

LMBR0520LFT1G

Schottky Barrier Rectifiers

Reverse Voltage 20 Forward Current 0.5A

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: SOD123-FL/MINI SMA

molded plastic over sky die

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

Polarity: Color band denotes cathode end

Mounting Position Any

Weight 0.0155 g

Handling precaution None

1. Electrical Characteristic

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

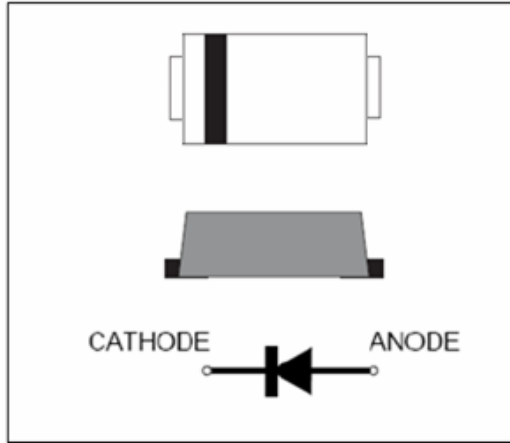
Parameter Symbol	symbol	LMBR0520LFT1G	Unit
device marking code		052L	
Maximum repetitive peak reverse voltage	V_{RRM}	20	V
Maximum RMS voltage	V_{RMS}	14	V
Maximum DC blocking voltage	V_{DC}	20	V
Maximum average forward rectified current at TC = 75°C	$I_{F(AV)}$	0.5	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	30	A
Typical thermal resistance (Note 1)	$R_{\theta JA}$	110	°C/W
Operating junction temperature range	T_J	-55 to +125	°C
storage temperature range	T_{STG}	-65 to +175	°C

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

Parameter Symbol	symbol	LMBR0520LFT1G	Unit
Maximum instantaneous forward voltage at ($I_F = 0.1 A, T_J = 25^\circ C$) ($I_F = 0.5 A, T_J = 25^\circ C$)	V_F	0.3 0.385	V
Maximum DC reverse current at rated DC blocking voltage $T_A = 25^\circ C$ $T_j = 100^\circ C$	I_R	0.25 8	mA
Typical junction capacitance at 4.0V, 1MHz	C_J	160	PF

NOTES:

1. 8.0mm² (.013mm thick) land areas



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

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

Fig. 1 - Forward Current Derating Curve

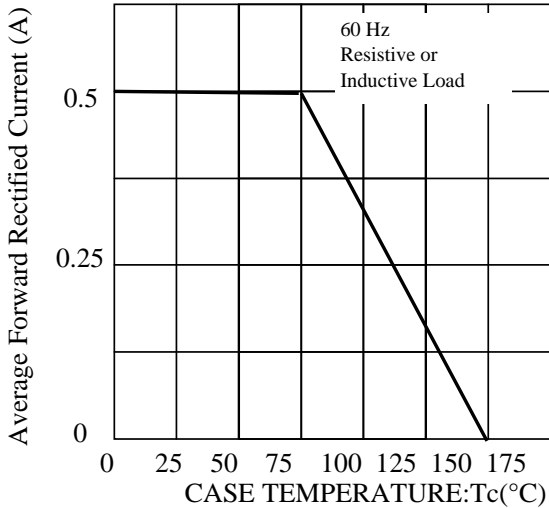


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

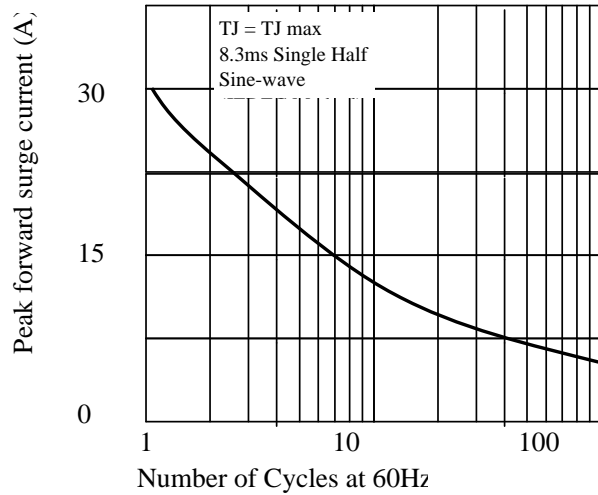


Fig. 3 - Typical Instantaneous Forward Characteristics

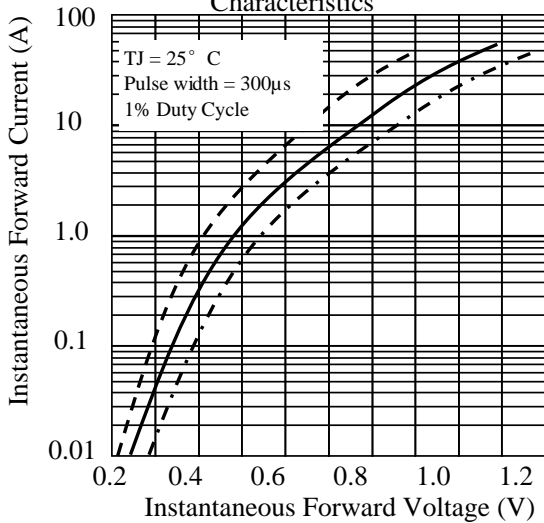


Fig. 4 - Typical Reverse Characteristics

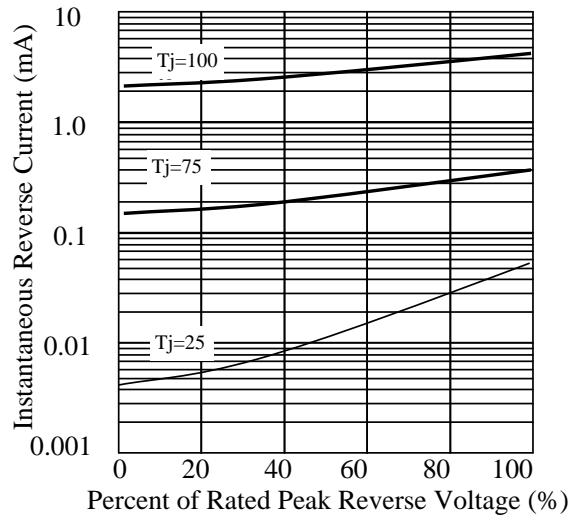


Fig. 5 - typical transient thermal impedance

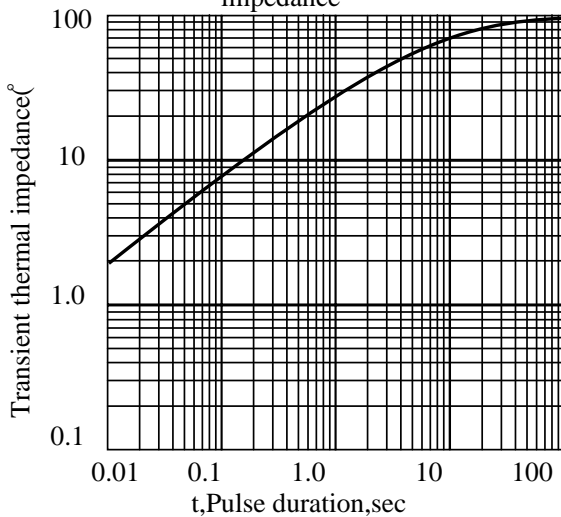
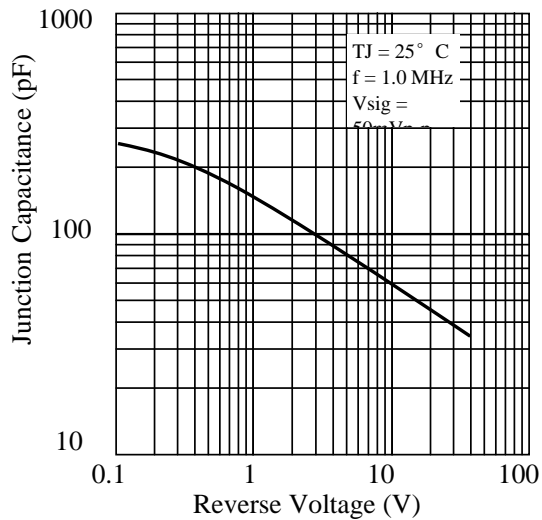


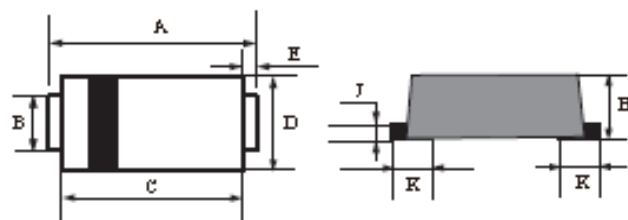
Fig. 6 - Typical Junction Capacitance



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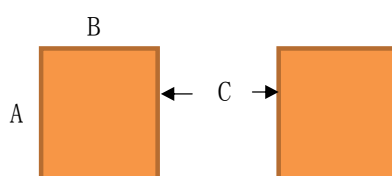
3. dimension:

SOD123-FL



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	3.5	3.9	0.138	0.159
B	0.75	0.95	0.029	0.037
C	2.6	3.0	0.103	0.119
D	1.6	2.0	0.063	0.079
E	0.45Typ		0.018Typ	
H	0.9	1.2	0.036	0.047
J	0.12	0.22	0.005	0.009
K	0.8Typ		0.032Typ	

Suggested solder pad layout



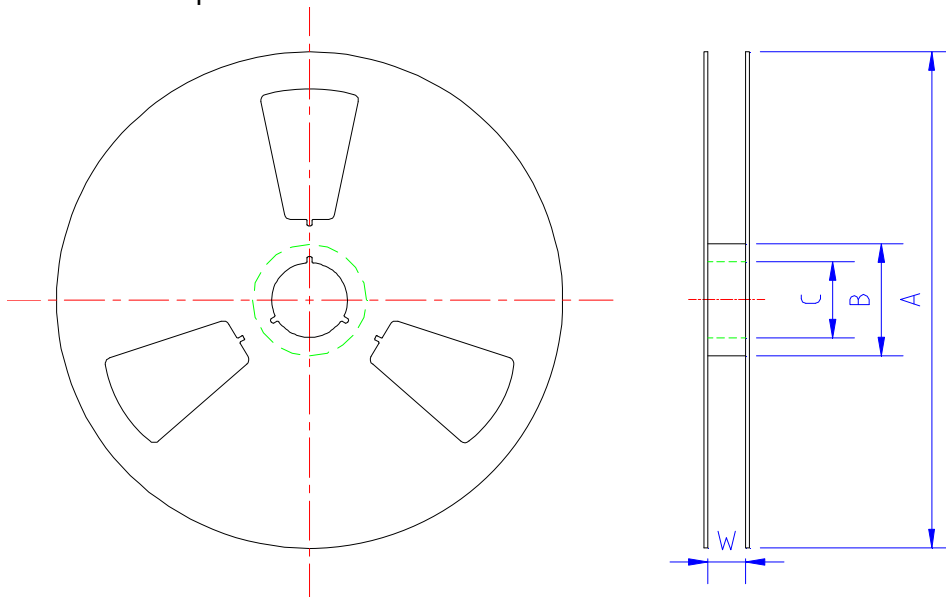
Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SOD123-FL	0.044(1.10)	0.040(1.00)	0.079(2.00)

5.1 、 SMD Packing Reel Spec & Packing Quantity

5.1.1 Reel Packing

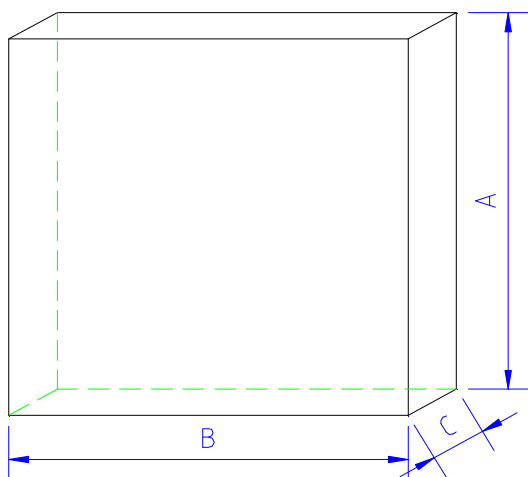
A. Reel Spec



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



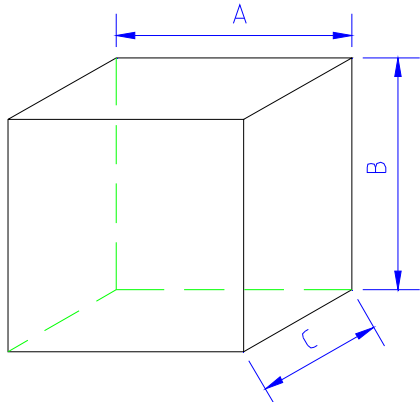
unit: mm

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

C. 7" reel packing box



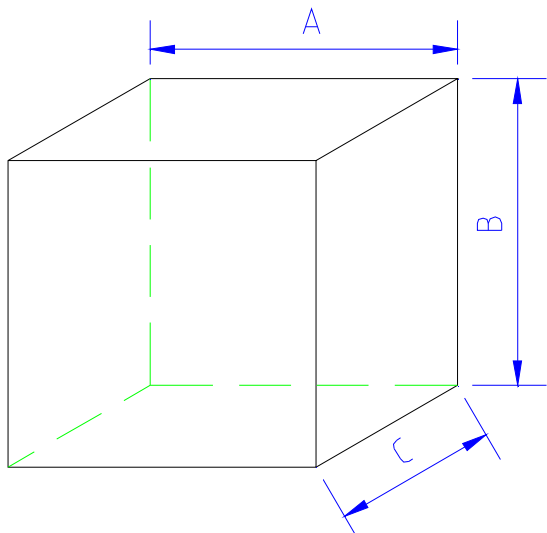
unit: mm

	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

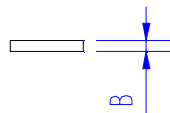
5.1.2 Tape Spec

A. Cover Tape

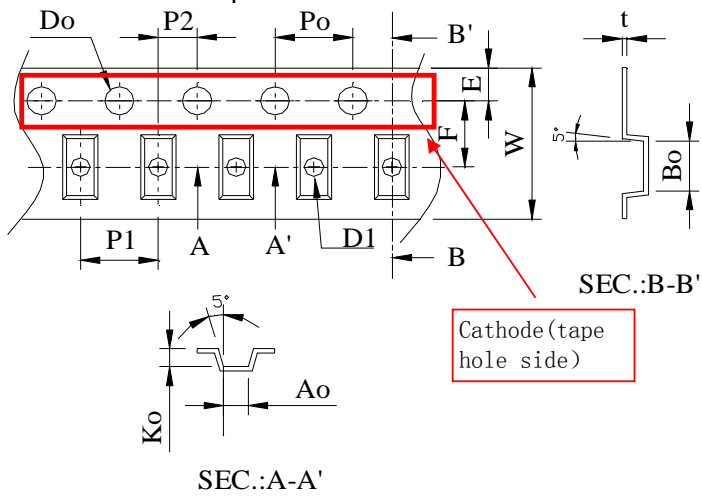


unit: mm

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



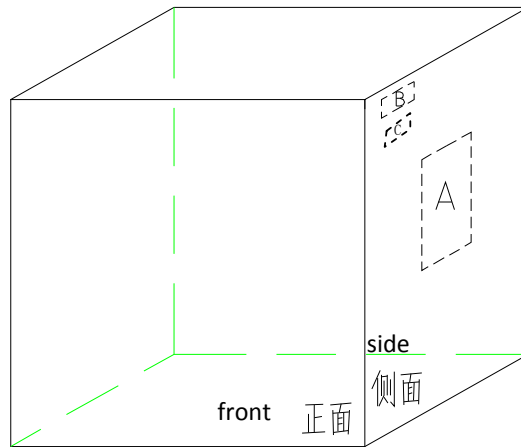
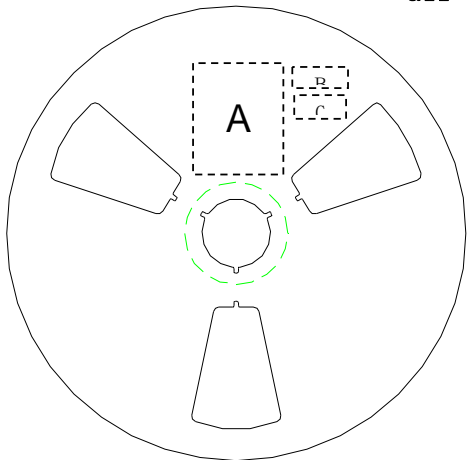
B. Carrier Tape



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

5.2、SMD Power Diode General Packing Spec

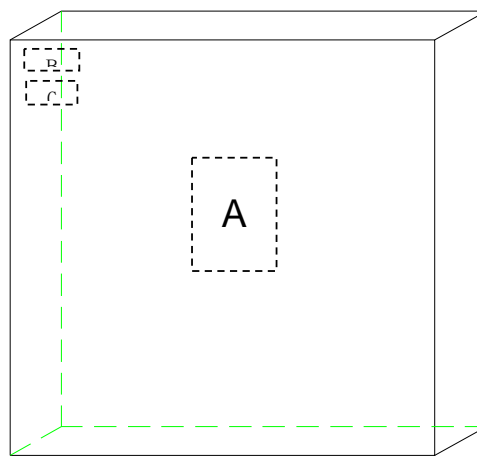
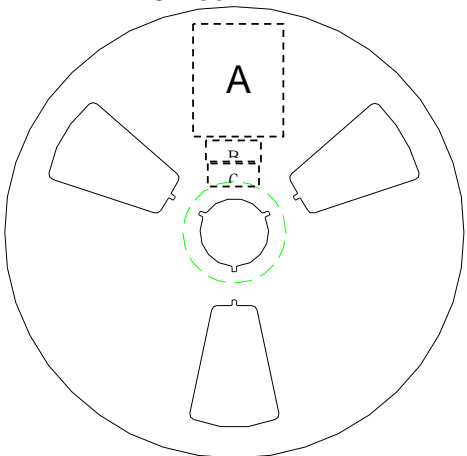
A. 7" reel all labels will be at cathode side of reel ;



A:LRC label;

B:Environment Label C:Halide free label

B. 13" reel



A:LRC label;

B:Environment Labe C:Halide free label

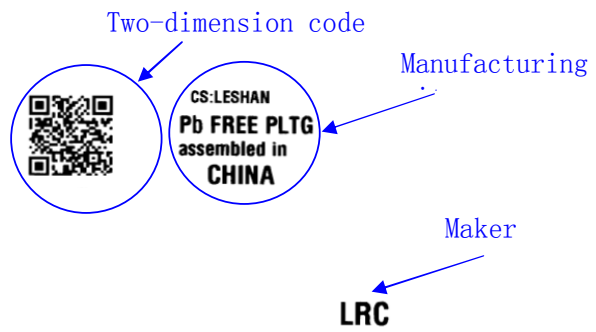
C. Tape lead: face anode side of the reel, upper side is the tape lead position. All labels are at cathode side of the reel.



标题: Power Diode SMD Package Packing Spec	DOC NO.: WI-258
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	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

Environment Label



Halide-free Label



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7. Update Record

版次	更新记录	更新作者	更新日期
1	第一版	周杰	2013.10.18