

SBR1045

Schottky Barrier Rectifiers

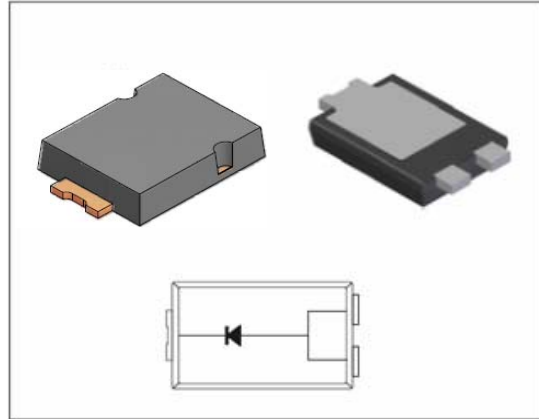
Reverse Voltage 45V Forward Current 10A

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: 0.108 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	SBR1045	Unit
device marking code		S1045	
Maximum repetitive peak reverse voltage	V_{RRM}	45	V
Maximum RMS voltage	V_{RMS}	31.5	V
Maximum DC blocking voltage	V_{DC}	45	V
Maximum average forward rectified current at $T_c = 75^\circ\text{C}$	$I_{F(AV)}$	10.0	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	300	A
Typical thermal resistance (Note 1)	$R_{\theta JC}$	8	°C/W
	$R_{\theta JL}$	15	
	$R_{\theta JA}$	31	
Typical thermal resistance (Note 2)	$R_{\theta JA}$	135	°C/W
Operating junction temperature range	T_J	-55 to +150	°C
Storage temperature range	T_{STG}	-55 to +175	°C

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

Parameter Symbol	symbol	SBR1045	Unit
Maximum instantaneous forward voltage at 10A at 25°C	V_F	0.55	V
Maximum DC reverse current $T_A = 25^\circ\text{C}$ at rated DC blocking voltage $T_j = 100^\circ\text{C}$	IR	0.3	mA
		15.0	
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. FR-4 PCB, 2oz. Copper.

SBR1045

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

Fig. 1 - Forward Current Derating Curve

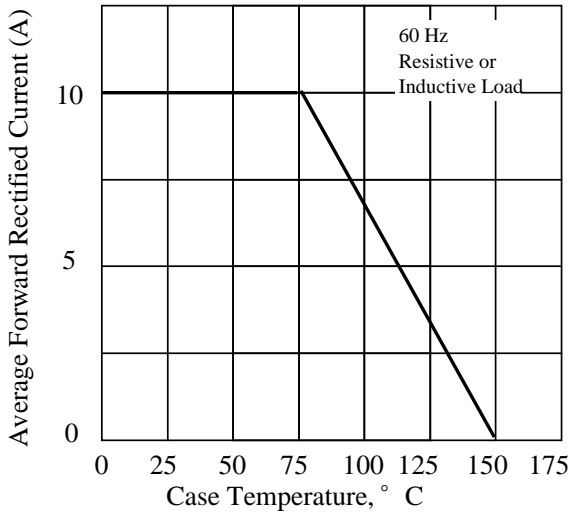


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

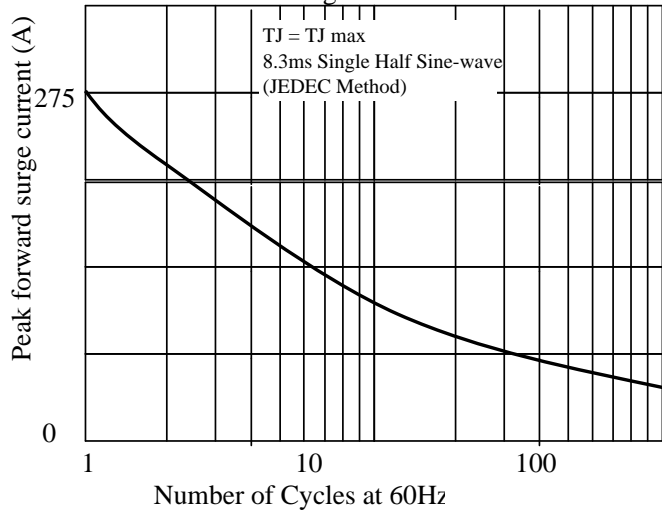


Fig 3. - Typical Instantaneous Forward Characteristics

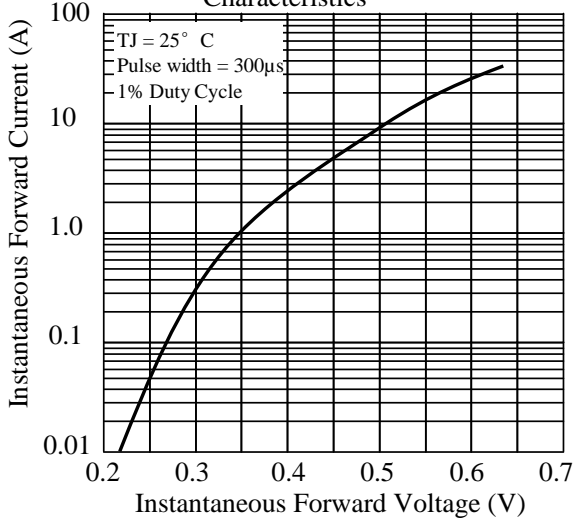


Fig 4. - Typical Reverse Characteristics

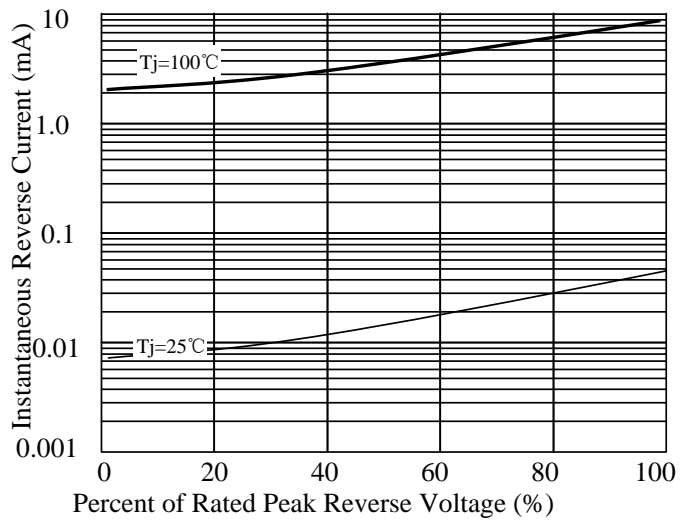


Fig 5. - typical transient thermal impedance (Note 2)

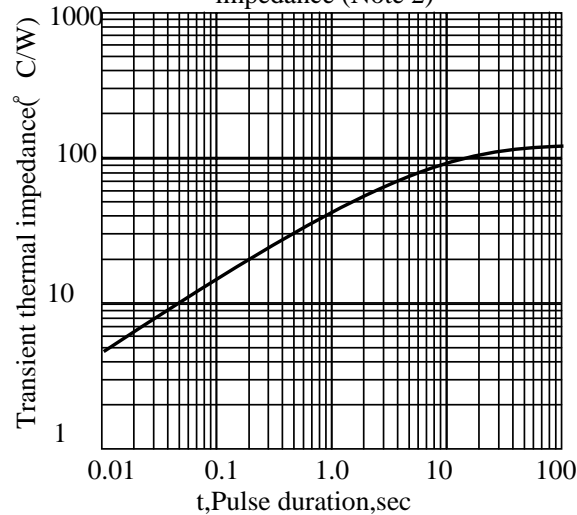
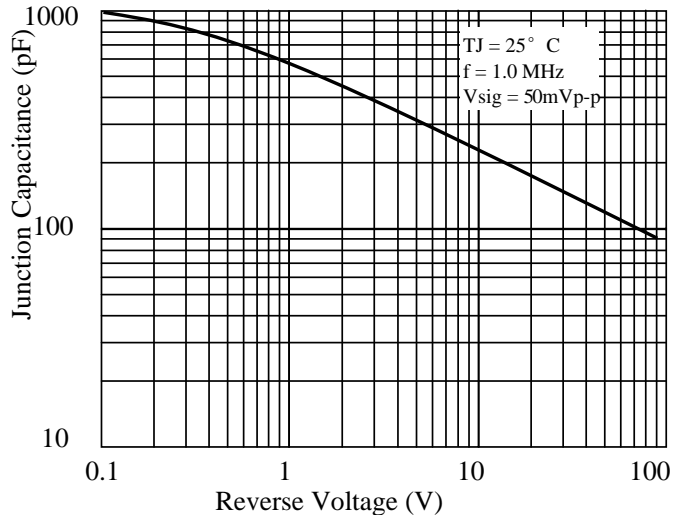


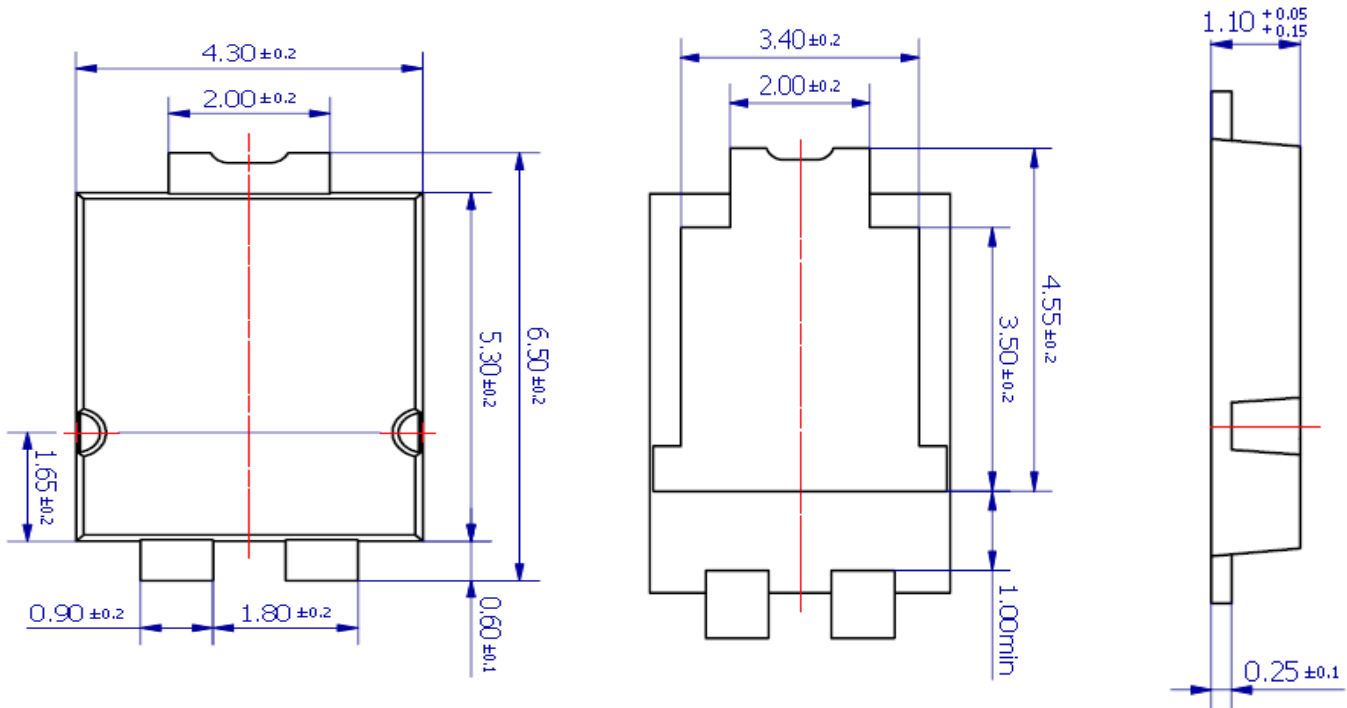
Fig 6. - Typical Junction Capacitance



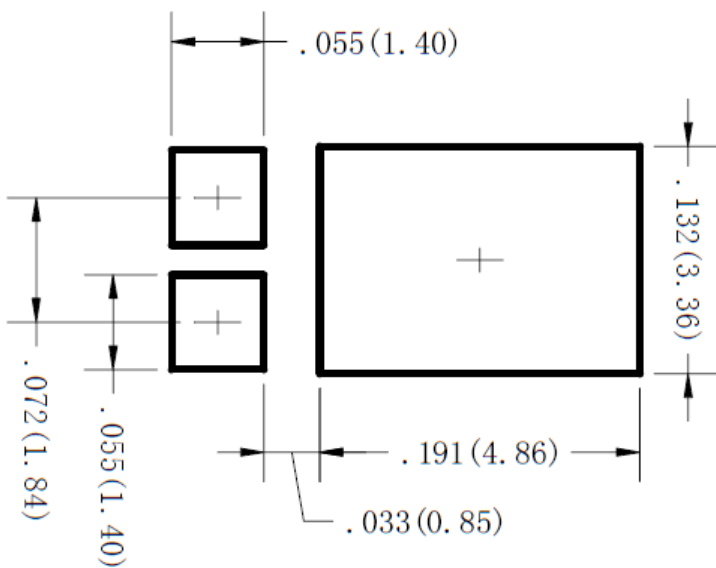
SBR1045

3. dimension:

TO-277A

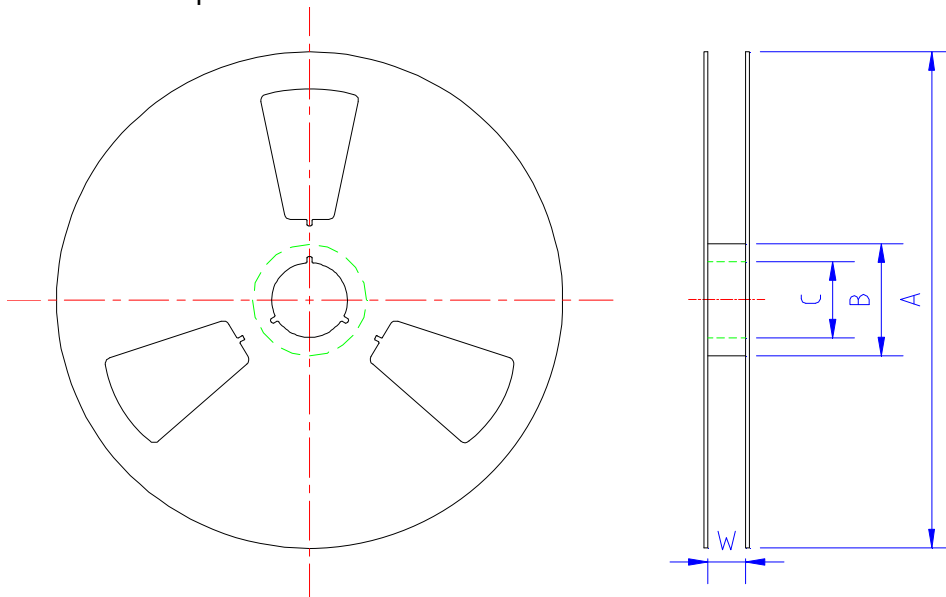


Mounting PAD layout



5.1 、 SMD Packing Reel Spec & Packing Quantity

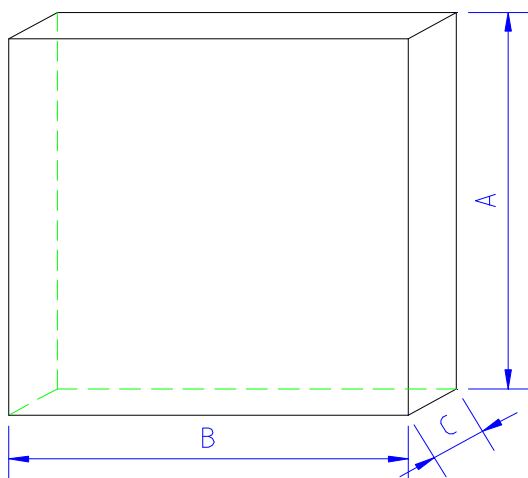
5.1.1 Reel Packing
A. Reel Spec



unit: mm

SPEC	A	B	C	W	Quantity/Reel
SMA 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
SMB13" reel	330.0±2.0	75.0±0.5	13.0±0.5	13.5±0.5	3K
SMC13" reel	330.0±2.0	75.0±0.5	13.0±0.5	17.0±0.5	3K
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
SMB13" reel	6K
SMC13" reel	6K
TO277 13" reel	10K
SMB-FL 13" reel	10K

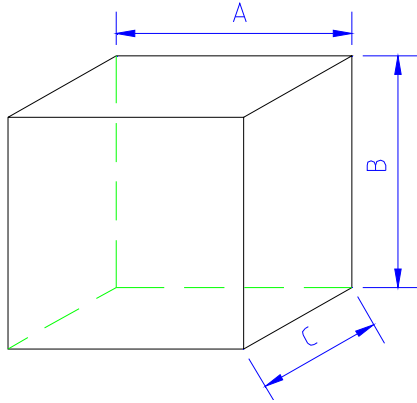
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C. 7" reel packing box



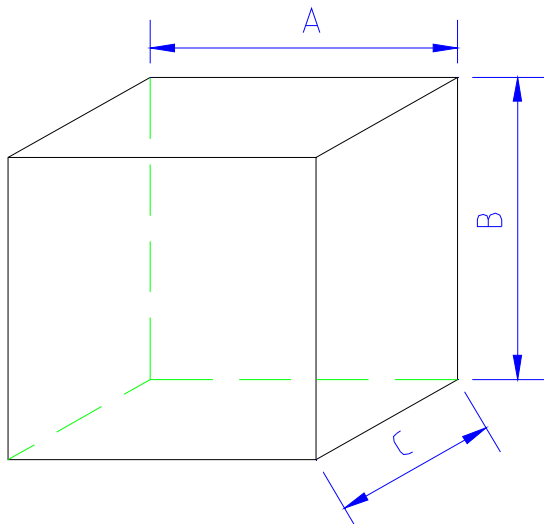
unit: mm

	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
SMB13"reel	48K
SMC13"reel	36K
SMA-FL13"reel	80K
TO277 13" reel	80K
SMB-FL 13" reel	80K

unit: mm

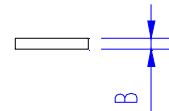
	A	B	C
SOD123FL SOD323HE	455±2.0	400±2.0	410±2.0

as per above packing

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

5.1.2 Tape Spec

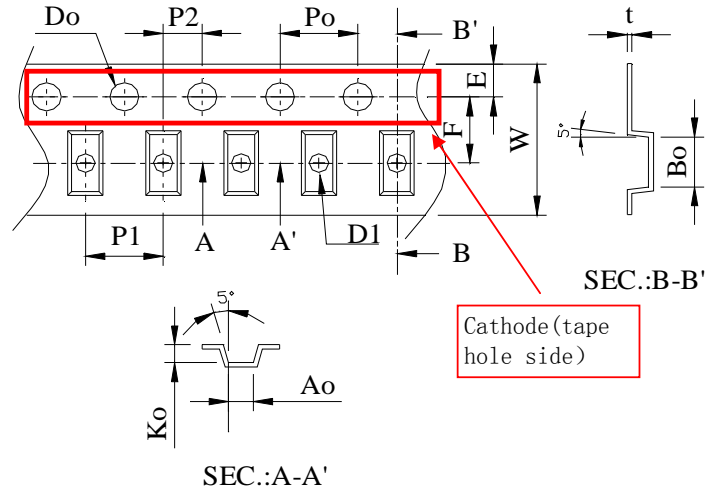
A. Cover Tape



unit: mm

	A	B
SMA /SMA-FL SMB-FL /SMB /TO277	9.5±0.10	0.062±0.007
SMC	13.30±0.10	
SOD123FL SOD323HE	5.4±0.10	

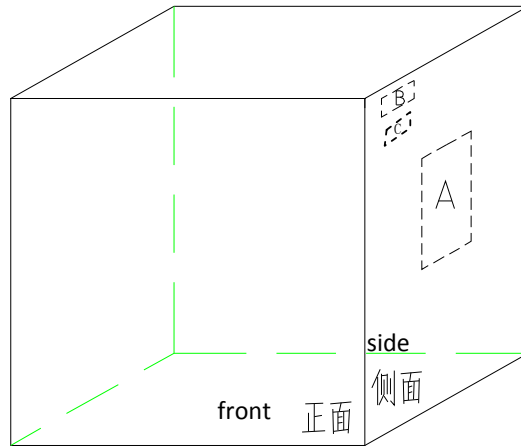
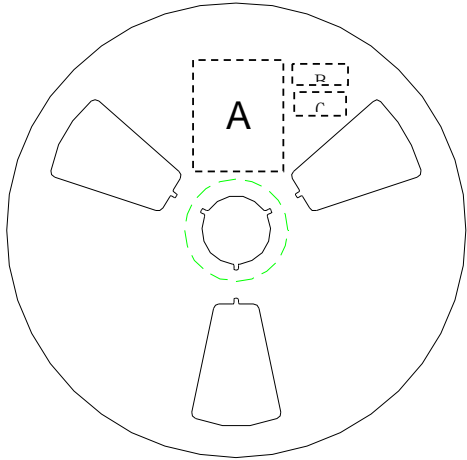
B. Carrier Tape



Item	SOD323HE	SOD123FL	SMA	SMA-FL	SMB	SMB-FL	TO277	SMC
W	8±0.3	8±0.3	12±0.3	12±0.3	12±0.3	12±0.3	12±0.3	16±0.3
P1	4±0.1	4±0.1	4±0.1	4±0.1	8±0.1	8±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	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	5.5±0.05	5.5±0.05	7.5±0.05
D0	1.55±0.05	1.55±0.05	1.55±0.05	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	1.5±0.1	1.55±0.05	1.55±0.05	1.5±0.1	1.55±0.05
P0	4±0.1	4±0.1	4±0.1	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	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	40±0.2	40±0.2	40±0.2
A0	1.45±0.1	1.95±0.1	2.79±0.1	2.83±0.1	3.8±0.1	3.8±0.1	4.3±0.1	6.05±0.1
B0	2.75±0.1	3.95±0.1	5.33±0.1	4.75±0.1	5.4±0.1	5.75±0.1	6.8±0.1	8.31±0.1
K0	0.80±0.1	1.30±0.1	2.36±0.1	1.42±0.1	2.45±0.1	1.4±0.1	1.35±0.1	2.54±0.1
T	0.25±0.05	0.25±0.05	0.25±0.05	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

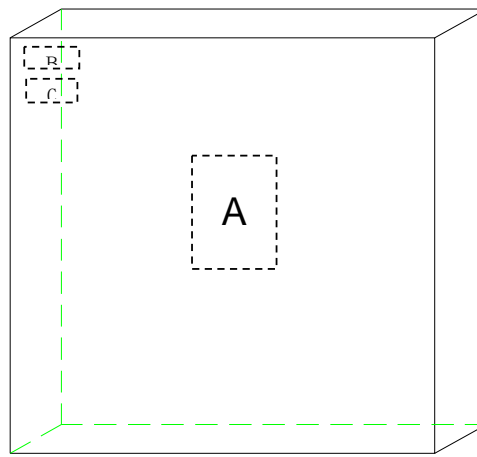
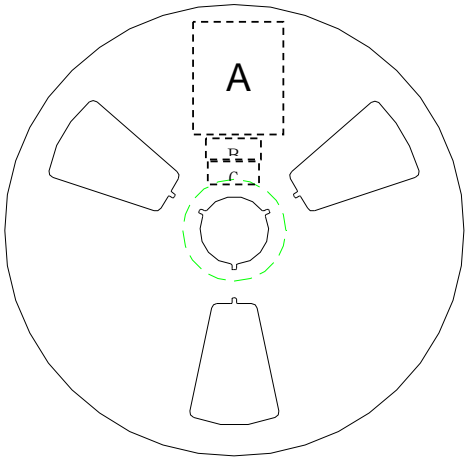
A. 7" reel all labels will be at cathode side of reel ;



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.



标题:

Power Diode SMD Package Packing Spec

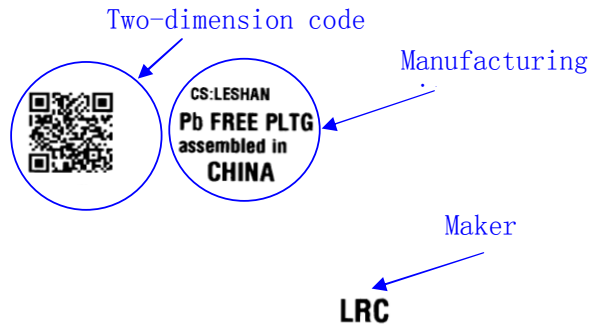
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C. Label Content :
LRC Label

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



SBR1045

4. Update Record

版次	更新记录	更新作者	更新日期
1	第一版	周杰	2013-8-7
2	更新产品尺寸为T0-277A	周杰	2014-1-17

单击下面可查看定价，库存，交付和生命周期等信息

[>>LRC\(乐山无线电\)](#)