

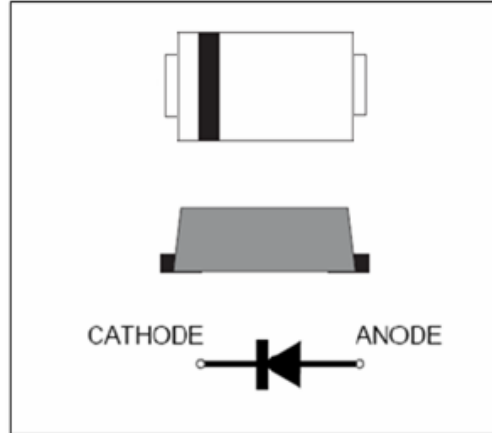
# FMAF401 thru FMAF407

## Surface Mount Glass Passivated Junction Rectifiers

### Reverse Voltage 50 to 1000V Forward Current 1.0A

#### 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 1.0 $\mu$ A
- \* High temperature soldering guaranteed: 260°C/10 seconds



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

#### 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 precaution:** None

#### Electrical Characteristic

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

Parameter Symbol	symbol	FMAF 401	FMAF 402	FMAF 403	FMAF 404	FMAF 405	FMAF 406	FMAF 407	Unit
Device marking code		M01	M02	M03	M04	M05	M06	M07	
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Maximum RSM voltage	$V_{RMS}$	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	V
Maximum average forward rectified current lead length at $T_c = 75^\circ\text{C}$ (Note 1)	$I_{F(AV)}$	1.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	30							A
Typical thermal resistance (Note1)	$R_{\theta JA}$ $R_{\theta Jc}$	150 25							$^\circ\text{C}/\text{W}$
Operating junction temperature range	$T_J$	-55 to +150							$^\circ\text{C}$
storage temperature range	$T_{STG}$	-65 to +175							$^\circ\text{C}$

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

Parameter Symbol	symbol	FMAF 401	FMAF 402	FMAF 403	FMAF 404	FMAF 405	FMAF 406	FMAF 407	Unit
Maximum instantaneous forward voltage at 1.0A	$V_F$	1.1							V
Maximum DC reverse current $T_J = 25^\circ\text{C}$ at rated DC blocking voltage $T_J = 125^\circ\text{C}$	$I_R$	5.0 100							$\mu\text{A}$
Typical junction capacitance at 4.0V, 1MHz (Note 1)	$C_J$	15.0							PF

NOTES:

1. 8.0mm<sup>2</sup> (.013mm thick) land areas

# FMAF401 thru FMAF407

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

Fig. 1 - Forward Current Derating Curve

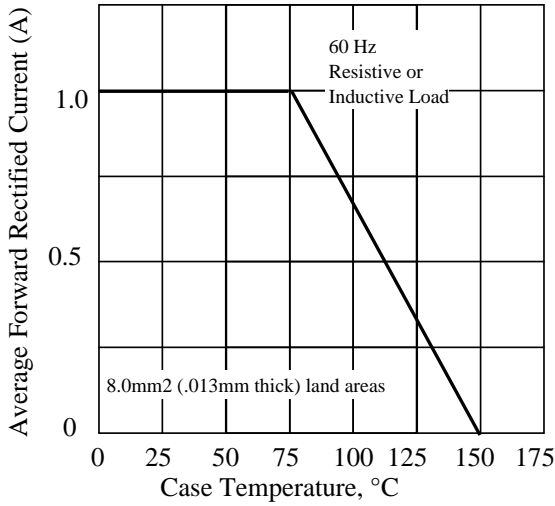


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

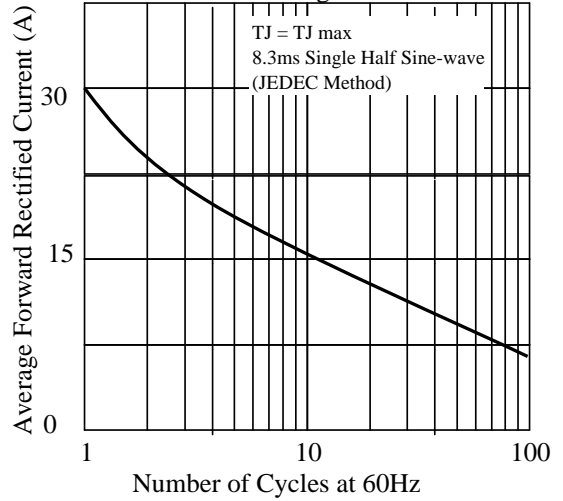


Fig 3. - Typical Instantaneous Forward Characteristics

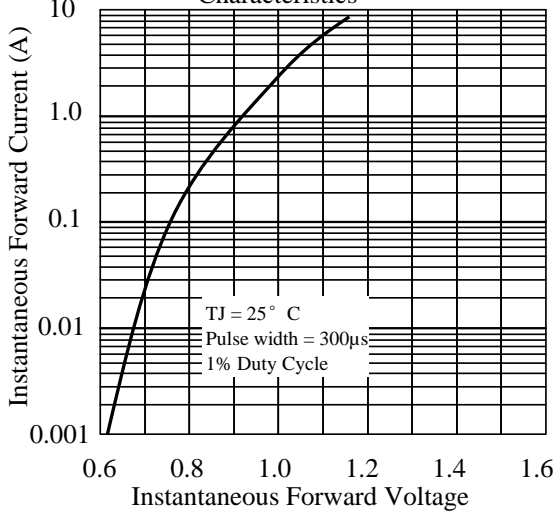


Fig 4. - Typical Reverse Characteristics

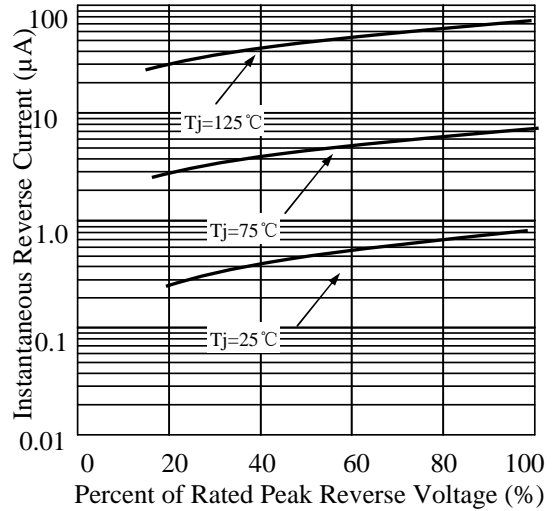


Fig 5. - typical transient thermal impedance

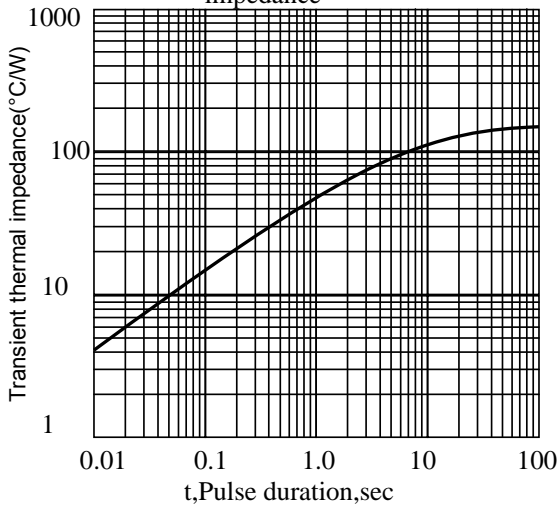
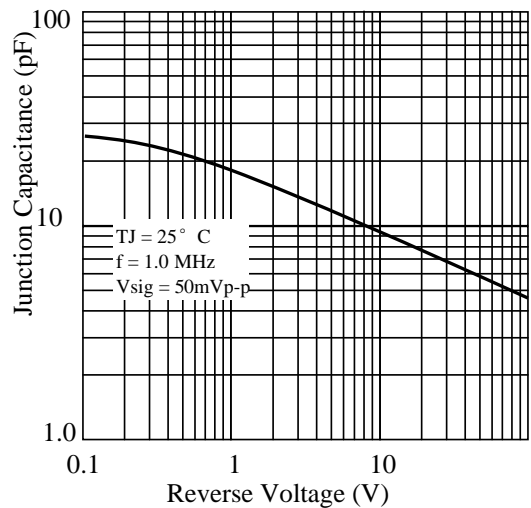


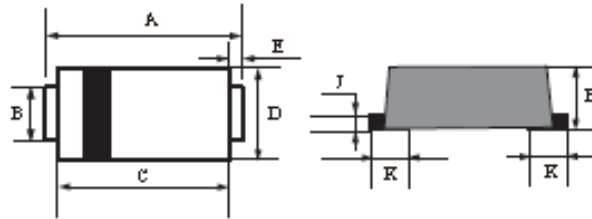
Fig 6. - Typical Junction Capacitance



## FMAF401 thru FMAF407

### 3. dimension:

SMA-FL

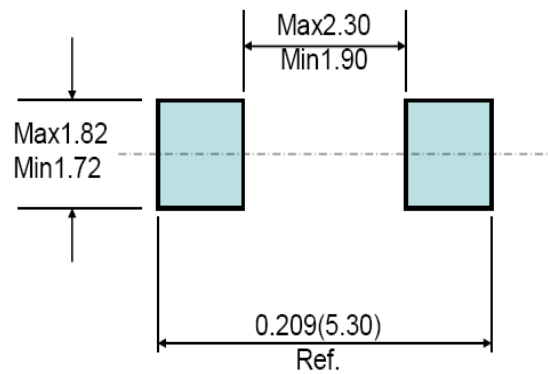


DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	4.4	4.8	0.173	0.189
B	1.3	1.5	0.051	0.059
C	3.3	3.7	0.130	0.146
D	2.3	2.7	0.091	0.106
E	0.90Typ		0.035Typ	
H	0.9	1.2	0.036	0.047
J	0.11	0.21	0.005	0.009

Suggested solder pad layout

Mounting Pad Layout

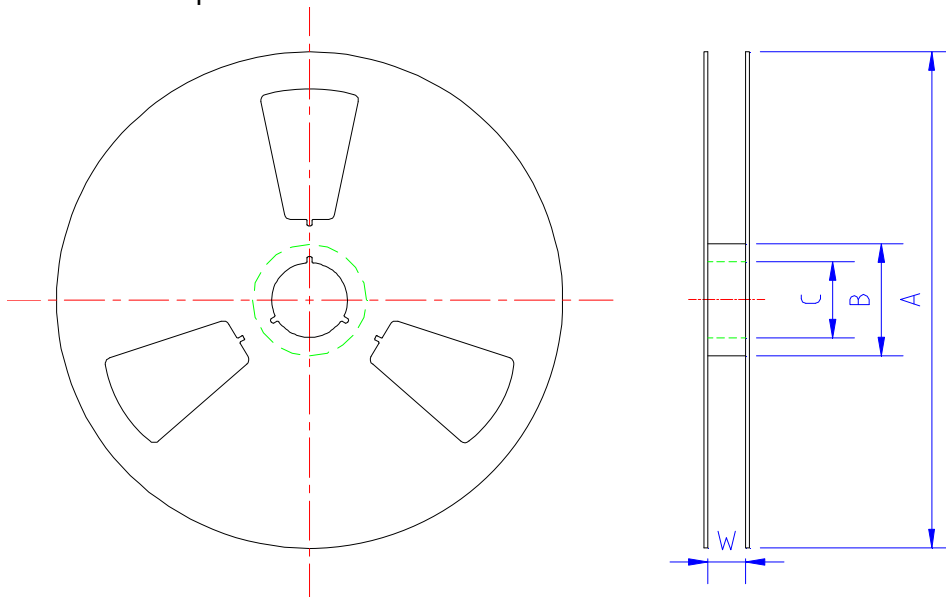
SMA-FL



5.1 、 SMD Packing Reel Spec & Packing Quantity

5.1.1 Reel Packing

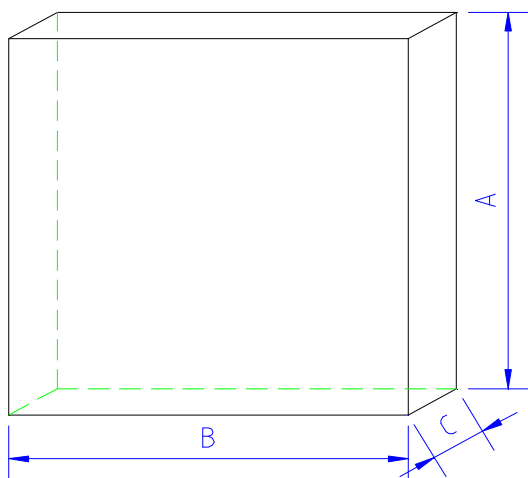
A. Reel Spec



unit: mm

SPEC	A	B	C	W	Quantity/Reel
SMA 7" reel	177.0±2.0	54.0±0.5	13.0±0.5	13.2±0.2	2K
SMA13" reel	330.0±2.0	75.0±0.5	13.0±0.5	13.2±0.2	5K
SMA-FL13" reel	330.0±2.0	75.0±0.5	13.0±0.5	13.2±0.2	5K
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



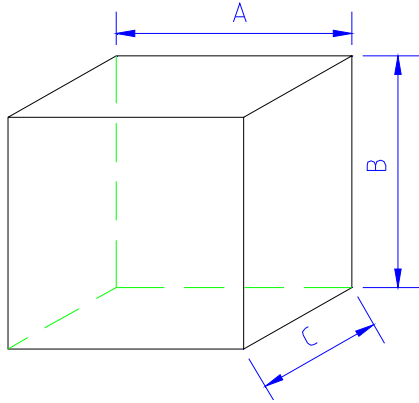
unit: mm

size	A	B	C
	335±5.0	335±2.0	40±1.0

as per above packing

Spec	Q' ty/Box
SMA13" reel	10K
TO277 13" reel	10K
SMB-FL 13" reel	10K

C. 7" reel packing box



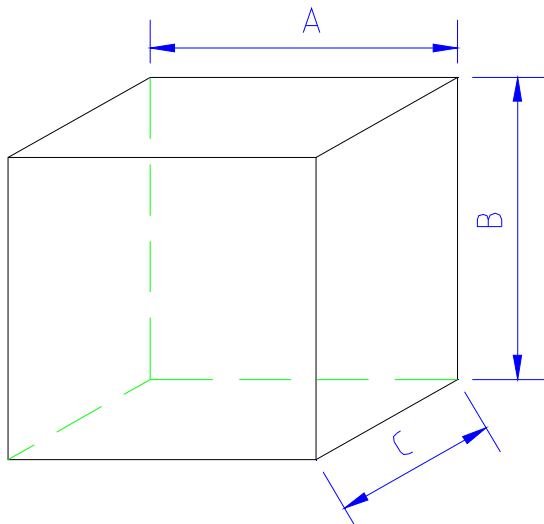
unit: mm

	A	B	C
SMA/SMA-FL	188±2.0	188±2.0	138±2.0
SOD123FL SOD323HE	186±2.0	139±2.0	185±2.0

as per above packing

	Q' ty/Box
SMA/SMA-FL	16K
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
SMA/SMA-FL 7" reel	80K
SMA13"reel	80K
SMA-FL13"reel	80K
TO277 13" reel	80K
SMB-FL 13" reel	80K

unit: mm

	A	B	C
SOD123FL SOD323HE	455±2.0	400±2.0	410±2.0

as per above packing

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

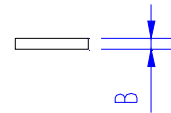
5.1.2 Tape Spec

A. Cover Tape



unit: mm

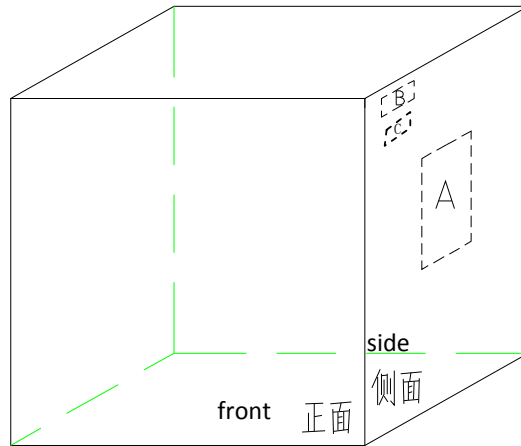
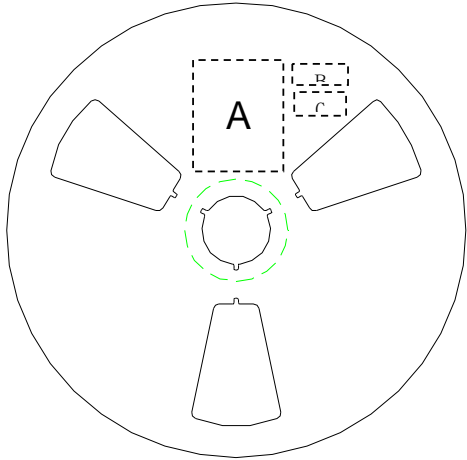
	A	B
SMA /SMA-FL SMB-FL /TO277	9.5±0.10	0.062±0.007
SOD123FL SOD323HE	5.4±0.10	





5.2、SMD Power Diode General Packing Spec

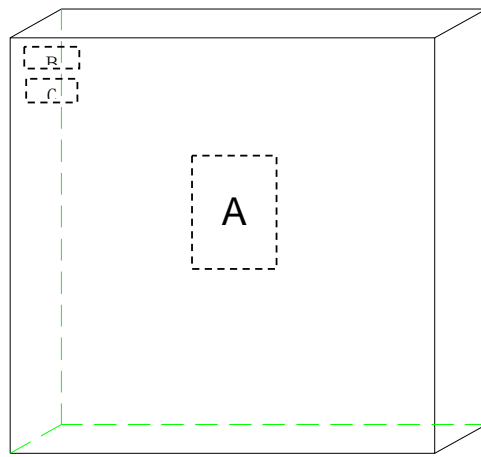
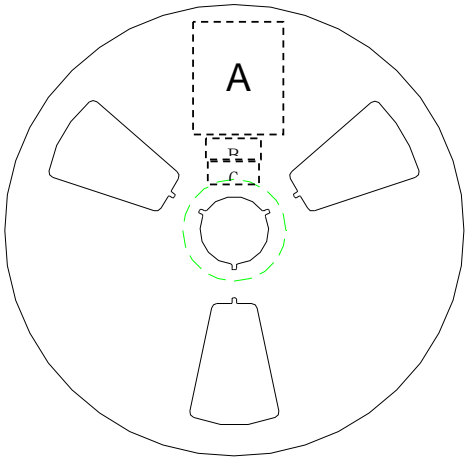
A. 7" reel all labels will be at cathode side of reel ;



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:

Power Diode SMD Package Packing Spec

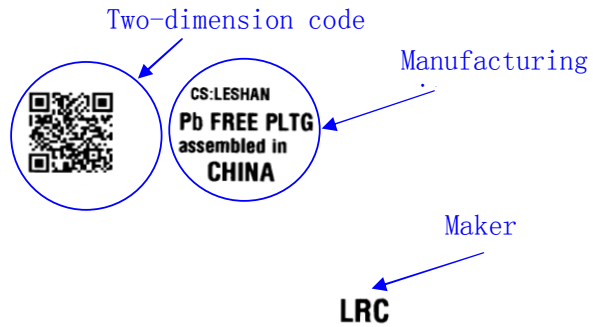
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C. Label Content :  
LRC Label

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

Environment Label



Halide-free Label





## FMAF401 thru FMAF407

### 4. Update Record

版次	更新记录	更新作者	更新日期
1	第一版	周杰	2014.05.09