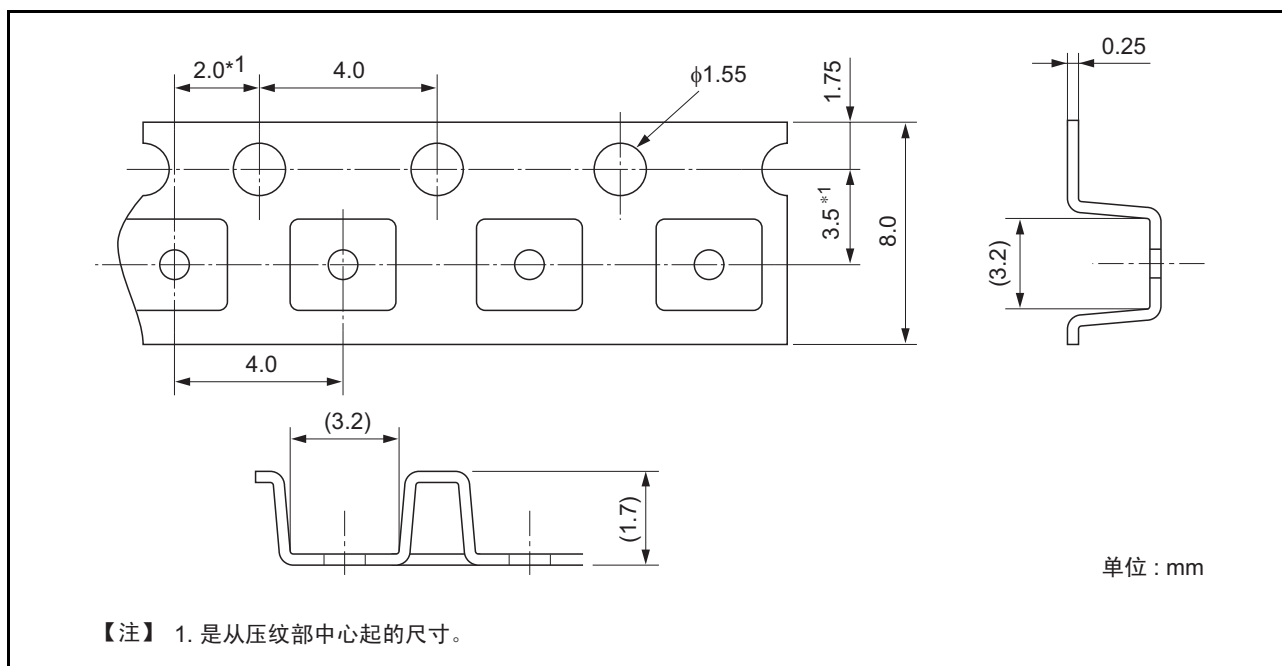


图14 卷带的尺寸图

5.3 MPAK-5 卷盘的规格

- 形状和尺寸

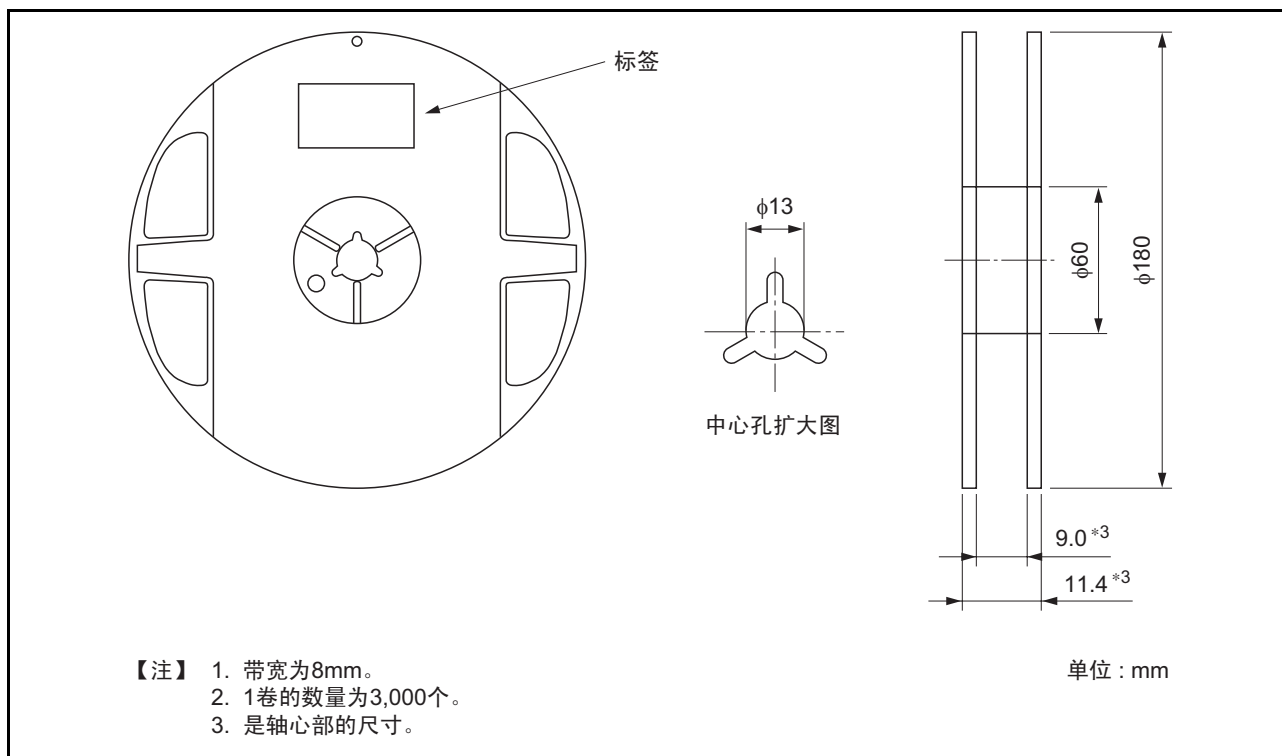


图15 卷盘的尺寸图

6. SOP压纹带的规格

6.1 SOP带包装的规格

- 带头部分和空带部分

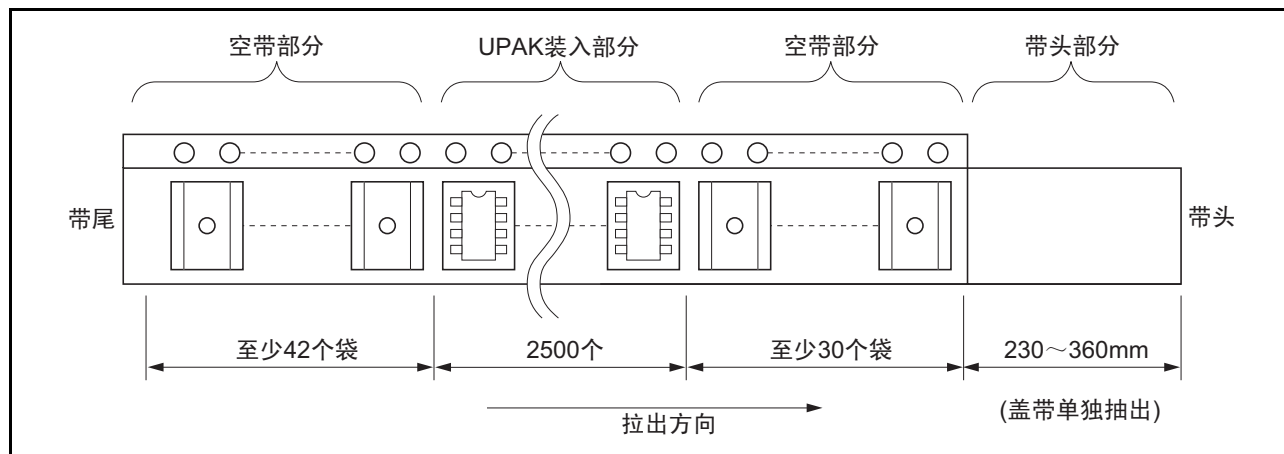


图16 带头部分和空带部分

- 产品的方向

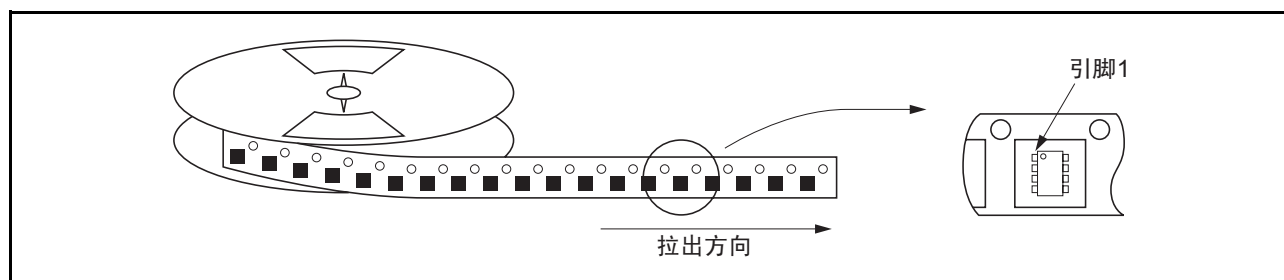


图17 产品的方向

- 产品的插入

如图18所示，将产品的印字面朝上、安装面朝下插入。

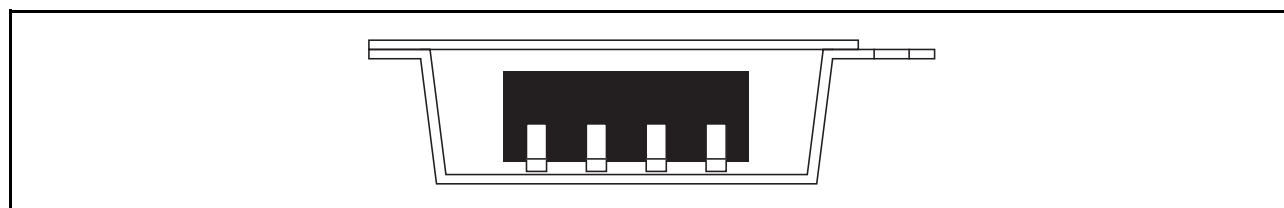


图18 产品的插入例子

- IC的漏插

在1个卷盘中，漏插个数不超过4个。

6.2 SOP 卷带的规格

- 形状和尺寸

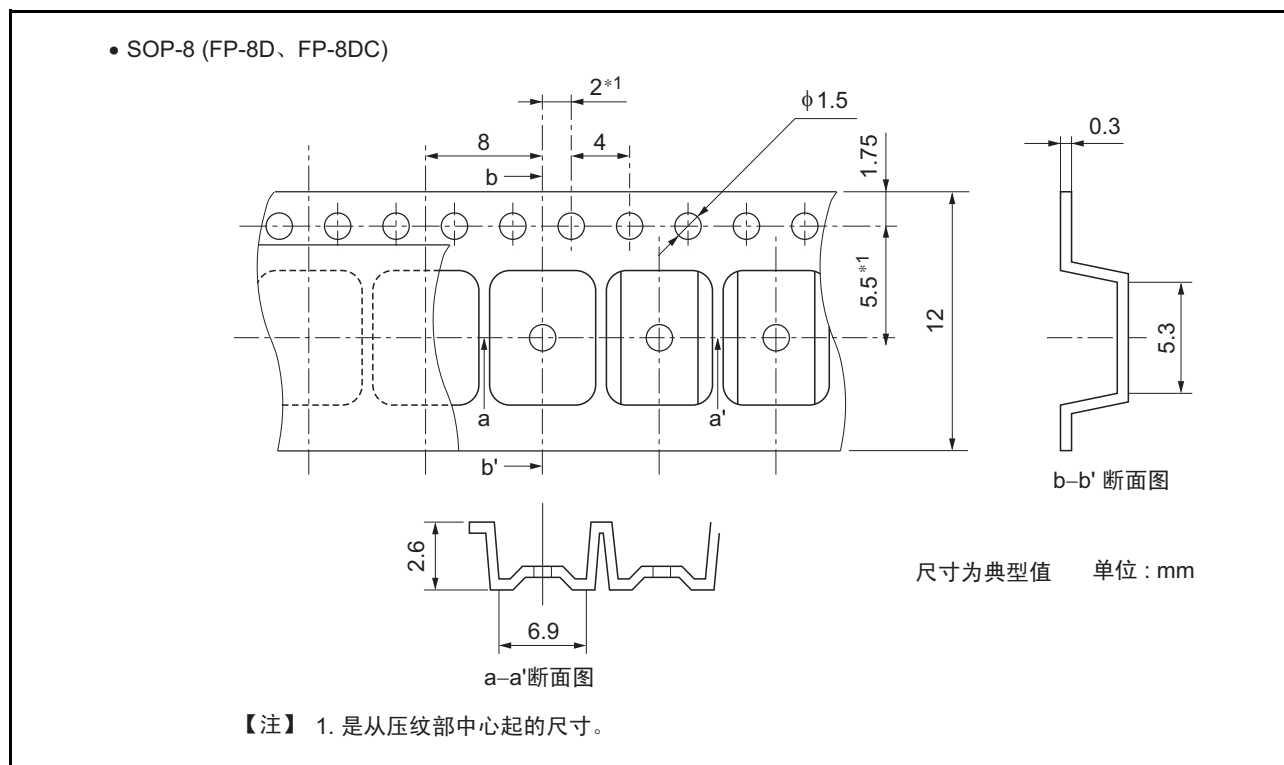


图19 卷带的尺寸图 (SOP-8)

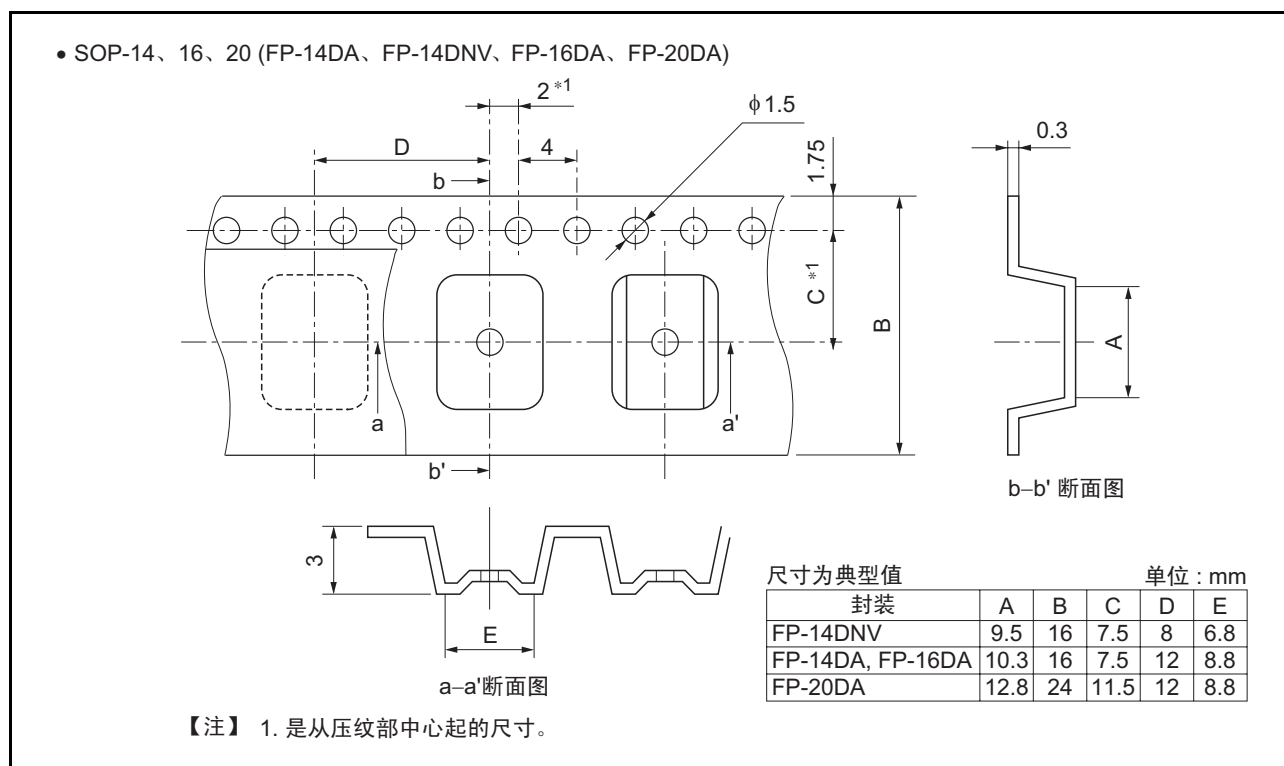


图20 卷带的尺寸图 (SOP-14、16、20)

6.3 SOP 卷盘的规格

- 形状和尺寸

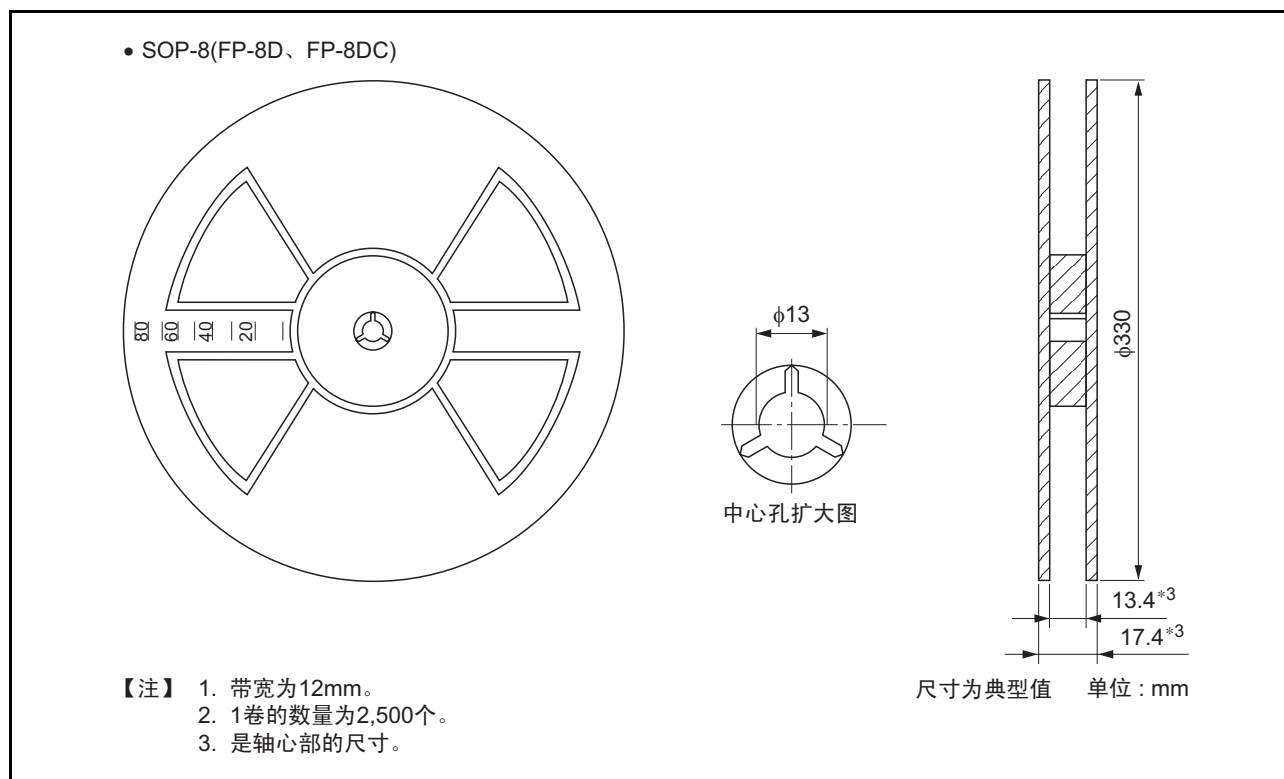


图21 卷盘的尺寸图（SOP-8）

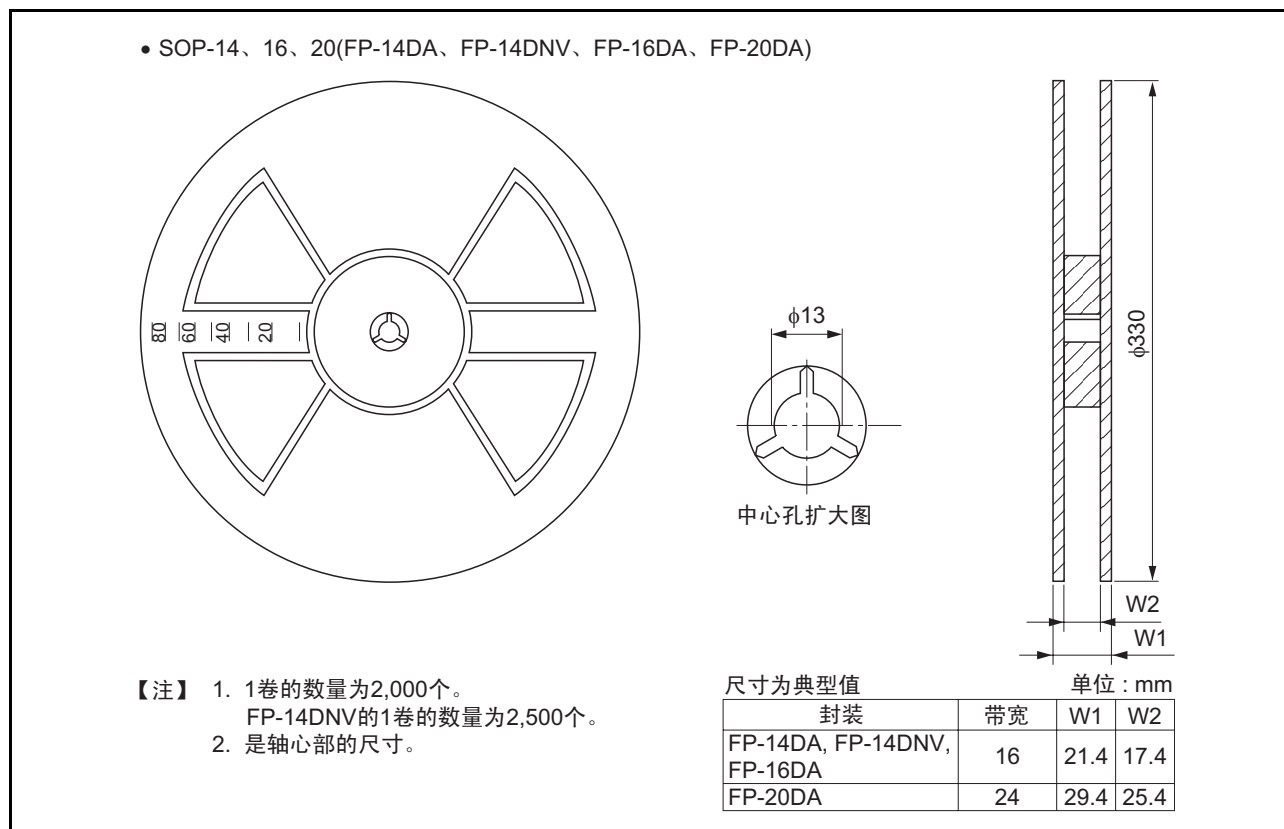


图22 卷盘的尺寸图（SOP-14、16、20）

7. TSSOP压纹带的规格

7.1 TSSOP 卷带的规格

- 形状和尺寸

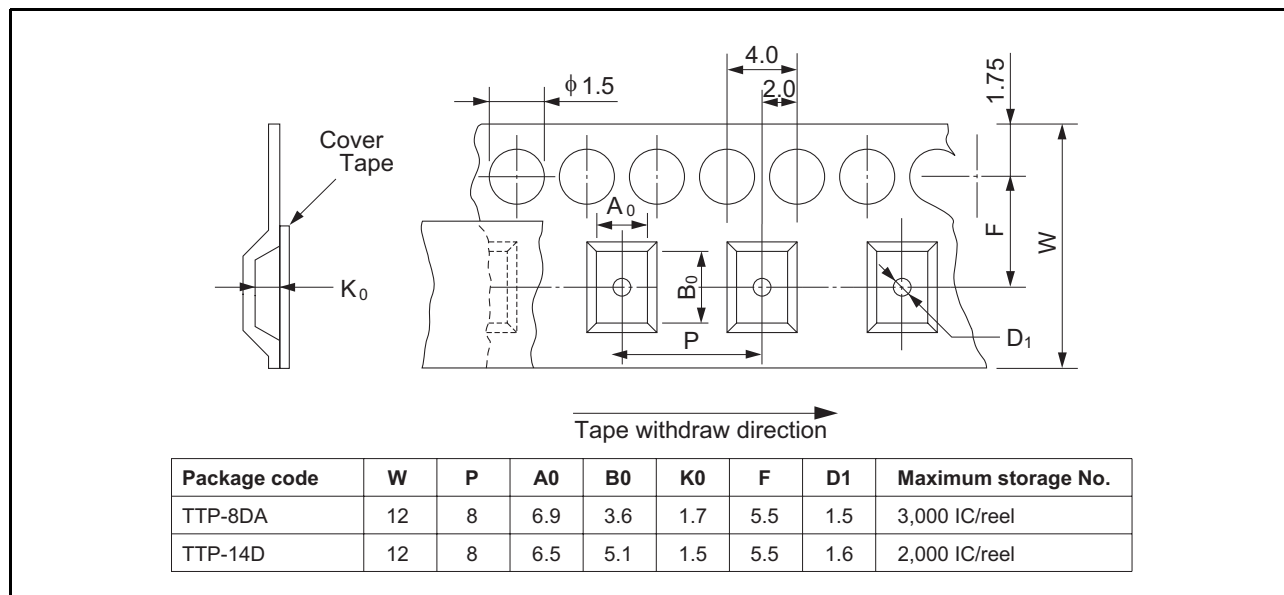


图23 卷带的尺寸图（TSSOP）

7.2 TSSOP 卷盘的规格

- 形状和尺寸

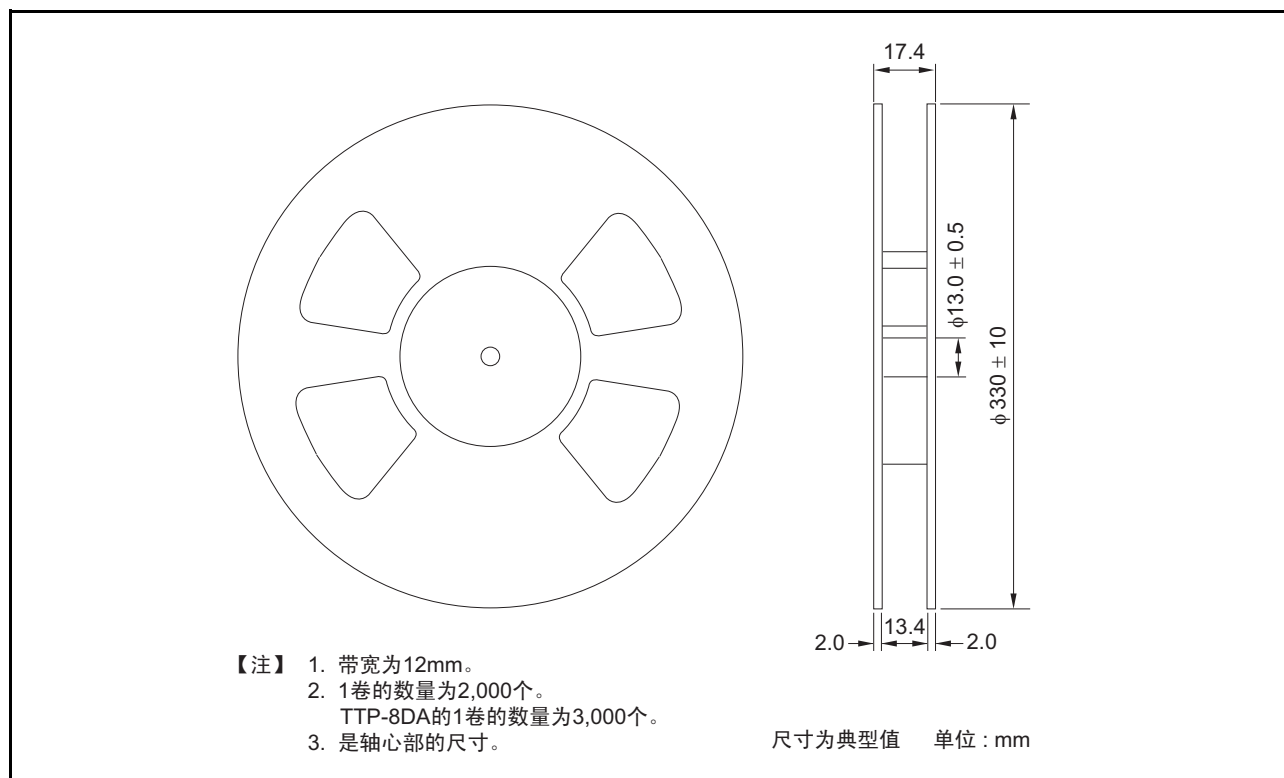


图24 卷盘的尺寸图（TSSOP）

8. MPAK压纹带的规格

8.1 MPAK 卷带的规格

- 形状和尺寸

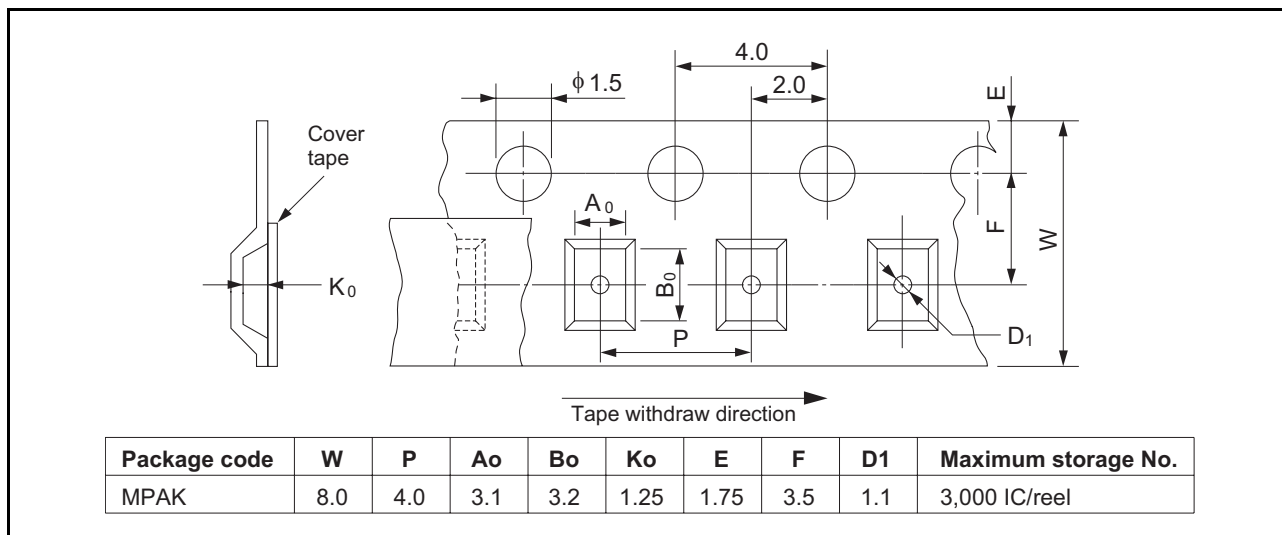


图25 卷带的尺寸图（MPAK）

8.2 MPAK 卷盘的规格

- 形状和尺寸

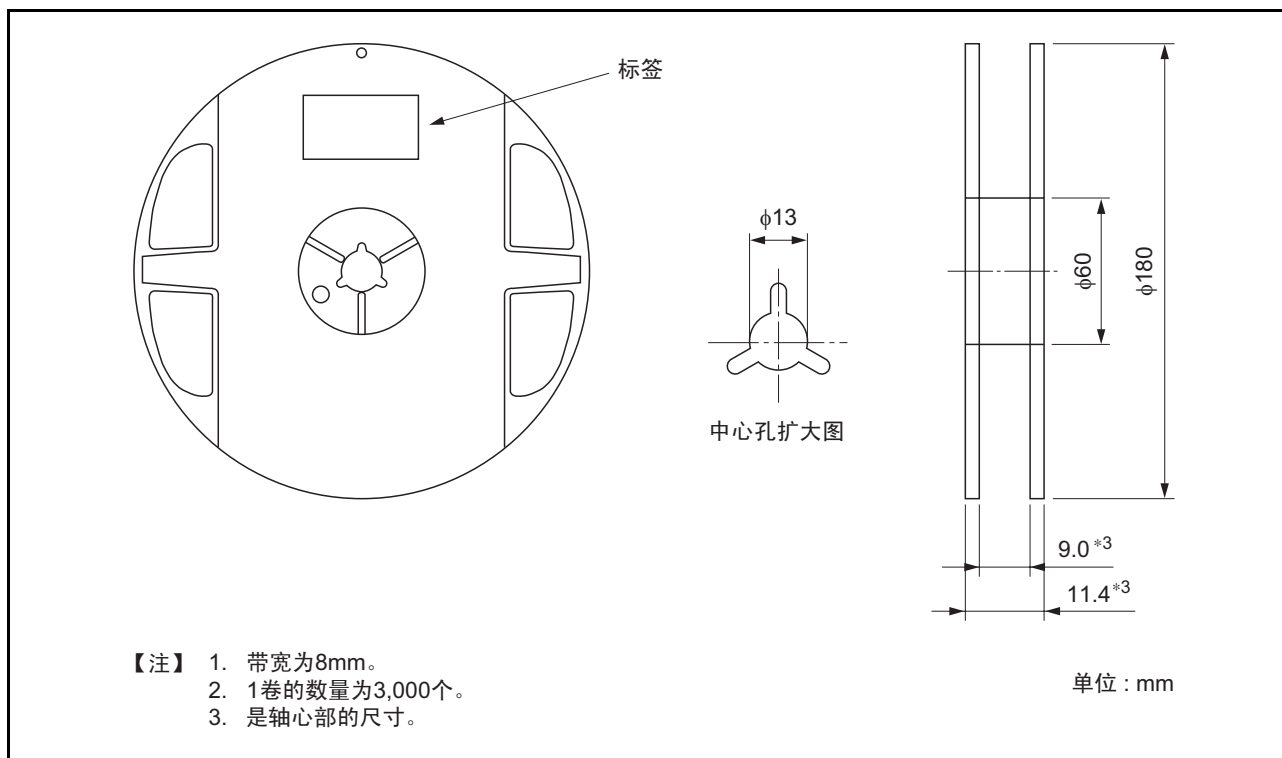


图26 卷盘的尺寸图（MPAK）

9. CMPAK-5压纹带的规格

9.1 CMPAK-5卷带的规格

- 形状和尺寸

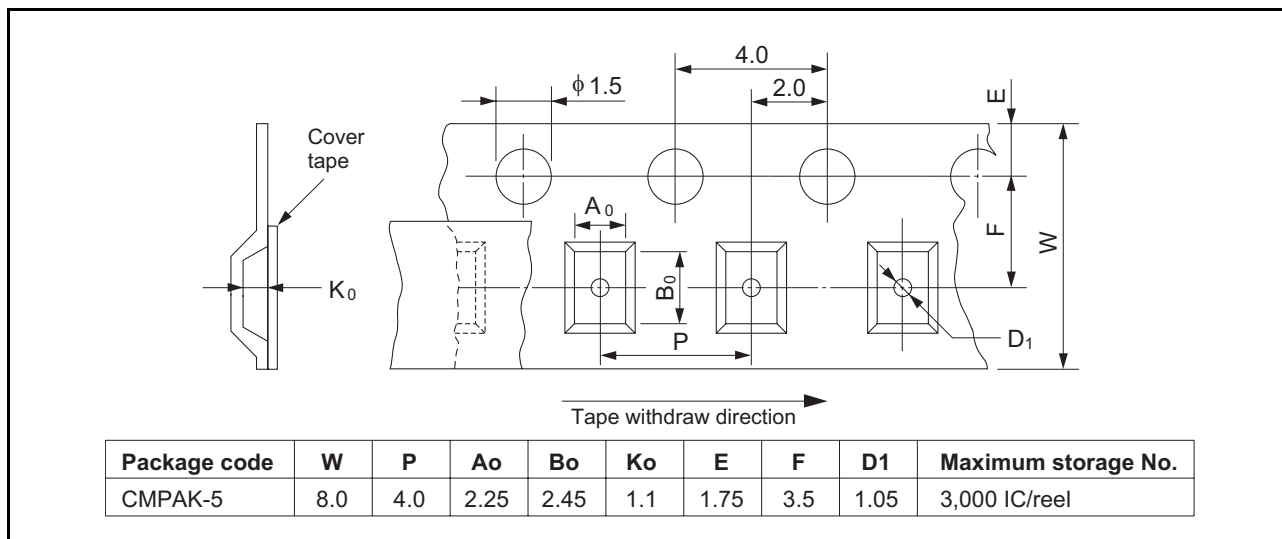


图27 卷带的尺寸图 (CMPAK-5)

9.2 CMPAK-5卷盘的规格

- 形状和尺寸

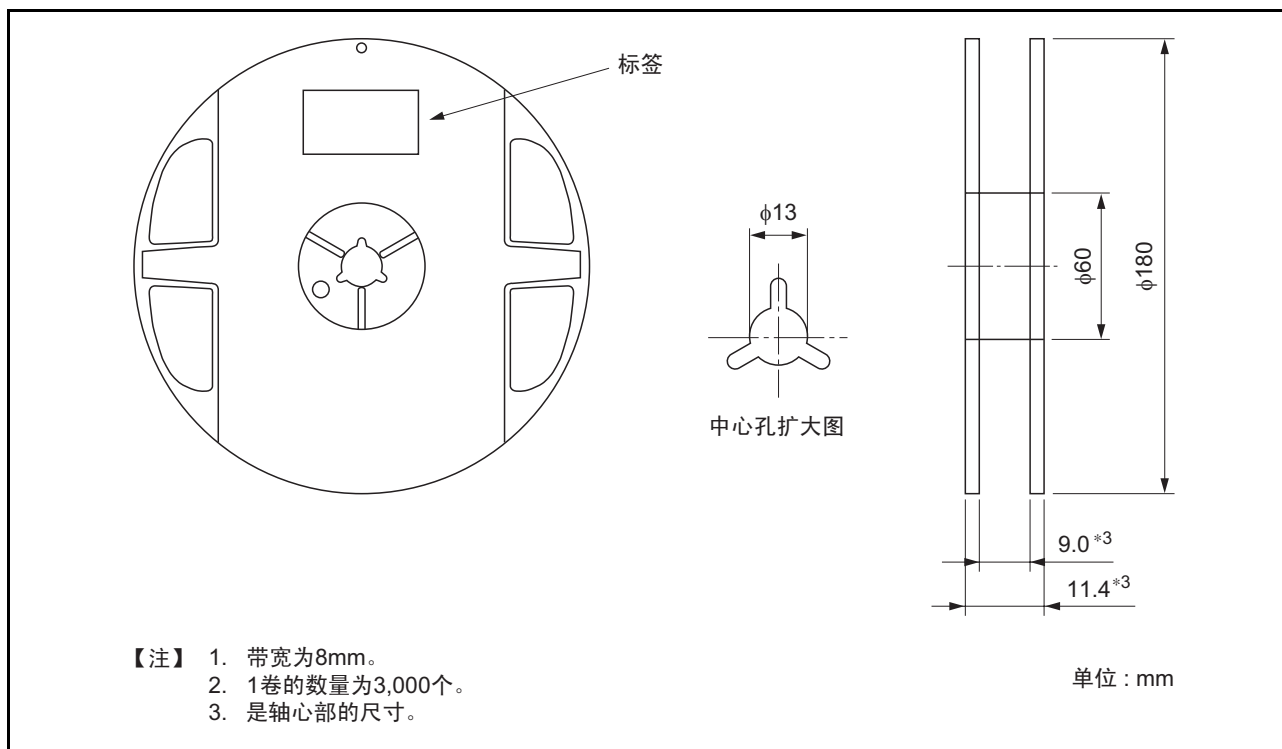


图28 卷盘的尺寸图 (CMPAK-5)

修订记录

Rev.	发行日	修订内容	
		页	修订处
1.00	2008.03.05	—	初版发行

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