

# SBR340 thru SBR3100

## Schottky Barrier Rectifiers

Reverse Voltage 40 to 100V Forward Current 3A

### 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

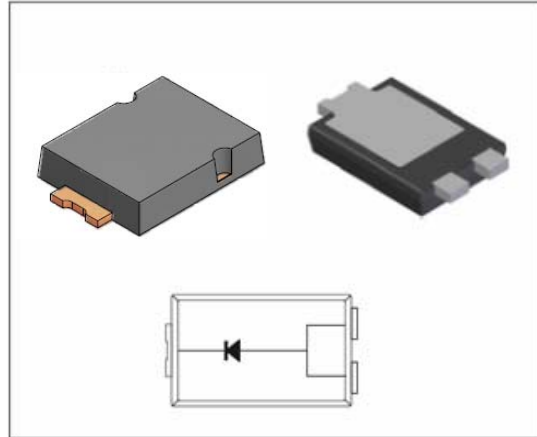
### Mechanical Data

Case: JEDEC TO-277A,  
molded plastic over SKY body  
Terminals: Plated leads, solderable per  
MIL-STD-750, Method 2026

Mounting Position: Any

Weight: 0.095 g

Handling precaution:None



We declare that the material of product is  
Halogen free (green epoxy compound)

### 1.Electrical Characteristic

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

| Parameter Symbol   | symbol        | SBR340      | SBR360 | SBR3100 | Unit               |
|--|---------------|-------------|--------|---------|--------------------|
| device marking code  |               | SBR340      | SBR360 | SBR3100 |                    |
| Maximum repetitive peak reverse voltage  | $V_{RRM}$     | 40          | 60     | 100     | V                  |
| Maximum RMS voltage  | $V_{RMS}$     | 28          | 42     | 70      | V                  |
| Maximum DC blocking voltage  | $V_{DC}$      | 40          | 60     | 100     | V                  |
| Maximum average forward rectified current at $T_c = 75^\circ\text{C}$                            | $I_{F(AV)}$   | 3.0         |        |         | A                  |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | $I_{FSM}$     | 80          |        |         | A                  |
| Typical thermal resistance (Note 1)  | R $\theta$ JC | 8           |        |         | $^\circ\text{C/W}$ |
|  | R $\theta$ JL | 15          |        |         |                    |
|  | R $\theta$ JA | 31          |        |         |                    |
| Typical thermal resistance (Note 3)  | R $\theta$ JA | 135         |        |         | $^\circ\text{C/W}$ |
| Operating junction temperature range   | $T_J$         | -55 to +150 |        |         | $^\circ\text{C}$   |
| Storage temperature range  | $T_{STG}$     | -55 to +175 |        |         | $^\circ\text{C}$   |

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

| Parameter Symbol  | symbol | SBR340 | SBR360 | SBR3100 | Unit |
|---|--------|--------|--------|---------|------|
| Maximum instantaneous forward voltage at 3A at 25°C   | $V_F$  | 0.55   | 0.7    | 0.87    | V    |
| Maximum DC reverse current $T_j = 25^\circ\text{C}$ at rated DC blocking voltage $T_j = 100^\circ\text{C}$ (note2) at rated DC blocking voltage $T_j = 125^\circ\text{C}$ (note2) | IR     | 0.3    |        | 0.015   | mA   |
|   |        | 15.0   |        | 10.0    |      |
|   |        | 25     |        | 20      |      |
| Typical junction capacitance at 4.0V, 1MHz  | CJ     | 500    |        |         | PF   |

#### NOTES:

1. Polyimide PCB, 2oz. Copper. Cathode pad dimensions 18.8mm x 14.4mm. Anode pad dimensions 5.6mm x 14.4mm.
- 2.Short duration pulse test used to minimize self-heating sffect .
- 3.FR-4 PCB, 2oz.Copper.

# SBR340 thru SBR3100

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

Fig. 1 - Forward Current Derating

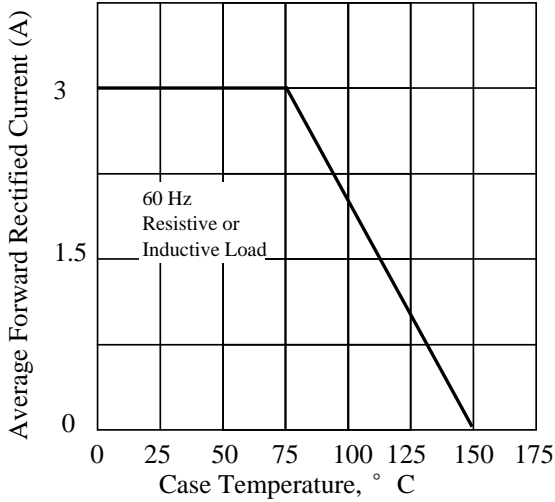


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

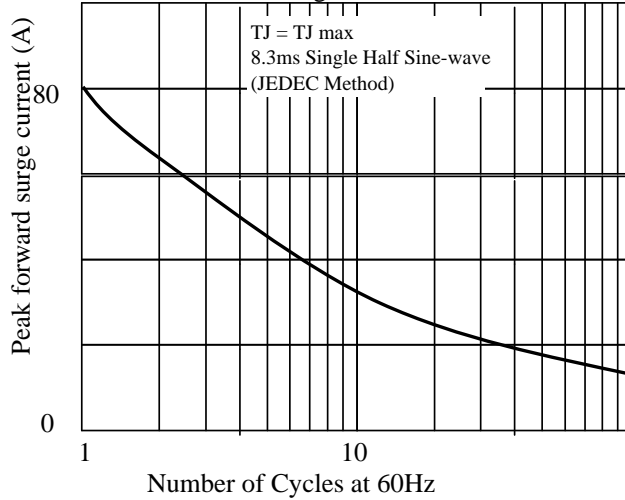


Fig 3. - Typical Instantaneous Forward Characteristics

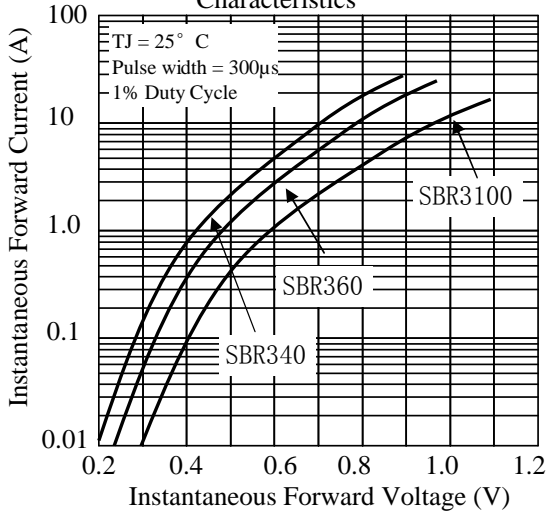


Fig 4. - Typical Reverse Characteristics

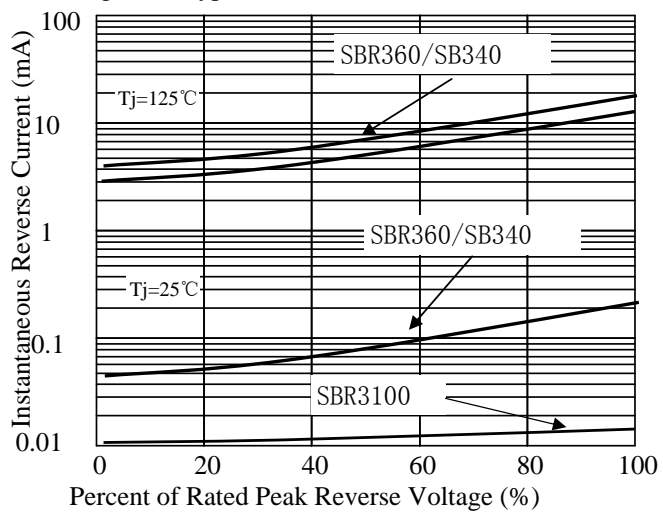


Fig 5. - typical transient thermal impedance(Note 3)

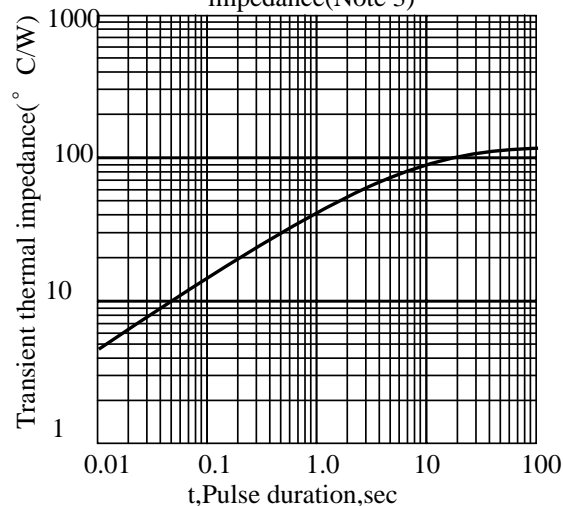
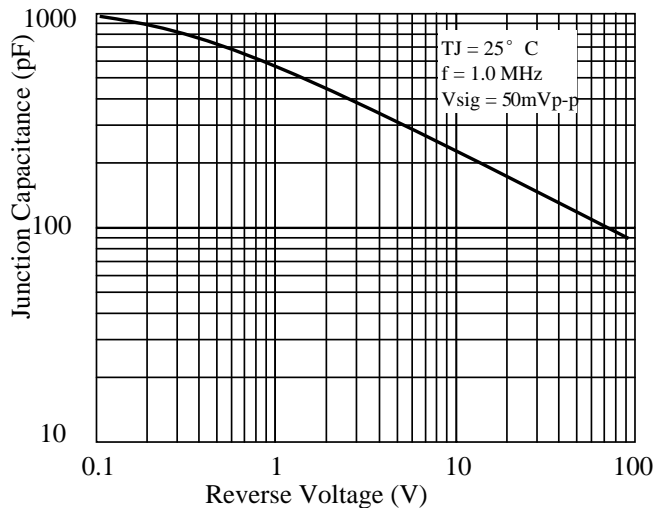


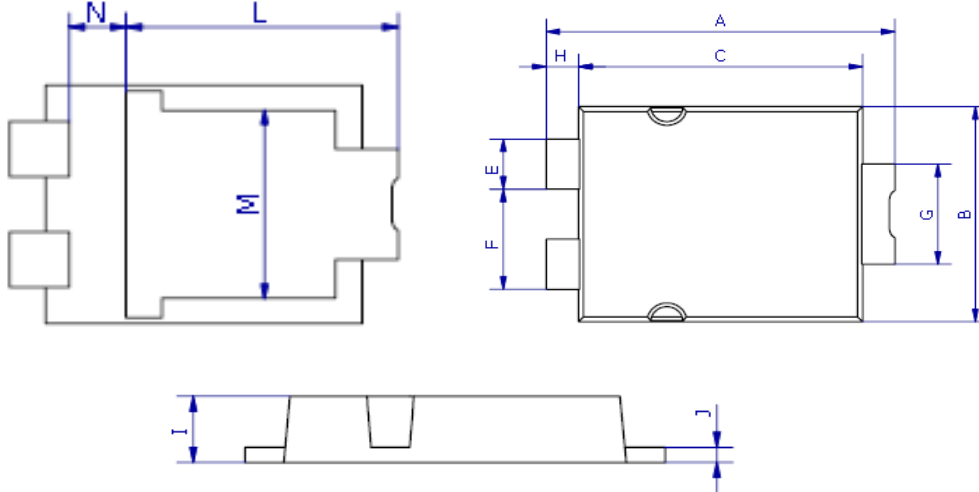
Fig 6. - Typical Junction Capacitance



## SBR340 thru SBR3100

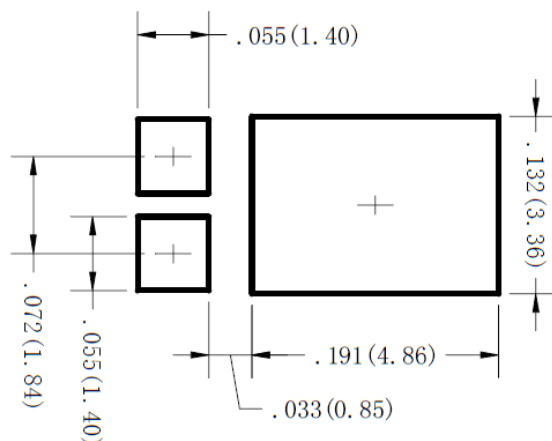
### 3. dimension:

### TO-277A



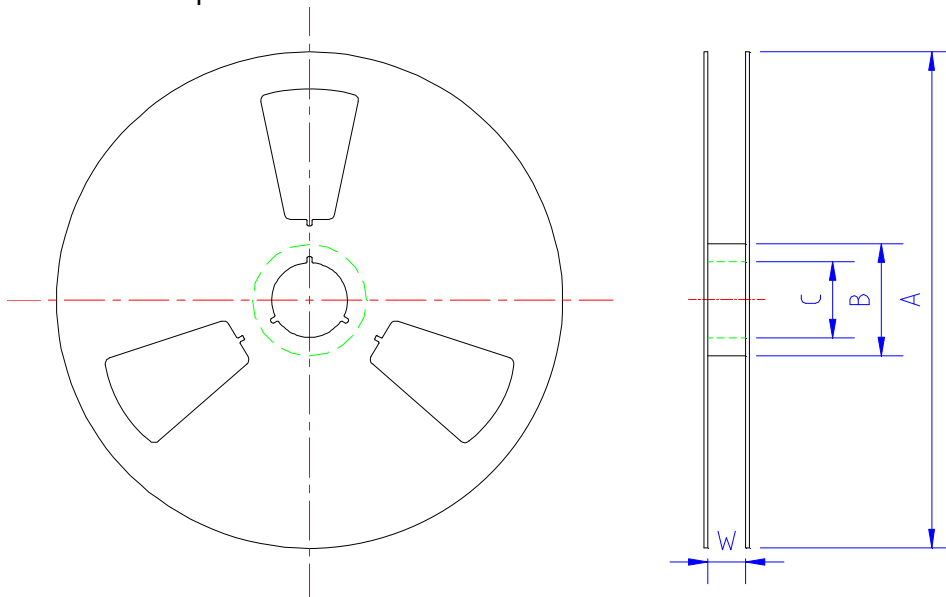
| DIM | MILLIMETERS |      | INCHES |       |
|-----|-------------|------|--------|-------|
|     | MIN         | MAX  | MIN    | MAX   |
| A   | 6.3         | 6.7  | 0.248  | 0.264 |
| B   | 4.1         | 4.5  | 0.161  | 0.177 |
| C   | 5.1         | 5.5  | 0.201  | 0.217 |
| E   | 0.9         | 1.1  | 0.035  | 0.043 |
| F   | 1.9         | 2.1  | 0.075  | 0.083 |
| G   | 1.9         | 2.1  | 0.075  | 0.083 |
| H   | 0.50        | 0.70 | 0.020  | 0.028 |
| I   | 1.00        | 1.20 | 0.039  | 0.047 |
| J   | 0.15        | 0.35 | 0.006  | 0.014 |
| L   | 4.35        | 4.75 | 0.171  | 0.187 |
| M   | 3.20        | 3.60 | 0.126  | 0.142 |
| N   | 0.85        | 1.10 | 0.033  | 0.043 |

### Mounting PAD layout



5.1 、 SMD Packing Reel Spec & Packing Quantity

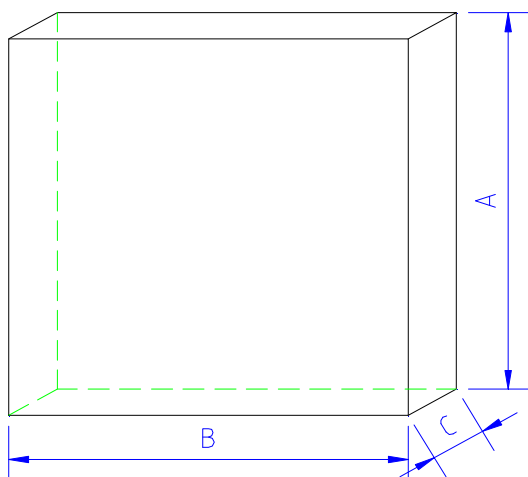
5.1.1 Reel Packing  
A. Reel Spec



unit: mm

| SPEC             | A         | B        | C        | W        | Quantity/Reel |
|------------------|-----------|----------|----------|----------|---------------|
| SMA-FL 7" reel   | 177.0±2.0 | 54.0±0.5 | 13.0±0.5 | 13.2±0.2 | 3K            |
| TO277 13" reel   | 330.0±2.0 | 75.0±0.5 | 13.0±0.5 | 13.2±0.2 | 5K            |
| SOD123FL 7" reel | 177.0±2.0 | 50.0±0.5 | 13.0±0.5 | 9.4±1.5  | 3K            |
| SOD323HE 7" reel | 177.0±2.0 | 50.0±0.5 | 13.0±0.5 | 9.4±1.5  | 3K            |
| SMB-FL 13" reel  | 330.0±2.0 | 75.0±0.5 | 13.0±0.5 | 13.2±0.2 | 5K            |

B. 13" reel packing box



unit: mm

| size | A       | B       | C      |
|------|---------|---------|--------|
|      | 335±5.0 | 335±2.0 | 40±1.0 |

as per above packing

| Spec            | Q' ty/Box |
|-----------------|-----------|
| TO277 13" reel  | 10K       |
| SMB-FL 13" reel | 10K       |

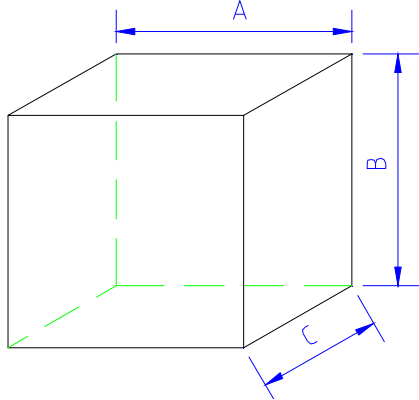
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Power Diode SMD Package Packing Spec

DOC NO.: WI-258

DOC NO.: WI-258

Page: 3

C. 7" reel packing box



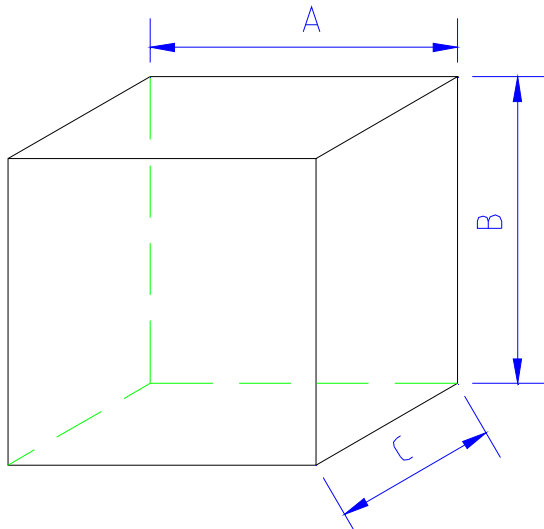
unit: mm

|          | A       | B       | C       |
|----------|---------|---------|---------|
| SMA-FL   |         |         |         |
| SOD123FL |         |         |         |
| SOD323HE | 186±2.0 | 139±2.0 | 185±2.0 |

as per above packing

|          | Q' ty/Box |
|----------|-----------|
| SMA-FL   | 30K       |
| SOD123FL | 30K       |
| SOD323HE | 30K       |

D. reel packing carton



unit: mm

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

as per above packing

| Spec            | Q' ty/Carton |
|-----------------|--------------|
| TO277 13" reel  | 80K          |
| SMB-FL 13" reel | 80K          |

unit: mm

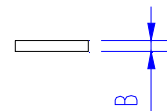
|          | A       | B       | C       |
|----------|---------|---------|---------|
| SMA-FL   |         |         |         |
| SOD123FL |         |         |         |
| SOD323HE | 455±2.0 | 400±2.0 | 410±2.0 |

as per above packing

| Spec              | Q' ty/Carton |
|-------------------|--------------|
| SMA-FL 7" reel    | 360K         |
| SOD123-FL 7" reel | 360K         |
| SOD323HE 7" reel  | 360K         |

5.1.2 Tape Spec

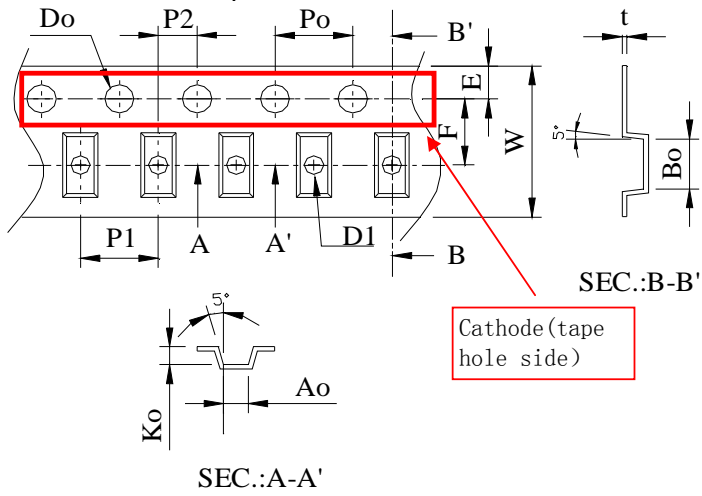
A. Cover Tape



unit: mm

|          | A        | B           |
|----------|----------|-------------|
| SMA-FL   | 9.5±0.10 | 0.062±0.007 |
| SMB-FL   |          |             |
| TO277    |          |             |
| SOD123FL | 5.4±0.10 |             |
| SOD323HE |          |             |

**B. Carrier Tape**



| Item | SOD323HE  | SOD123FL  | SMA-FL    | SMB-FL    | TO277     |
|------|-----------|-----------|-----------|-----------|-----------|
| W    | 8±0.3     | 8±0.3     | 12±0.3    | 12±0.3    | 12±0.3    |
| P1   | 4±0.1     | 4±0.1     | 4±0.1     | 8±0.1     | 8±0.1     |
| E    | 1.75±0.1  | 1.75±0.1  | 1.75±0.1  | 1.75±0.1  | 1.75±0.1  |
| F    | 3.5±0.05  | 3.5±0.05  | 5.5±0.05  | 5.5±0.05  | 5.5±0.05  |
| D0   | 1.55±0.05 | 1.55±0.05 | 1.55±0.05 | 1.55±0.05 | 1.55±0.05 |
| D1   | 1.1±0.1   | 1.1±0.1   | 1.5±0.1   | 1.55±0.05 | 1.5±0.1   |
| P0   | 4±0.1     | 4±0.1     | 4±0.1     | 4±0.1     | 4±0.1     |
| P2   | 2±0.05    | 2±0.05    | 2±0.05    | 2±0.05    | 2±0.05    |
| 10P0 | 40±0.2    | 40±0.2    | 40±0.2    | 40±0.2    | 40±0.2    |
| A0   | 1.45±0.1  | 1.95±0.1  | 2.83±0.1  | 3.8±0.1   | 4.3±0.1   |
| B0   | 2.75±0.1  | 3.95±0.1  | 4.75±0.1  | 5.75±0.1  | 6.8±0.1   |
| K0   | 0.80±0.1  | 1.30±0.1  | 1.42±0.1  | 1.4±0.1   | 1.35±0.1  |
| T    | 0.25±0.05 | 0.25±0.05 | 0.25±0.05 | 0.25±0.05 | 0.25±0.05 |

Title:

Power Diode SMD Package Packing Spec

DOC NO.: WI-258

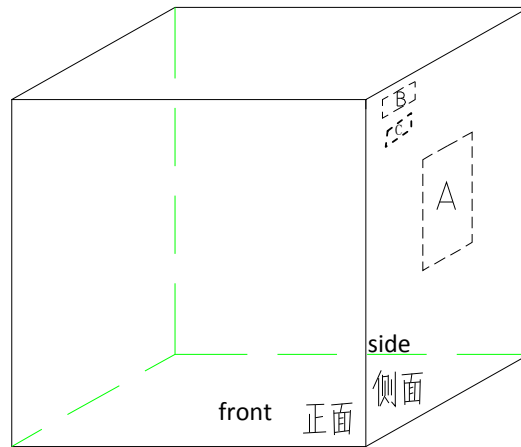
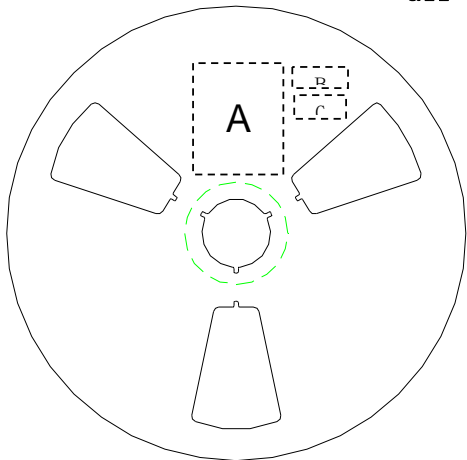
Version: 5 Modification: 0

Page: 5

5.2、SMD Power Diode General Packing Spec

A. 7" reel

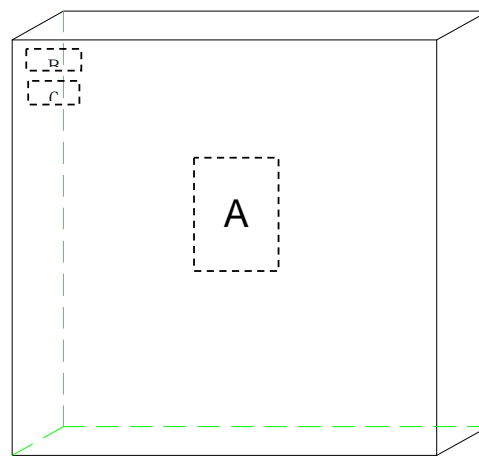
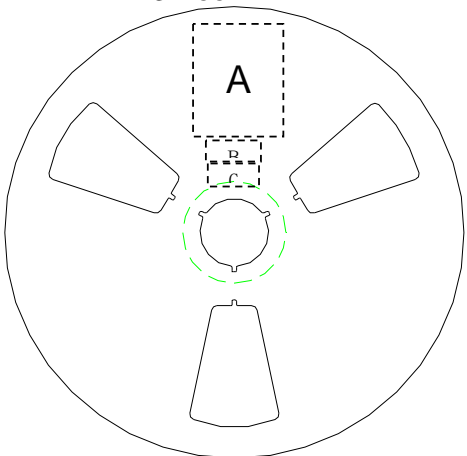
all labels will be at cathode side of reel ;



A:LRC label;

B:Environment Label C:Halide free label

B. 13" reel



A:LRC label;

B:Environment Labe C:Halide free label

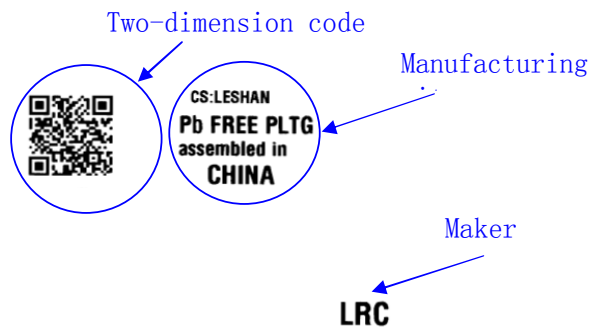
C. Tape lead: face anode side of the reel, upper side is the tape lead position. All labels are at cathode side of the reel.



|  |                               |
|--|-------------------------------|
| 标题:<br><b>Power Diode SMD Package Packing Spec</b> | DOC NO.: WI-258               |
|  | Version: 5    Modification: 0 |
|  | Page: 6                       |

C. Label Content :  
LRC Label

P/N → (1P) LPN: **SM140A**  
 Lot No. → (1T) LOT: **140106049X**  
 Date code → (9D) DTE: **1403**  
 Quantity → (Q) QTY: **10000**



lot: 140106049X: 140106---2014/1/6; 049----lot number:49; X: product code





## SBR340 thru SBR3100

### 4. Update Record

| 版次 | 更新记录 | 更新作者 | 更新日期       |
|----|------|------|------------|
| 1  | 第一版  | 周杰   | 2014.09.10 |

单击下面可查看定价，库存，交付和生命周期等信息

[>>LRC\(乐山无线电\)](#)