

EFMBF201 thru EFMBF208

Surface Mount Glass Passivated Super Fast Rectifiers

Reverse Voltage 50 to 600V Forward Current 2.0A

FEATURES

- * Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- * High temperature metallurgically bonded construction
- * For use in high frequency rectifier circuits
- * Fast switching for high efficiency
- * Cavity-free glass passivated junction
- * Capable of meeting environmental standards of MIL-S-19500
- * 2.0 A operation at $T_C=75^{\circ}\text{C}$ with no thermal runaway
- * Typical IR less than $1.0\mu\text{A}$
- * High temperature soldering guaranteed: $260^{\circ}\text{C}/10$ seconds

Mechanical Data

Case: JEDEC SMB-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

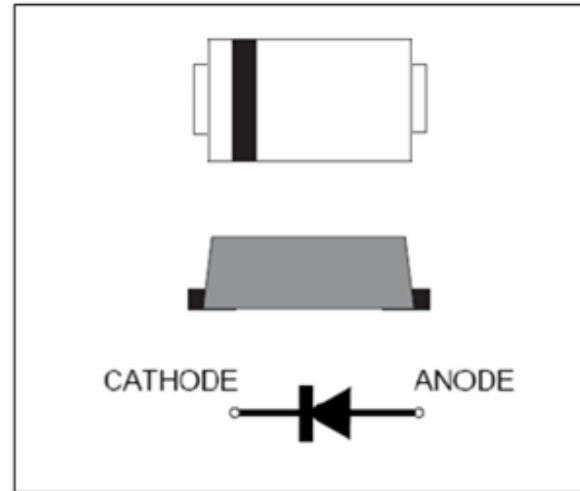
Weight: 0.066 g

Handling precaution None

Electrical Characteristic

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

Parameter Symbol	symbol	EFMB F201	EFMB F202	EFMB F203	EFMB F204	EFMB F205	EFMB F206	EFMB F207	EFMB F208	Unit
Device marking code		EF201	EF202	EF203	EF204	EF205	EF206	EF207	EF208	
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	150	200	300	400	500	600	V
Maximum RMS voltage	V_{RMS}	35	70	105	140	210	280	350	420	V
Maximum DC blocking voltage	V_{DC}	50	100	150	200	300	400	500	600	V
Maximum average forward rectified current at $T_C = 75^{\circ}\text{C}$	$I_F(AV)$	2.0								A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	50								A
Typical thermal resistance (Note 1)	$R_{\theta JA}$ $R_{\theta JC}$	135 25								$^{\circ}\text{C}/\text{W}$
Operating junction and storage temperature range	T_J, T_{STG}	-50 to $+150$								$^{\circ}\text{C}$



we declare that the material of product is halogen free (green epoxy compound).

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

Parameter Symbol	symbol	EFMB F201	EFMB F202	EFMB F203	EFMB F204	EFMB F205	EFMB F206	EFMB F207	EFMB F208	Unit
Maximum instantaneous forward voltage at 2.0A	V _F	0.95				1.25		1.7		V
Maximum DC reverse current TA = 25°C at rated DC blocking voltage TJ = 125°C	IR	5.0 100								µA
Typical reverse recovery time (Note 1)	trr	35								ns
Typical junction capacitance at 4.0V, 1MHz	CJ	15.0								PF

NOTES:

1. $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $I_{RR} = 0.25\text{A}$
2. 8.0mm^2 ($.013\text{mm}$ thick) land areas

EFMBF201 thru EFMBF208

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

Fig. 1 - Forward Current Derating Curve

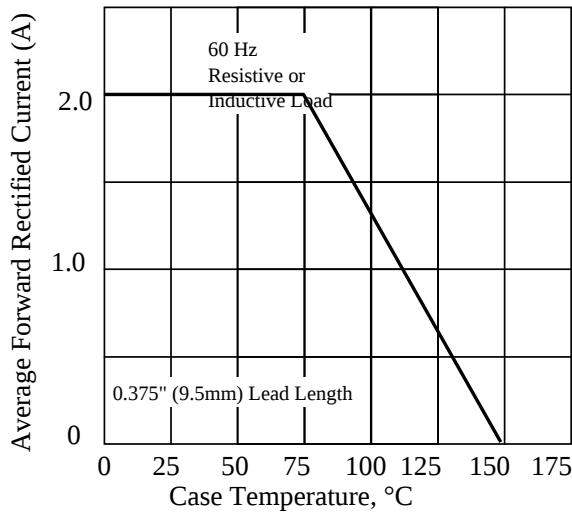


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

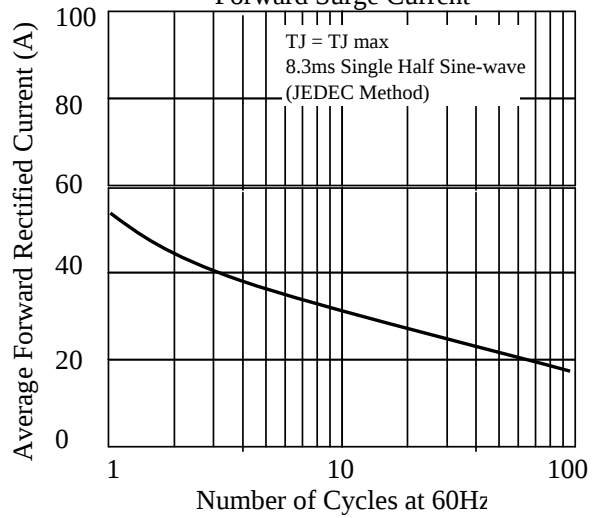


Fig 3. - Typical Instantaneous Forward Characteristics

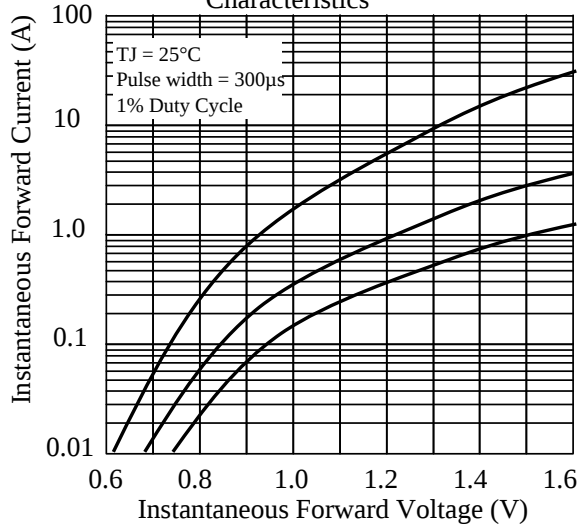


Fig 4. - Typical Reverse Characteristics

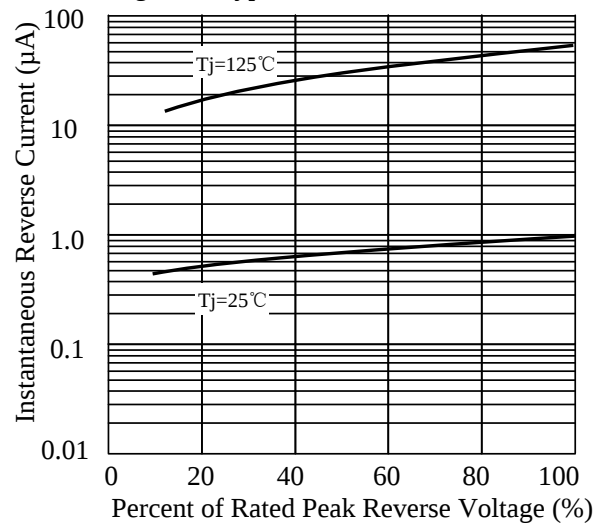


Fig 5. - typical transient thermal impedance

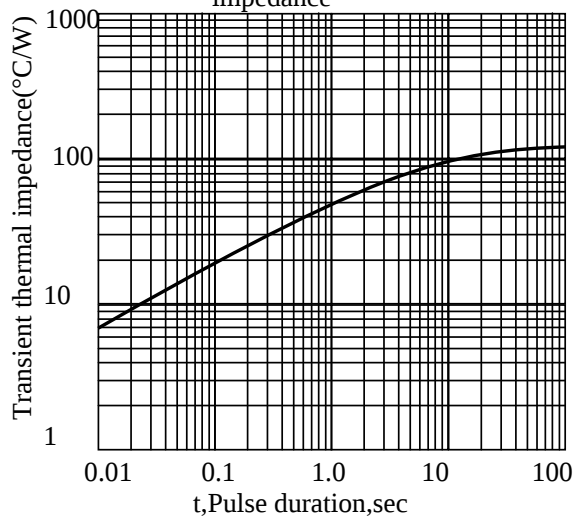
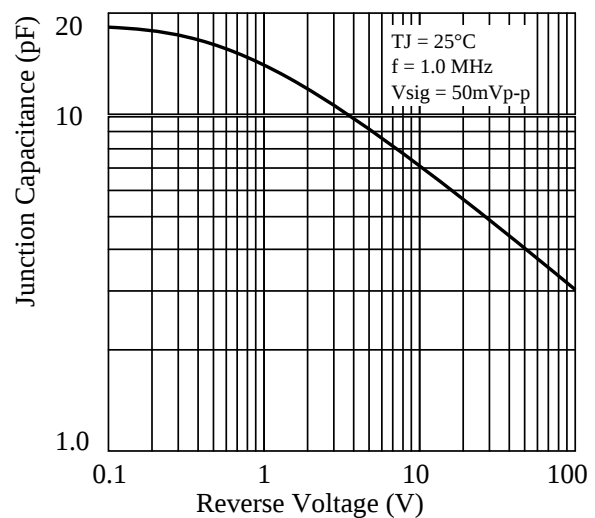


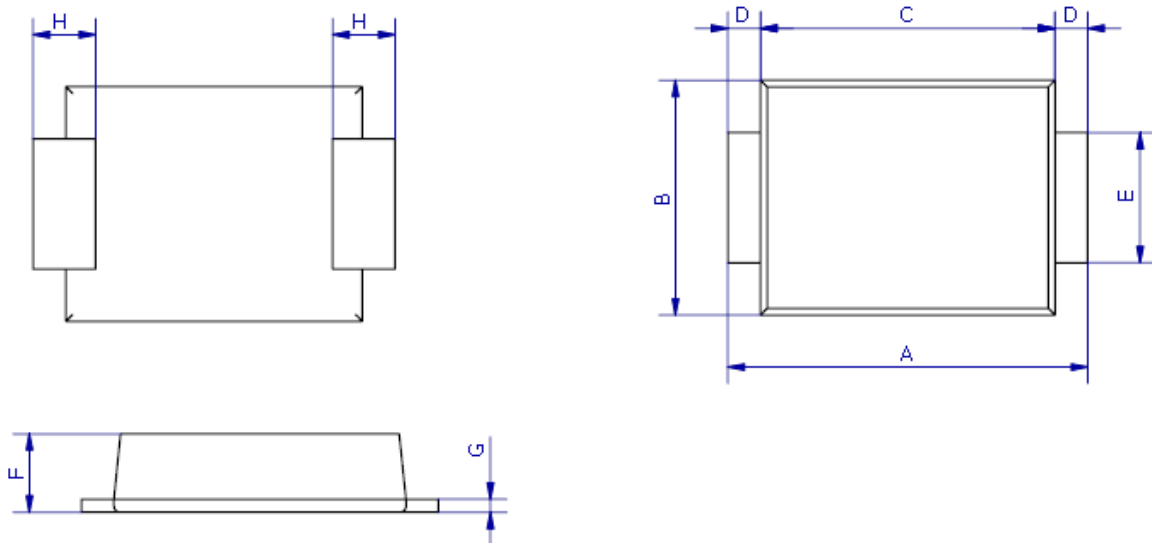
Fig 6. - Typical Junction Capacitance



EFMBF201 thru EFMBF208

3. dimension:

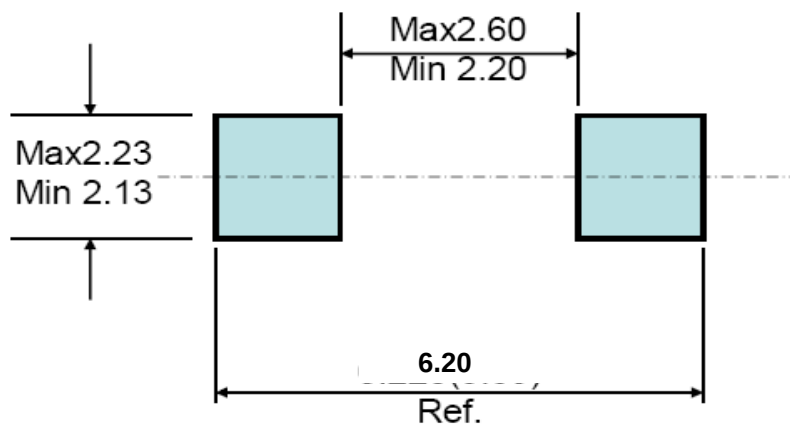
SMB-FL



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	5.3	5.7	0.209	0.224
B	3.4	3.8	0.134	0.150
C	4.3	4.7	0.169	0.185
D	0.45Typ		0.018Typ	
E	1.9	2.1	0.0748	0.08268
F	1.05	1.40	0.04134	0.05512
G	0.2	0.3	0.00591	0.00984
H	0.95Typ		0.037Typ	

Mounting Pad Layout

--- SMB-FL

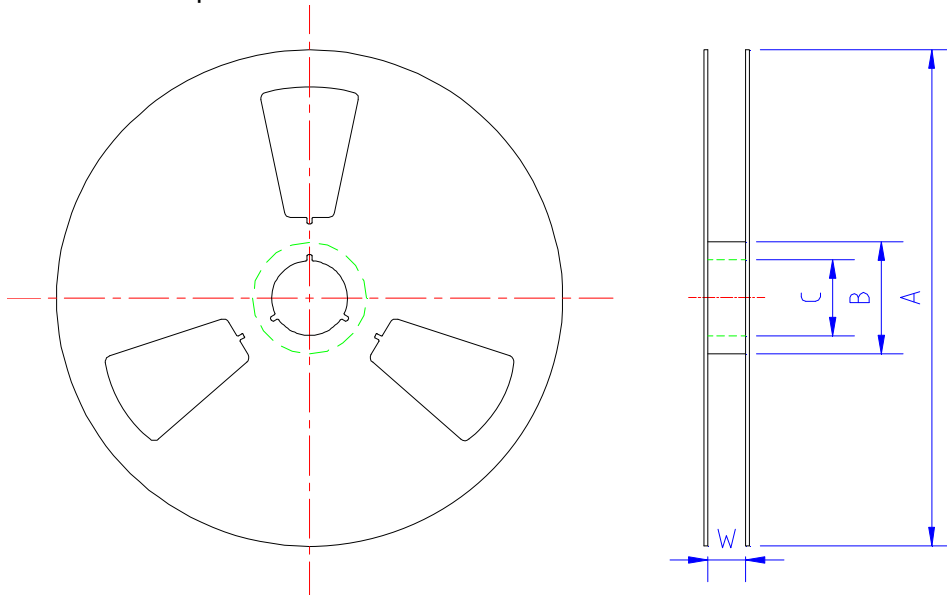


Title: Power Diode SMD Package Pa cking Spec	DOC NO.: WI-258
	Version: 5 Modification: 0
	Page: 2

5.1 、 SMD Packing Reel Spec & Packing Quantity

5.1.1 Reel Packing

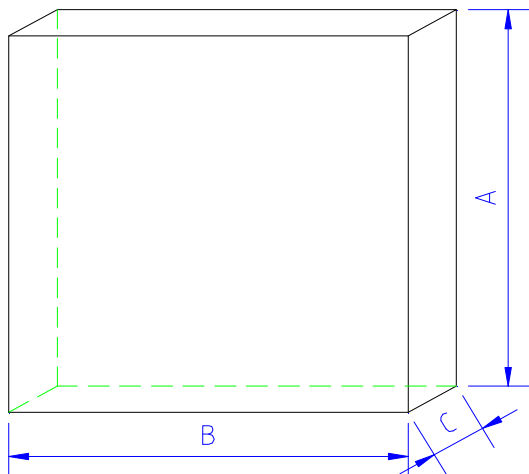
A. Reel Spec



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

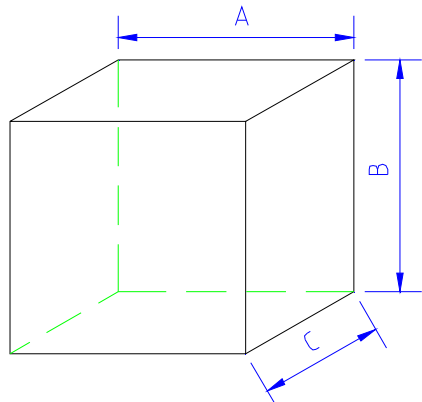
	A	B	C
size	335±5.0	335±2.0	40±1.0

as per above packing

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

Title: Power Diode SMD Package Packing Spec	DOC NO.: WI-258
	DOC NO.: WI-258
	Page: 3

C. 7" reel packing box



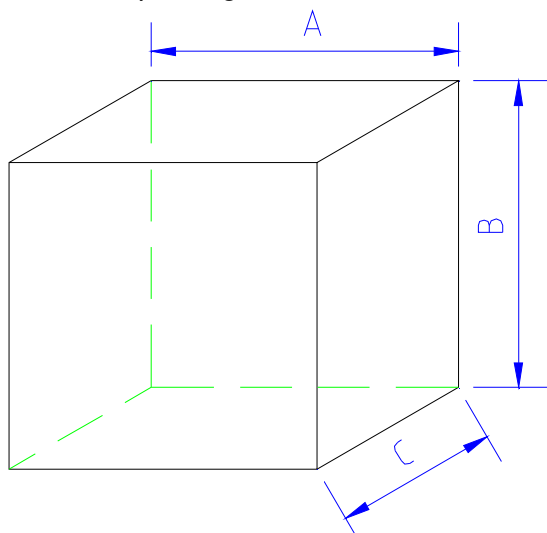
unit: mm

	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

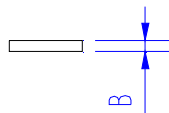
	A	B	C
SMA-FL SOD123FL SOD323HE	455±2.0	400±2.0	410±2.0

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

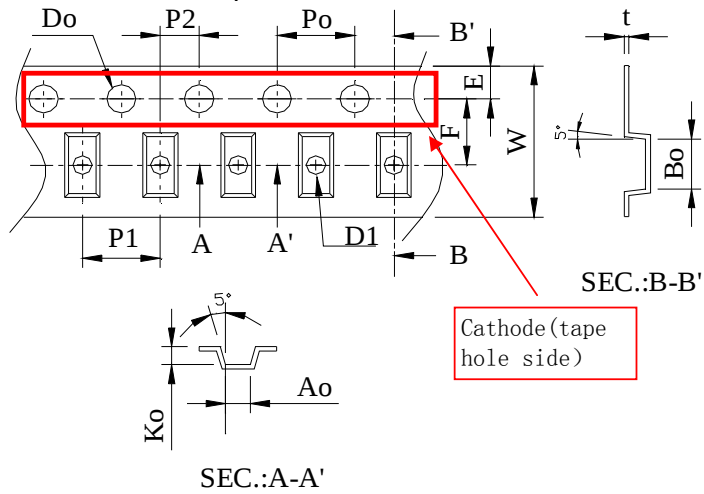


unit: mm

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

Title: Power Diode SMD Package Packing Spec	DOC NO.: WI-258
	Version: 5 Modification: 0
	Page: 4

B. Carrier Tape

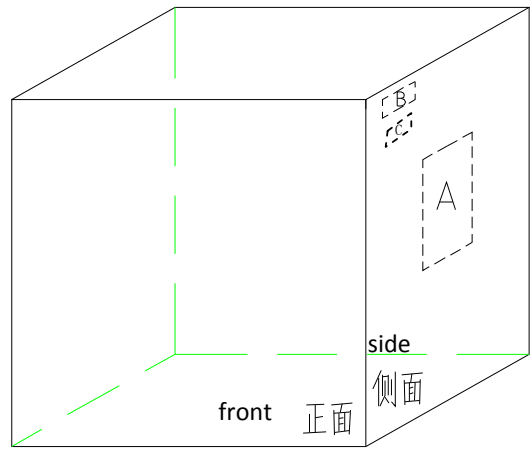
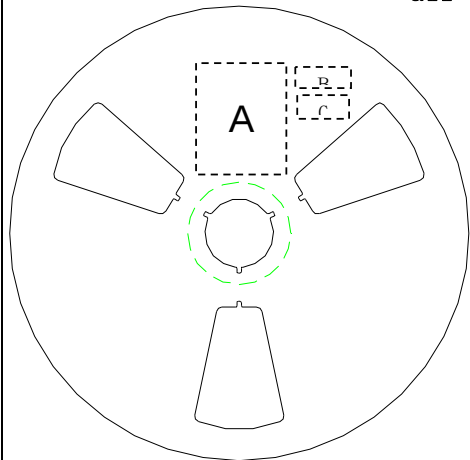


Item	SOD323HE	SOD123FL	SMA-FL	SMB-FL	TO277
W	8±0.3	8±0.3	12±0.3	12±0.3	12±0.3
P1	4±0.1	4±0.1	4±0.1	8±0.1	8±0.1
E	1.75±0.1	1.75±0.1	1.75±0.1	1.75±0.1	1.75±0.1
F	3.5±0.05	3.5±0.05	5.5±0.05	5.5±0.05	5.5±0.05
D0	1.55±0.05	1.55±0.05	1.55±0.05	1.55±0.05	1.55±0.05
D1	1.1±0.1	1.1±0.1	1.5±0.1	1.55±0.05	1.5±0.1
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	

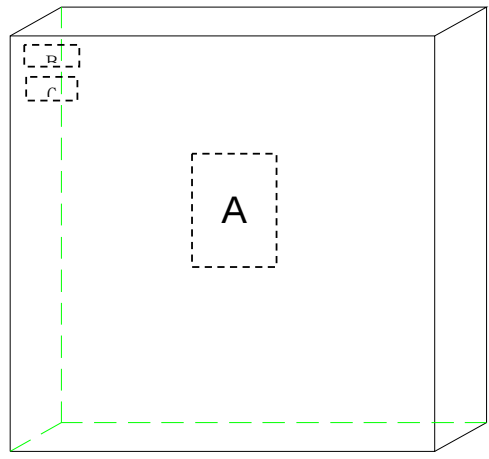
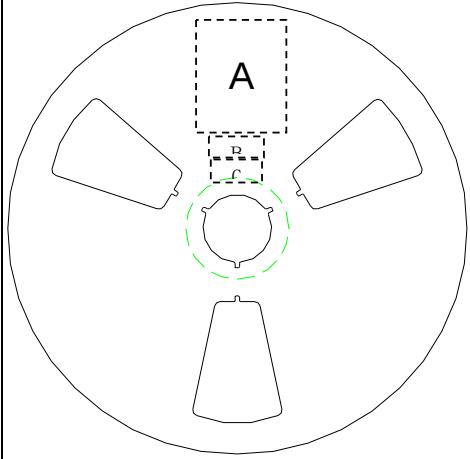
5.2、SMD Power Diode General Packing Spec

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: Power Diode SMD Package Packing Spec	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 Two-dimension code Manufacturing Maker LRC lot: 140106049X: 140106---2014/1/6; 049----lot number:49; X: product code Environment Label Halide-free Label	

EFMBF201 thru EFMBF208

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. 29