

Cree® LED Lamp Packaging

This application note applies to the following products:

- High-brightness oval and round LED lamps
- P4 LEDs
- Surface-mount PLCC LEDs

For XLamp® LED packaging information, refer to the binning and labeling documents for specific products.

Introduction

1. Features

- The LEDs are packed in cardboard boxes after packaging in normal or anti-electrostatic bags.
- Cardboard boxes will be used to protect the LEDs from mechanical shock during transportation.
- The boxes are not water resistant, and they must be kept away from water and moisture.

2. Description

This document describes four different packaging types: bulk pack, tape & reel, tube pack and SMD LED pack.

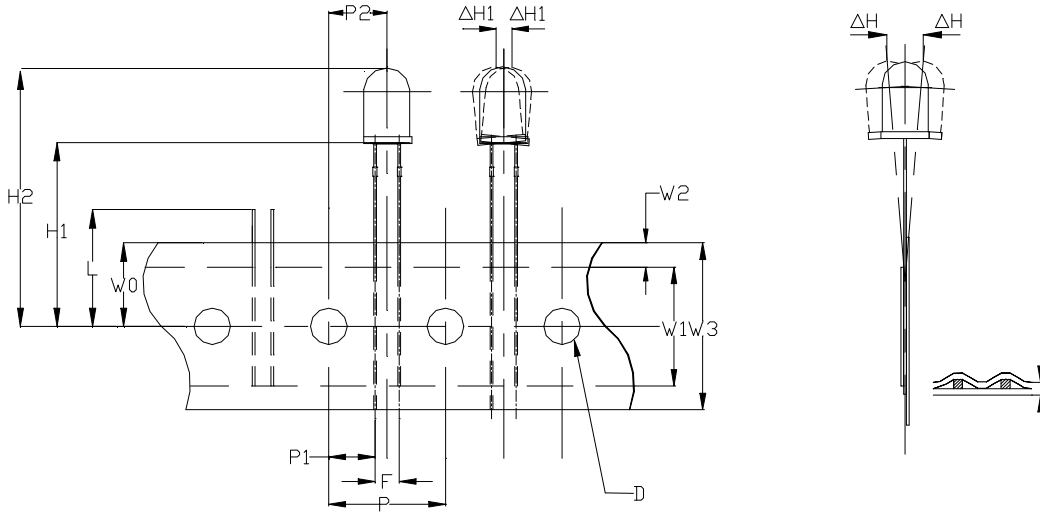
- The bulk pack is available for P2 LEDs.
- Tape & reel is available for automatic insertion equipment of P2 LEDs.
- The tube pack is available for automatic insertion equipment of P4 LEDs.
- The SMD LED pack is available for SMD LEDs.

Packaging Specifications

1. Bulk Pack

| Type | Fig | Quantity per Bag | Bags per Inner Carton | Inner Carton per Master | Quantity Total | Remark |
|-------------|-----|------------------|-----------------------|-------------------------|----------------|-------------------|
| Bulk Pack 1 | 1 | 1000 pcs | 10 | 4 | 40,000 pcs | P2 4-mm oval lamp |
| Bulk Pack 2 | 1 | 1000 pcs | 10 | 2 | 20,000 pcs | P2 4-mm oval lamp |
| Bulk Pack 3 | 1 | 1000 pcs | 6 | NA | 6,000 pcs | P2 4-mm oval lamp |
| Bulk Pack 4 | 1 | 500 pcs | 20 | 4 | 40,000 pcs | P2 other lamp |
| Bulk Pack 5 | 1 | 500 pcs | 20 | 2 | 20,000 pcs | P2 other lamp |
| Bulk Pack 6 | 1 | 500 pcs | 12 | NA | 6,000 pcs | P2 other lamp |

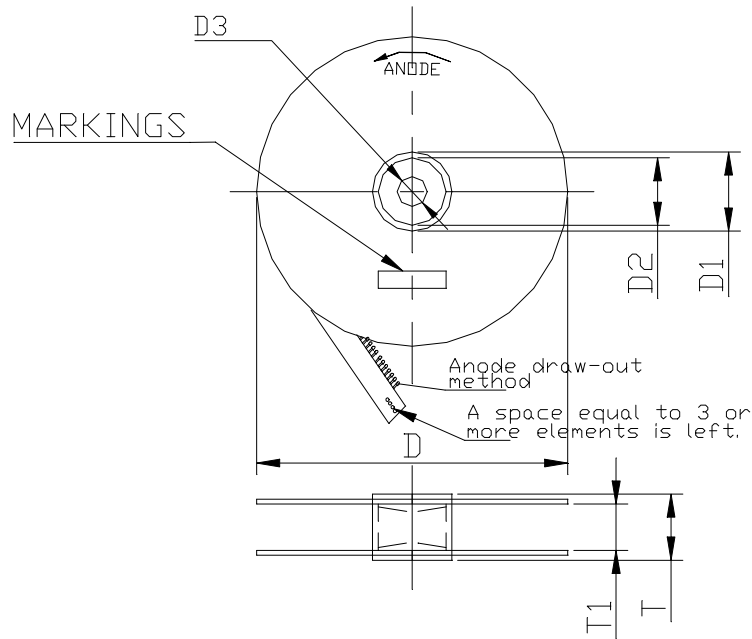
2. Tape & Reel



| Item | Symbol | Specification | |
|---------------------------------------|-------------|---------------|--------------|
| | | Min | Max |
| | | mm (inch) | mm (inch) |
| Tape Feed Hole Diameter | D | 3.8 (0.149) | 4.2 (0.165) |
| Component Lead Pitch | F | 2.3 (0.091) | 3.0 (0.118) |
| Front-to-Rear Deflection | ΔH | - | 2.0 (0.078) |
| Left-to-Right Deflection | $\Delta H1$ | - | 1.3 (0.051) |
| Feed Hole to Bottom of Component | H1 | 19.5 (0.768) | 21.5 (0.847) |
| Feed Hole to Overall Component Height | H2 | - | 36.0 (1.417) |
| Lead Length After Component Height | L | W_0 | 11.0 (0.433) |
| Feed Hole Pitch | P | 12.4 (0.488) | 13.0 (0.511) |
| Lead Location | P_1 | 4.40 (0.173) | 5.80 (0.228) |
| Center of Component Location | P_2 | 5.05 (0.198) | 7.65 (0.301) |
| Total Tape Thickness | T | - | 0.90 (0.035) |
| Feed Hole Location | W_0 | 8.5 (0.334) | 9.75 (0.384) |
| Adhesive Tape Width | W_1 | 12.5 (0.492) | 13.5 (0.531) |
| Adhesive Tape Position | W_2 | 0 | 3.0 (0.118) |
| Tape Width | W_3 | 17.5 (0.689) | 19.0 (0.748) |

2-1: Roll Pack

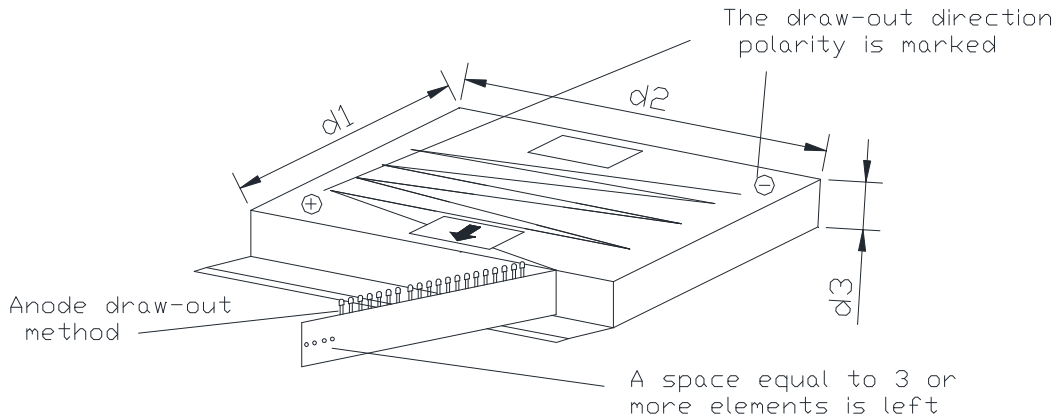
| Type | Fig | Quantity per Bag | Bags per Inner Carton | Inner Carton per Master | Quantity Total | Remark |
|-------------|-----|------------------|-----------------------|-------------------------|----------------|------------------------------|
| Roll Pack 1 | 2 | 1000 pcs | 3 | 4 | 12000 pcs | 5-mm round |
| Roll Pack 2 | 2 | 2000 pcs | 3 | 4 | 24000 pcs | 3-mm round or 4-mm oval lamp |
| Roll Pack 3 | 2 | 1500 pcs | 3 | 4 | 18000 pcs | 5-mm oval lamp |



| Item | Symbol | Specification | | Unit |
|------------------------------|----------------|---------------|-------------|-----------|
| | | Min | Max | |
| Reel Diameter | D | 335 (13.19) | 345 (13.58) | mm (inch) |
| Core Diameter | D ₁ | 88 (3.46) | 94 (3.70) | mm (inch) |
| Hub Recess Inside Diameter | D ₂ | 70 (2.76) | 74 (2.91) | mm (inch) |
| Arbor Hole Diameter | D ₃ | 30 (1.18) | 34 (1.34) | mm (inch) |
| Overall Reel Thickness | T | - | 55 (2.17) | mm (inch) |
| Inside Reel Flange Thickness | T ₁ | 44 (1.73) | 50 (1.97) | mm (inch) |
| Packing Quantity (DIA3) | Qty | 2000 | | PCS |
| Packing Quantity (DIA5) | Qty | 1000 | | PCS |

2-2: Ammo Pack

| Type | Fig | Quantity per Bag | Bags per Inner Carton | Inner Carton per Master | Quantity Total | Remark |
|-------------|-----|------------------|-----------------------|-------------------------|----------------|-------------------------------|
| Ammo Pack 1 | 3 | 2500 pcs | 4 | 4 | 40,000 pcs | 5-mm round lamps |
| Ammo Pack 2 | 3 | 2500 pcs | 4 | 4 | 40,000 pcs | 5-mm oval lamps |
| Ammo Pack 3 | 3 | 3000 pcs | 4 | 4 | 48,000 pcs | 3-mm round or 4-mm oval lamps |



| Item | Symbol | Specification | | | Unit |
|------------------|--------|-----------------------------|-------------|-------------|-----------|
| | | 3-mm or 4-mm Round and Oval | 5-mm Oval | 5-mm Round | |
| Box Length | d1 | 244 (9.61) | 244 (9.61) | 284 (11.18) | mm (inch) |
| Box Width | d2 | 328 (12.91) | 328 (12.91) | 328 (12.91) | mm (inch) |
| Box Height | d3 | 51 (2.01) | 51 (2.01) | 51 (2.01) | mm (inch) |
| Packing Quantity | Qty | 3000 | 2500 | 2500 | pcs |



3. Tube Pack

| Type | Fig | Quantity per Bag | Bags per Inner Carton | Inner Carton per Master | Quantity Total | Remark |
|-------------|-----|------------------|-----------------------|-------------------------|----------------|---------|
| Tube Pack 1 | 4 | 60 pcs | 50 | 6 | 18000 pcs | P4 lamp |
| Tube Pack 2 | 4 | 60 pcs | 50 | 3 | 9000 pcs | P4 lamp |

4. SMD Pack

| Type | Fig | Quantity per Bag | Bags per Inner Carton | Inner Cartons per Master | Quantity Total | Remark |
|--|-----|------------------|-----------------------|--------------------------|----------------|--|
| LM1/LV1/LA1/LA2/LM4/LPP/LVB/SP301 Pack 1 | 5 | 2000 pcs | 1 | 10 | 20000 pcs | LM1/LV1/LA1/LA2/LM4/LPP/LVB/SP301 qty less than 20 K pcs |
| LM1/LV1/LA1/LA2/LM4/LPP/LVB/SP301 Pack 2 | 5 | 2000 pcs | 1 | 20 | 40000 pcs | LM1/LV1/LA1/LA2/LM4/LPP/LVB/SP301 qty more than 20 K pcs |
| LM2 Pack1 | 5 | 700 pcs | 1 | 10 | 7000 pcs | LM2 qty less than 7 K pcs |
| LM2 Pack2 | 5 | 700 pcs | 1 | 20 | 14000 pcs | LM2 qty more than 7 K pcs |
| LP6 Pack1 | 5 | 900 pcs | 1 | 10 | 9000 pcs | LP6/qty less than 9 K pcs |
| LP6 Pack2 | 5 | 900 pcs | 1 | 20 | 18000 pcs | LP6 qty more than 9 K pcs |
| LM3 Pack1 | 5 | 2500 pcs | 1 | 10 | 25000 pcs | LM3 qty less than 25 K pcs |
| LM3 Pack2 | 5 | 2500 pcs | 1 | 20 | 50000 pcs | LM3 qty more than 25 K pcs |
| LU6 Pack1 | 5 | 1000 pcs | 1 | 10 | 10000 pcs | LU6 qty less than 10 K pcs |
| LU6 Pack2 | 5 | 1000 pcs | 1 | 20 | 20000 pcs | LU6 qty more than 10 K pcs |
| LN6 SMD Pack1 | 5 | 1100 pcs | 1 | 10 | 11000 pcs | LN6 qty less than 11 K pcs |
| LN6 SMD Pack2 | 5 | 1100pcs | 1 | 20 | 22000pcs | LN6 qty more than 11 K pcs |
| LS8 Pack1 | 5 | 4000pcs | 1 | 10 | 40000pcs | LS8 qty less than 40 K pcs |
| LS8 Pack2 | 5 | 4000pcs | 1 | 20 | 80000pcs | LS8 qty more than 40 K pcs |
| LT6A/LT6B Pack1 | 5 | 2500pcs | 1 | 10 | 25000pcs | LT6A/LT6B qty less than 25 K pcs |
| LT6A/LT6B Pack2 | 5 | 2500pcs | 1 | 20 | 50000pcs | LT6A/LT6B qty more than 25 K pcs |
| LMVB/LMVC Pack1 | 5 | 3500pcs | 1 | 10 | 35000pcs | LMVB/LMVC qty less than 35 K pcs |
| LMVB/LMVC Pack2 | 5 | 3500pcs | 1 | 20 | 70000pcs | LMVB/LMVC qty more than 35 K pcs |
| LA6 Pack1 | 5 | 2000pcs | 1 | 10 | 20000pcs | LA6 qty less than 20 K pcs |
| LA6 Pack2 | 5 | 2000pcs | 1 | 20 | 40000pcs | LA6 qty more than 20 K pcs |
| LB6 Pack1 | 5 | 1000pcs | 1 | 10 | 10000pcs | LB6 qty less than 10 K pcs |
| LB6 Pack2 | 5 | 1000pcs | 1 | 20 | 20000pcs | LB6 qty more than 10 K pcs |
| LV6A/B Pack1 | 5 | 3000pcs | 1 | 10 | 30000pcs | LV6A/B qty less than 30 K pcs |
| LV6A/B Pack2 | 5 | 3000pcs | 1 | 20 | 60000pcs | LV6A/B qty more than 30 K pcs |
| LX6A/C/D Pack1 | 5 | 2800pcs | 1 | 10 | 28000pcs | LX6A/C/D qty less than 28 K pcs |
| LX6A/C/D Pack2 | 5 | 2800pcs | 1 | 20 | 56000pcs | LX6A/C/D qty more than 28 K pcs |
| LX6B Pack1 | 5 | 3000pcs | 1 | 10 | 30000pcs | LX6B qty less than 30 K pcs |
| LX6B Pack2 | 5 | 3000pcs | 1 | 20 | 60000pcs | LX6B qty more than 30 K pcs |

Figure 1: Bulk Pack 1, 2, 3, 4, 5, 6

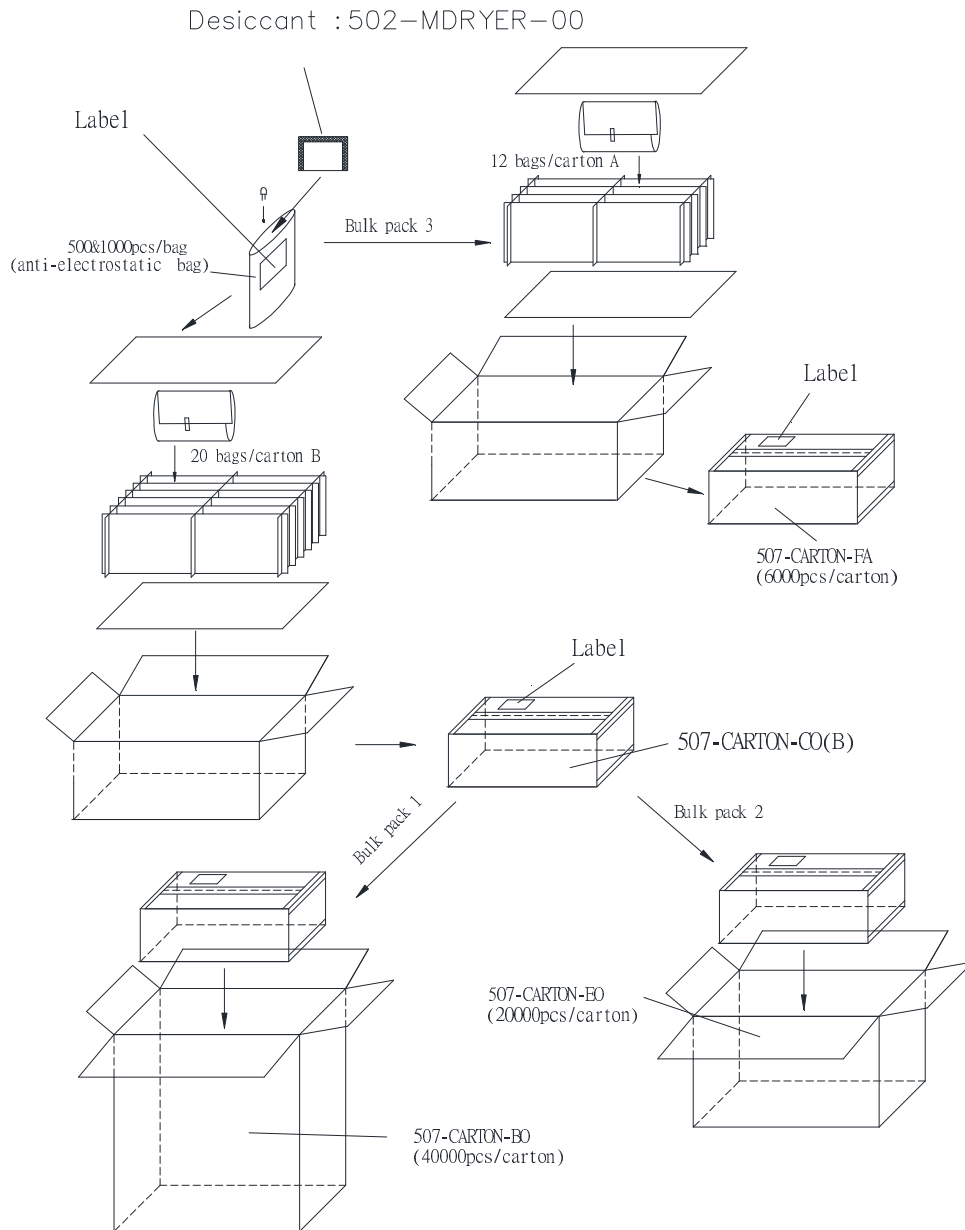


Figure 2: Roll Pack 1, 2, 3

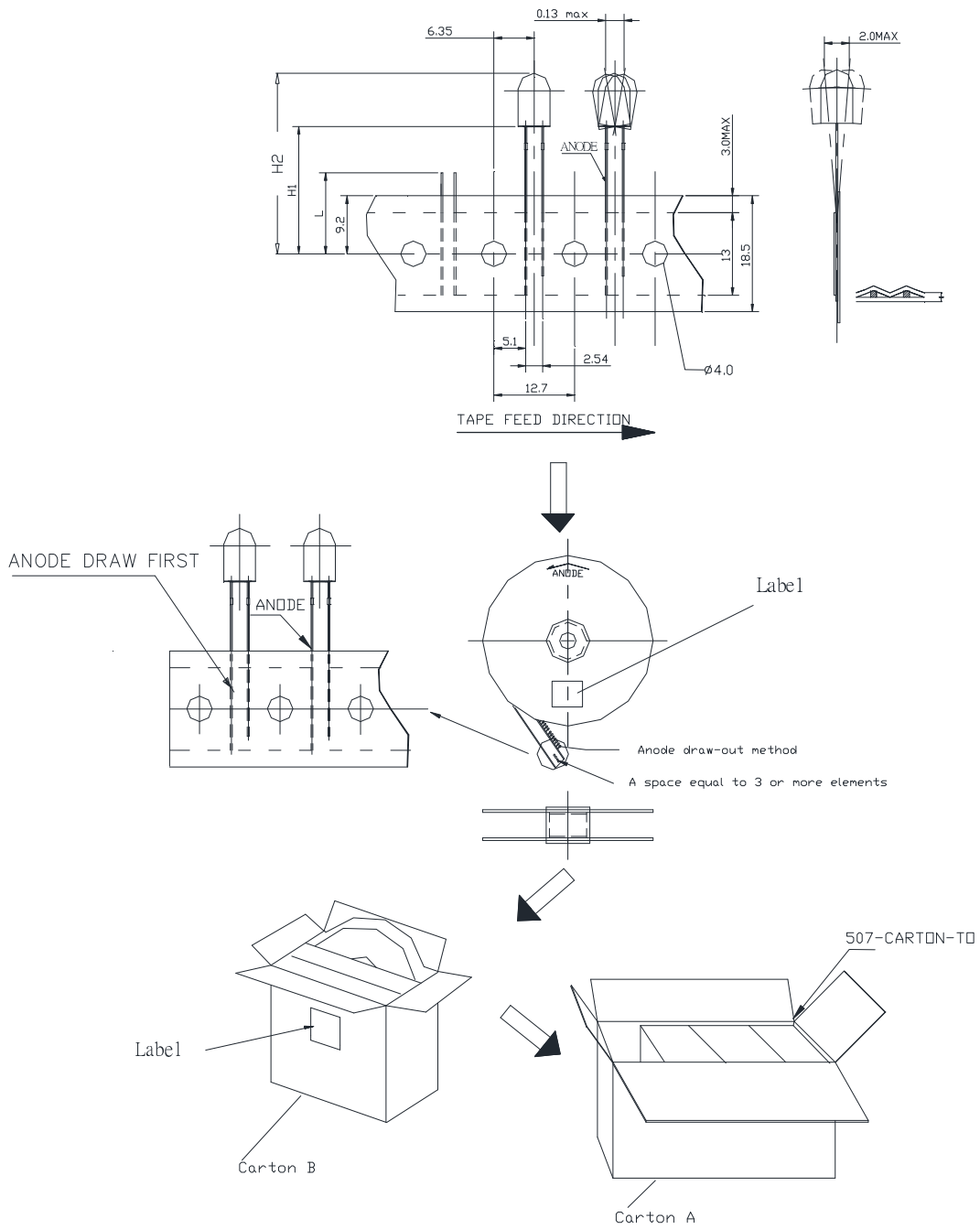


Figure 3: Ammo Pack 1, 2, 3

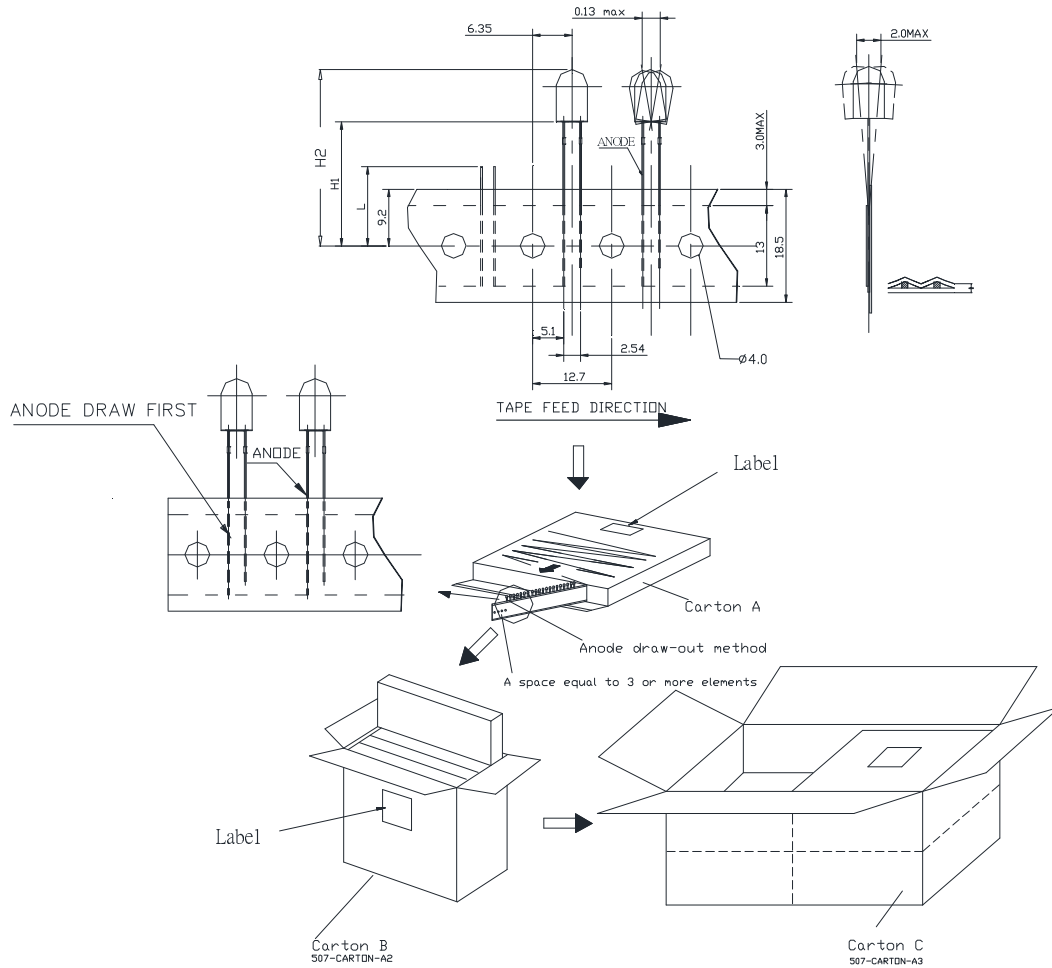


Figure 4: Tube Pack 1, 2

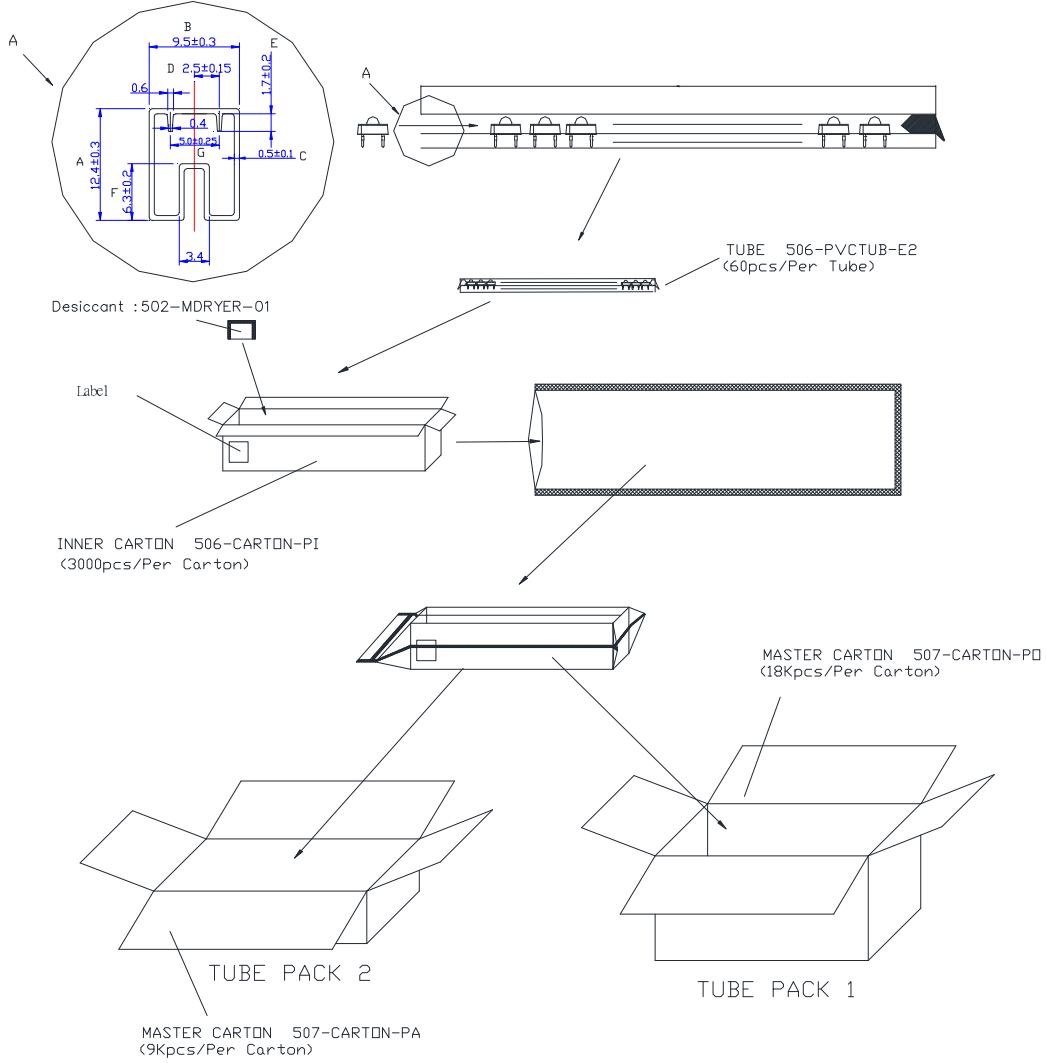
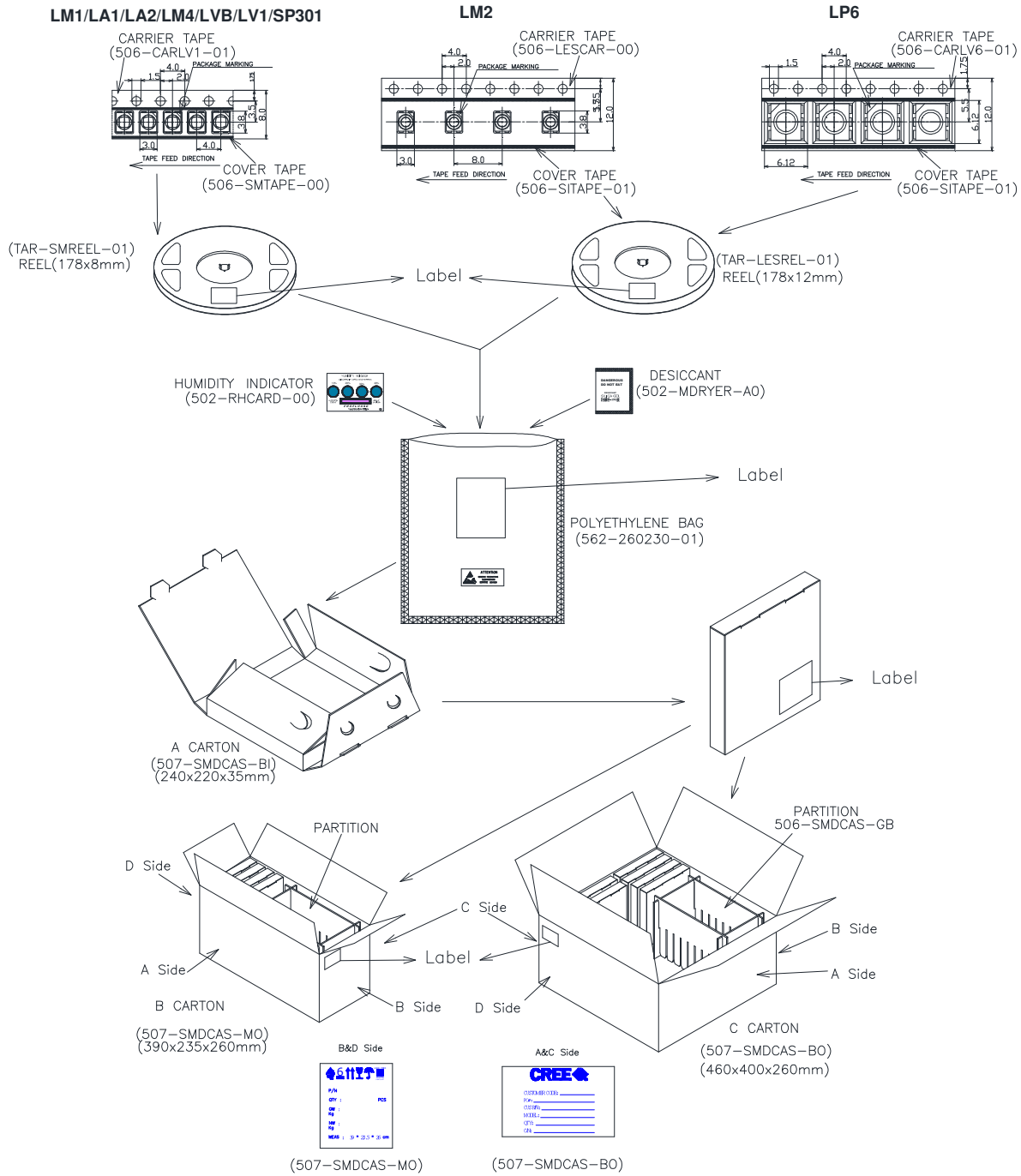
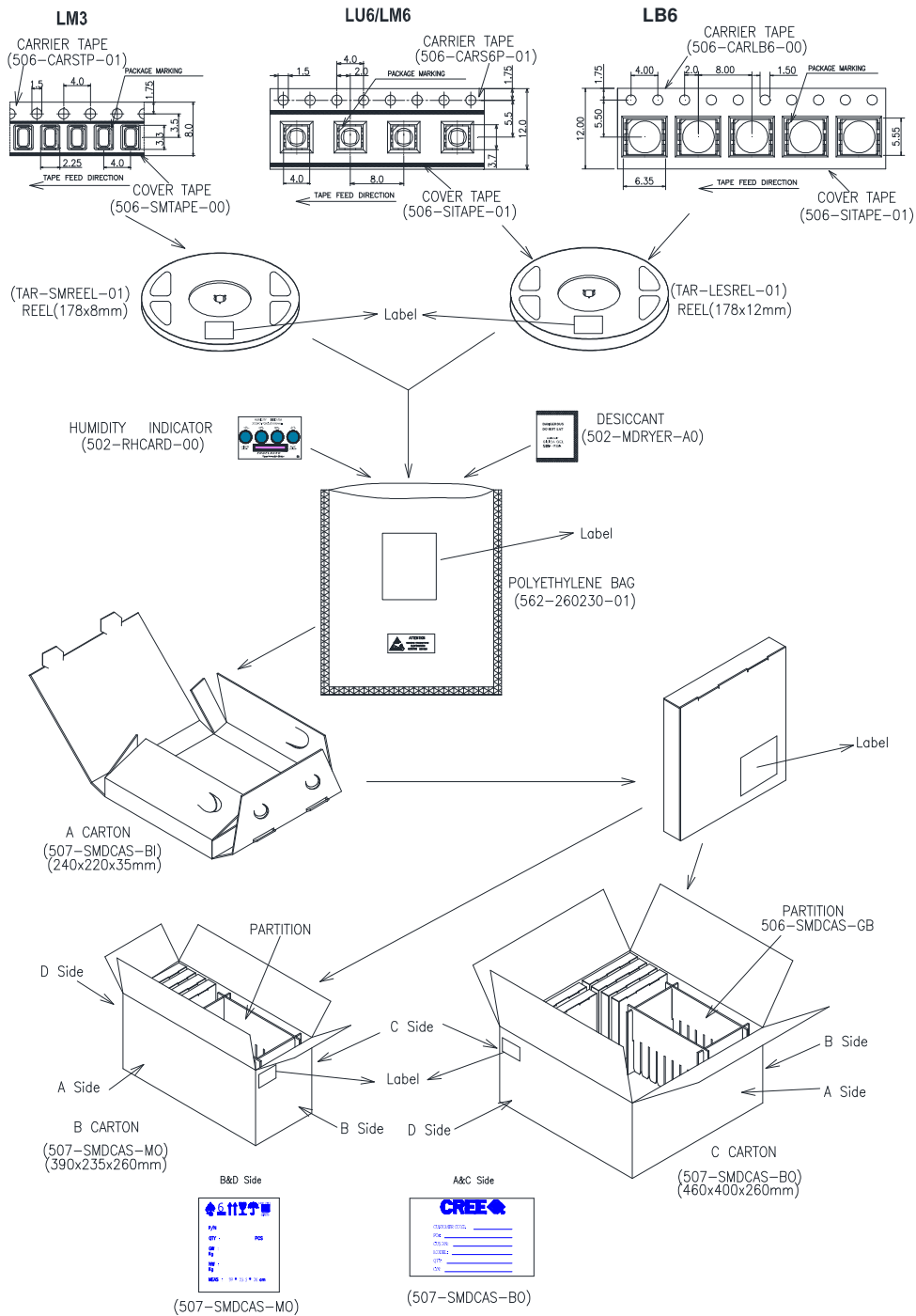
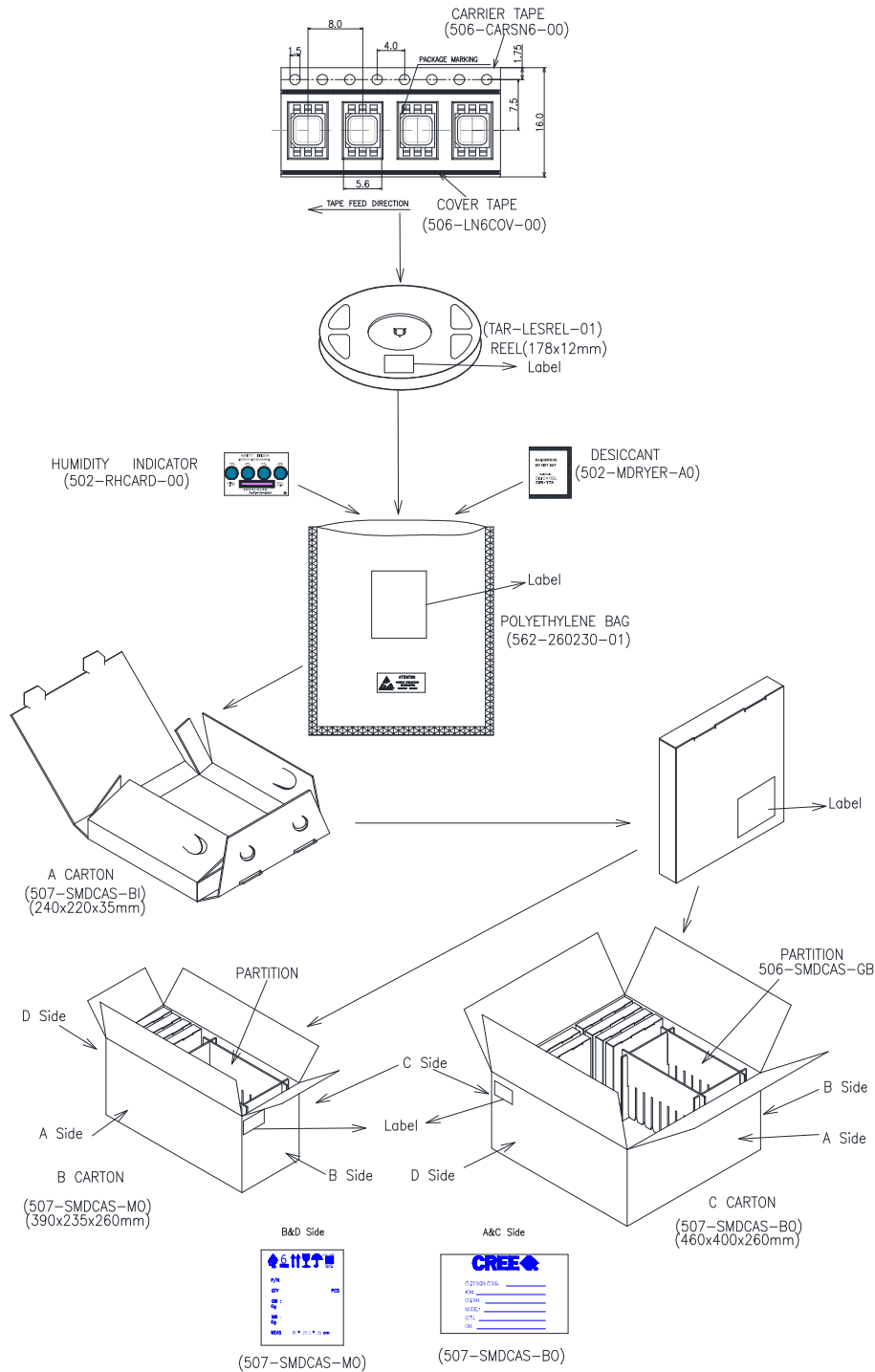


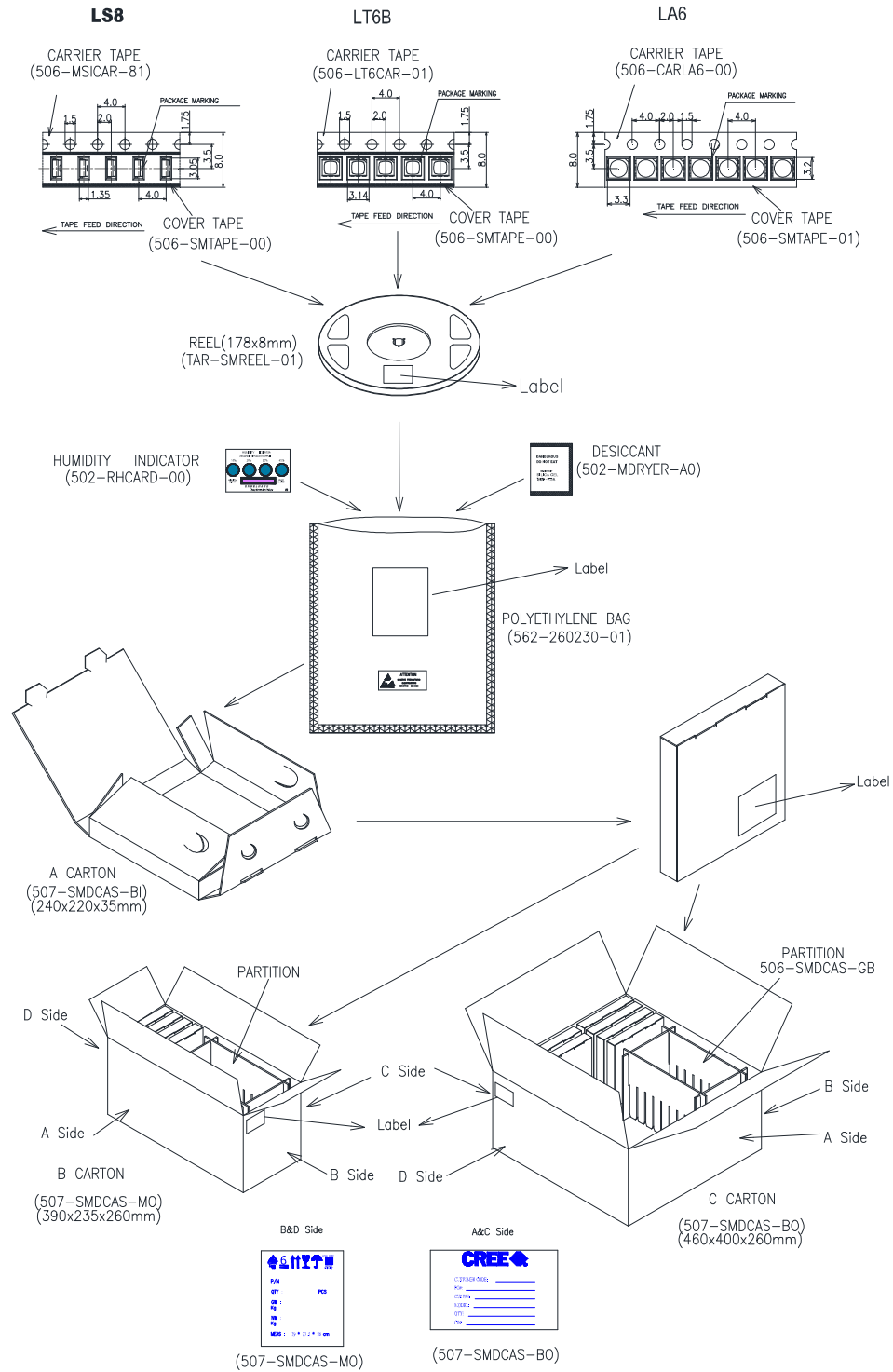
Figure 5: SMD Pack





LN6 SMD





LMVB/LMVC

