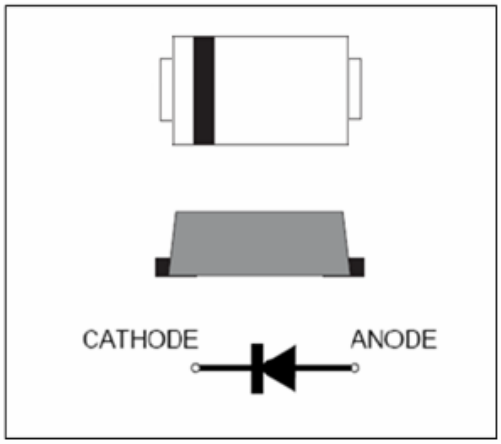
# FFMAF207L

## Surface Mount Glass Passivated Junction Fast Recovery Rectifiers

## Reverse Voltage 1000V Forward Current 2.0A

## FEATURES

* Plastic package has Underwriters Laboratory Flammability Classification 94V-0
* High temperature metallurgically bonded construction
* Cavity-free glass passivated junction
* Capable of meeting environmental standards of MIL-S-19500
* Typical IR less than 1.0μA
* High temperature soldering guaranteed: 260°C/10 seconds




## Mechanical Data

**Case**: JEDEC SMA-FL, molded plastic over glass DIE

**Terminals**: Plated leads, solderable per MIL-STD-750, Method 2026

**Polarity**: Color band denotes cathode end

**Mounting Position** Any

**Weight**: 0.0327g

**Handling precautin**:None

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

## Electrical Characteristic

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

| Parameter Symbol | symbol | FFMAF 207L | Unit |
|---|---|---|---|
| Device marking code | | FF27L | |
| Maximum repetitive peak reverse voltage | $V_{RRM}$ | 1000 | V |
| Maximum RMS voltage | $V_{RMS}$ | 700 | V |
| Maximum DC blocking voltage | $V_{DC}$ | 1000 | V |
| Maximum average forward rectified current lead length at $T_c$ = 75°C(Note 2) | $I_{F(AV)}$ | 2.0 | A |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | $I_{FSM}$ | 60 | A |
| Typical reverse recovery time (Note 1) | trr | 480 | ns |
| Typical thermal resistance (Note 2) | $R\theta J_A$<br>$R\theta J_C$ | 150<br>25 | °C/W |
| Operating junction temperature range | $T_J$ | –55 to +150 | °C |
| storage temperature range | $T_{STG}$ | –65 to +175 | °C |

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

| Parameter Symbol | symbol | FFMAF207L | Unit |
|---|---|---|---|
| Maximum instantaneous forward voltage at 2.0A | $V_F$ | 1.05 | V |
| Maximum DC reverse current TJ= 25°C<br>at rated DC blocking voltage TJ = 125°C | $I_R$ | 5.0<br>100 | μA |
| Typical junction capacitance at 4.0V, 1MHz (Note 2) | $C_J$ | 15.0 | PF |

NOTES:

1. IF = 0.5A, IR = 1.0A, IRR = 0.25A
2. 8.0mm$^2$ (.013mm thick) land areas

# FFMAF207L

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

Fig. 1 – Forward Current Derating Curve

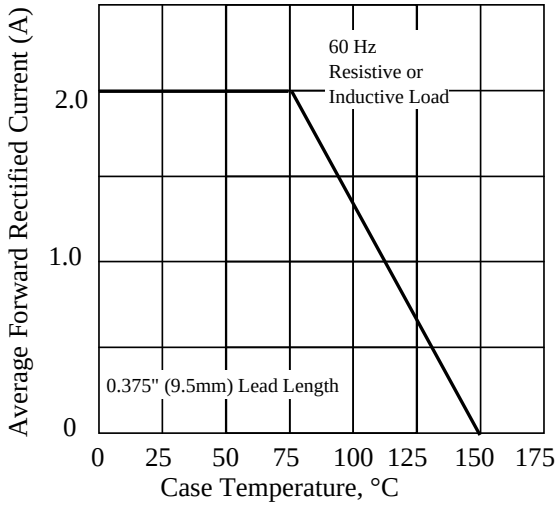



Fig. 2 – Maximum Non-repetitive Peak Forward Surge Current

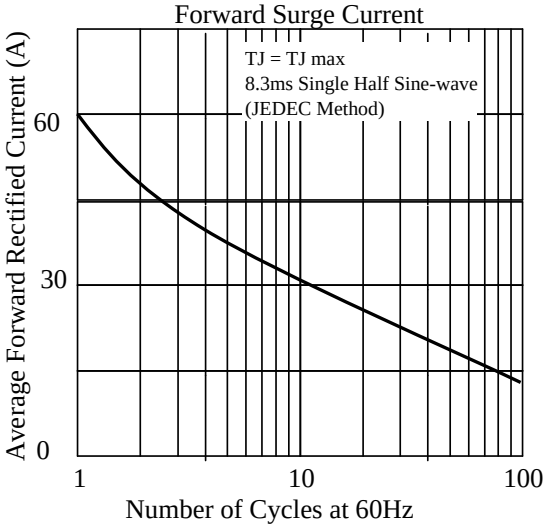



Fig 3. – Typical Instantaneous Forward Characteristics

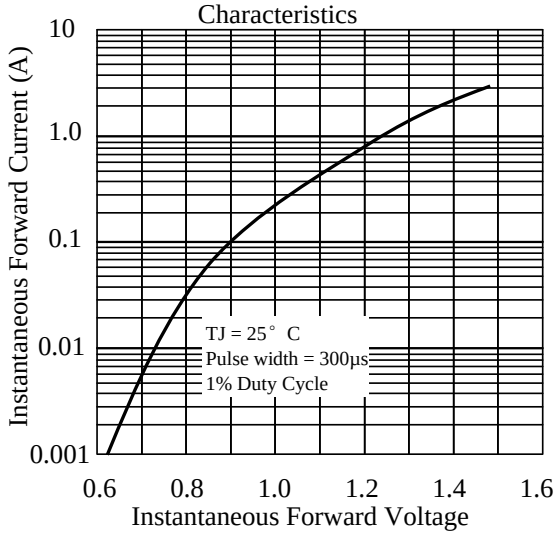



Fig 4. – Typical Reverse Characteristics

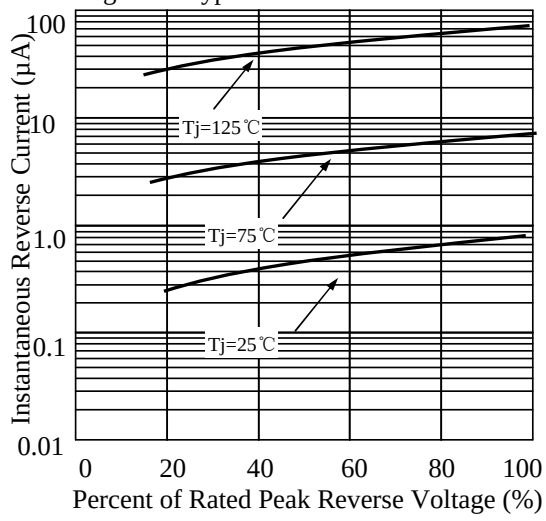



Fig 5. – typical transient thermal impedance

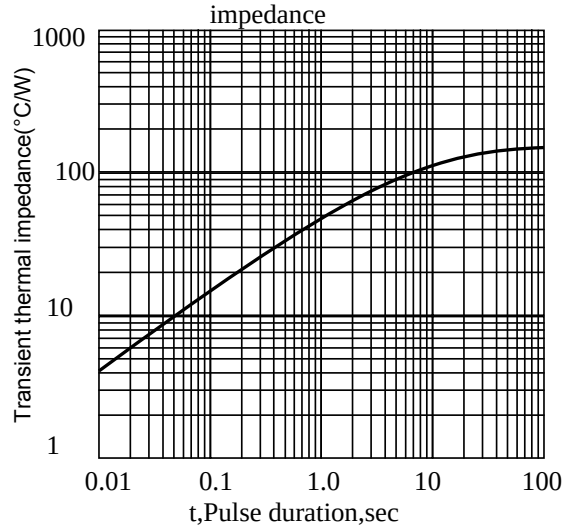
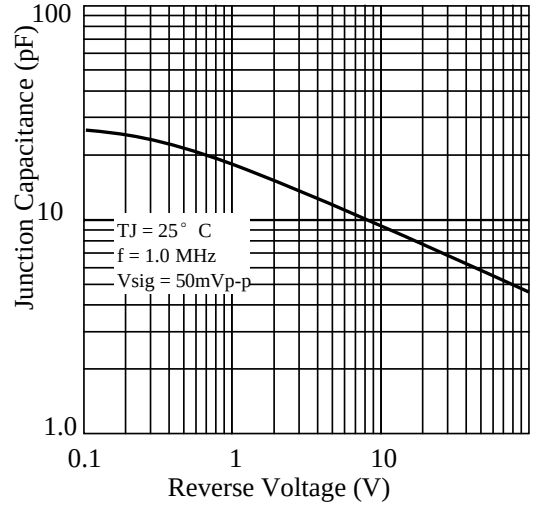


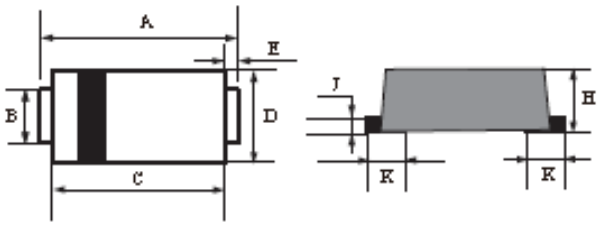

Fig 6. – Typical Junction Capacitance



# FFMAF207L

## 3. dimension:

SMA-FL

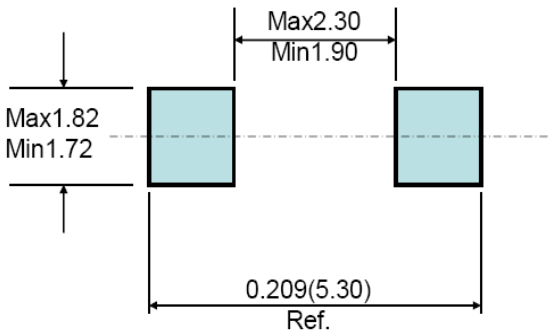



| DIM | MILLIMETERS | | INCHES | |
|---|---|---|---|---|
| | MIN | MAX | MIN | MAX |
| A | 4.4 | 4.8 | 0.173 | 0.189 |
| B | 1.3 | 1.5 | 0.051 | 0.059 |
| C | 3.3 | 3.7 | 0.130 | 0.146 |
| D | 2.3 | 2.7 | 0.091 | 0.106 |
| E | 0.90Typ | | 0.035Typ | |
| H | 0.9 | 1.2 | 0.036 | 0.047 |
| J | 0.11 | 0.21 | 0.005 | 0.009 |

Suggested solder pad layout

Mounting Pad Layout

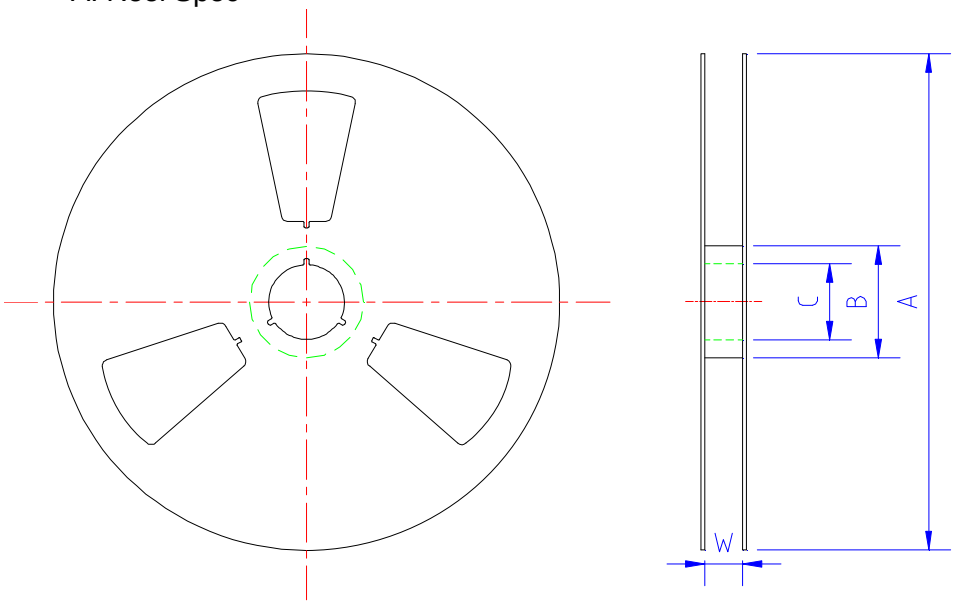
SMA-FL



## 5.1 、SMD Packing Reel Spec & Packing Quantity

### 5.1.1 Reel Packing

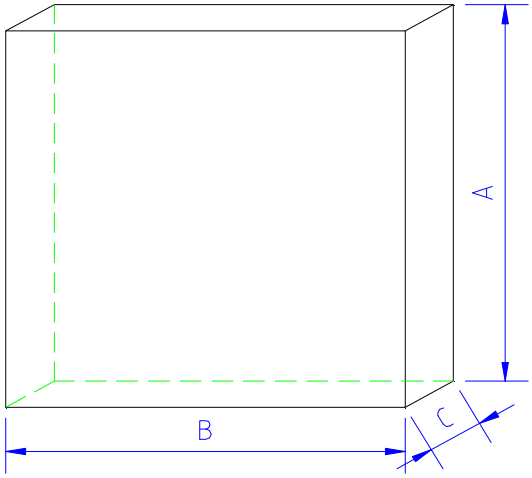
A. Reel Spec




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



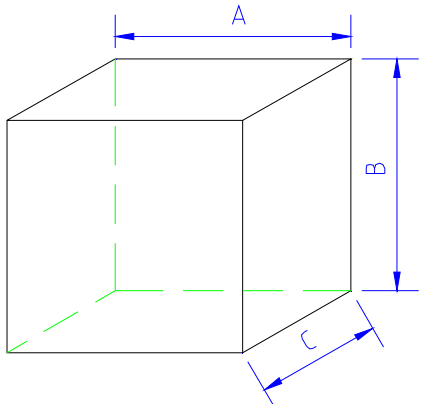

unit：mm

| | A | B | C |
|---|---|---|---|
| size | 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 |

C. 7" reel packing box



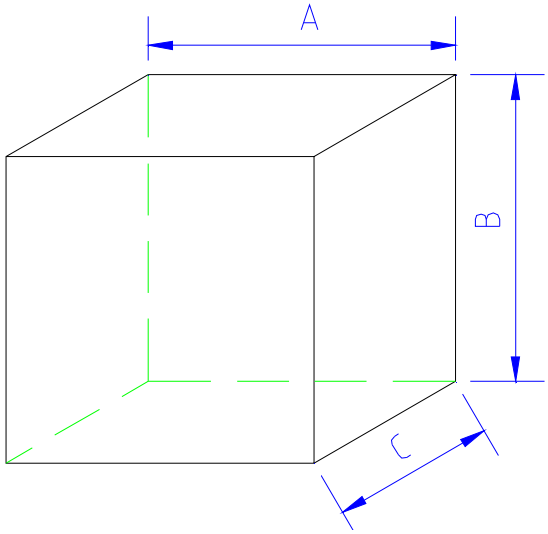

unit：mm

| | A | B | C |
|---|---|---|---|
| SMA-FL<br>SOD123FL<br>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

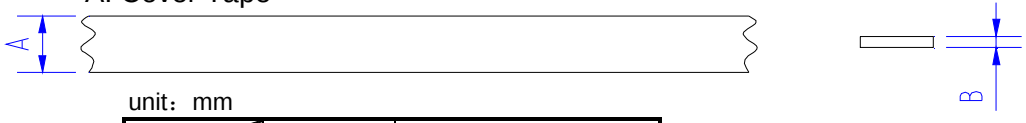
| | A | B | C |
|---|---|---|---|
| SMA-FL<br>SOD123FL<br>SOD323HE | 455±2.0 | 400±2.0 | 410±2.0 |

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

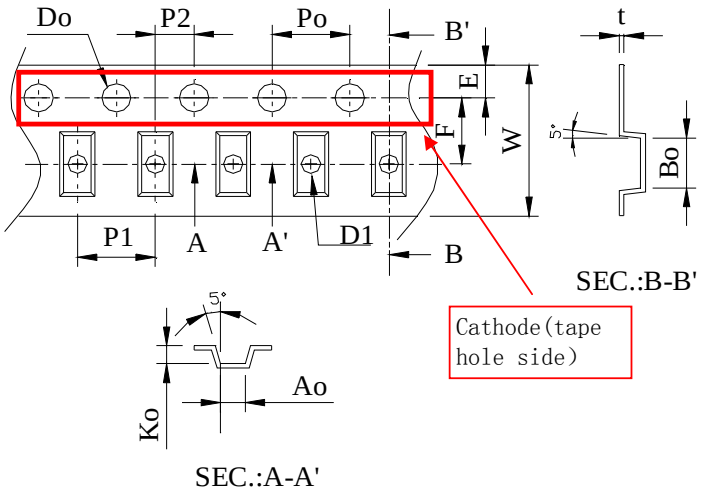
A. Cover Tape




unit：mm

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

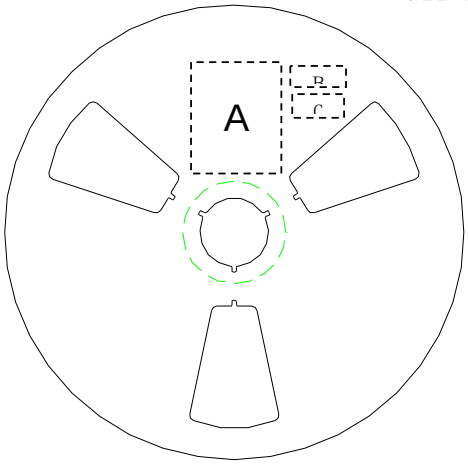
B. Carrier Tape

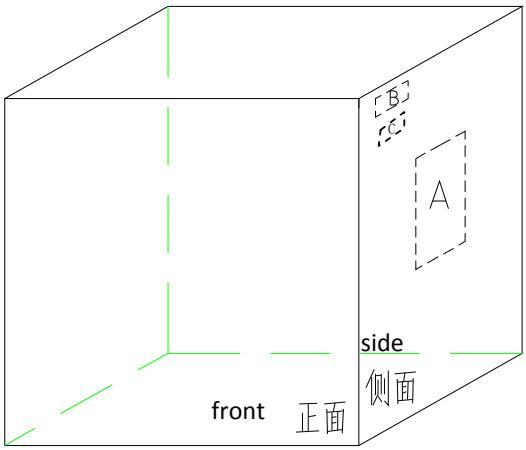



| Item | SOD323HE | SOD123FL | SMA-FL | SMB-FL | TO277 |
|---|---|---|---|---|---|
| W | 8±0.3 | 8±0.3 | 12±0.3 | 12±0.3 | 12±0.3 |
| P1 | 4±0.1 | 4±0.1 | 4±0.1 | 8±0.1 | 8±0.1 |
| E | 1.75±0.1 | 1.75±0.1 | 1.75±0.1 | 1.75±0.1 | 1.75±0.1 |
| F | 3.5±.05 | 3.5±.05 | 5.5±.05 | 5.5±0.05 | 5.5±.05 |
| D0 | 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 |

## 5.2、SMD Power Diode General Packing Spec

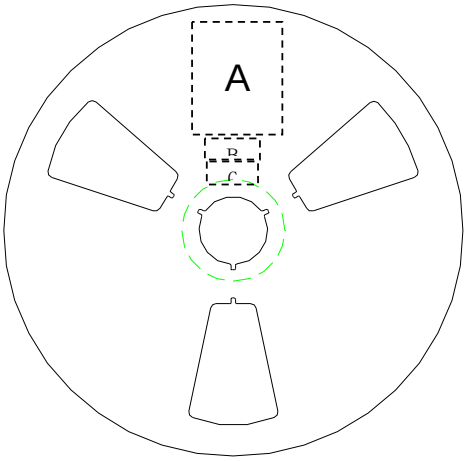
A. 7" reel all labels will be at cathode side of reel ;

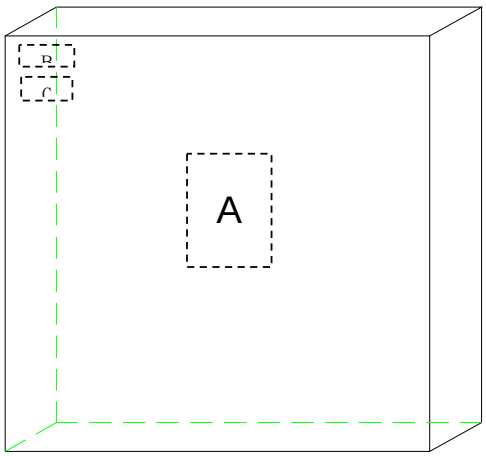



A:LRC label; B:Environment Label C:Halide free label

B. 13" reel



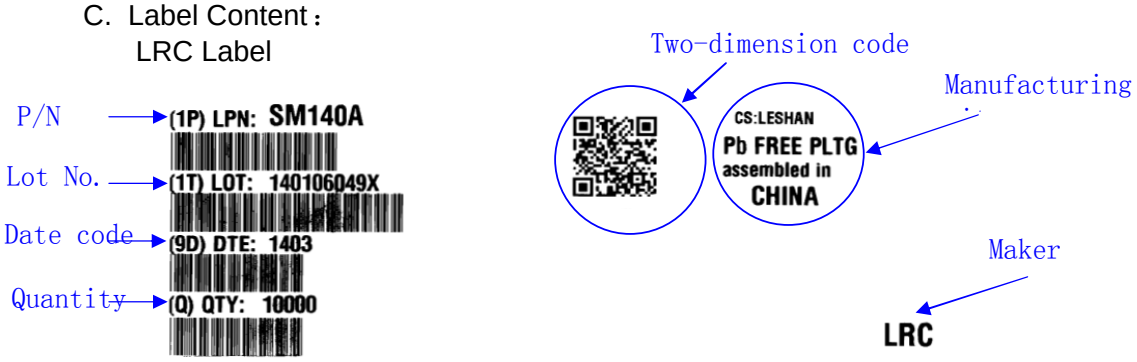

A:LRC label; B:Environment Labe C:Halide free label

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.



C. Label Content：

LRC Label




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

Environment Label




Halide-free Label



# FFMAF207L

## 4. Update Record

| 版次 | 更新记录 | 更新作者 | 更新日期 |
|---|---|---|---|
| 1 | 第一版 | 周杰 | 2014.04.25 |