

Surface Mount Schottky Barrier Rectifier

Features

- Metal silicon junction, majority carrier conduction
- For surface mounted applications
- Low power loss, high efficiency
- High forward surge current capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- Lead free in comply with EU RoHS 2011/65/EU directives



Mechanical Data

- Case: SOD-123FL
- Terminals: Solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end

Ordering Information

Part Number	Marking	Shipping	Reel
LT1L60-TR3	76	3000PCS Tape&Reel	7 inches
LT1L60-TR12	76	12000PCS Tape&Reel	13 inches

Maximum Ratings and Electrical Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz resistive or inductive load,for capacitive load, derate by 20 %.

Parameter	Symbol	LT1L60	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	60	V
Maximum RMS voltage	V_{RMS}	42	V
Maximum DC Blocking Voltage	V_{DC}	60	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	1.0	A
Peak Forward Surge Current,8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	30	A
Max Instantaneous Forward Voltage at 1 A	V_F	0.5	V
Maximum DC Reverse Current @ $V_R=60V$ ($T_a=25^{\circ}C$)	I_R	50	μA
Typical Junction Capacitance (Note1)	C_j	80	pF
Typical Thermal Resistance (Note2)	$R_{\theta JA}$	90	$^{\circ}C/W$
Operating Junction Temperature Range	T_j	-55 ~ +150	$^{\circ}C$
Storage Temperature Range	T_{stg}	-55 ~ +150	$^{\circ}C$

Note: (1) Measured at 1 MHz and applied reverse voltage of 4 V D.C.

(2) PCB mounted with 2.0" X 2.0" (5 cm X 5 cm) copper pad areas.



Characteristics Curve

Fig.1 Forward Current Derating Curve

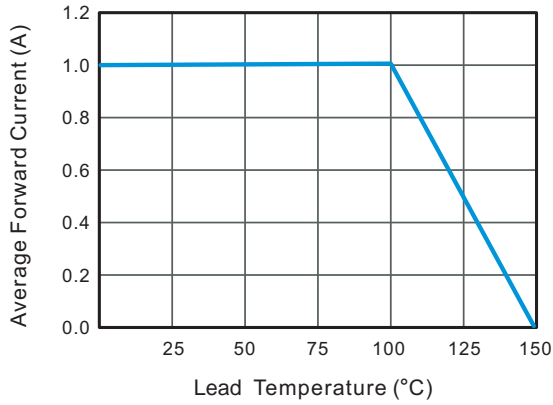


Fig.2 Typical Reverse Characteristics

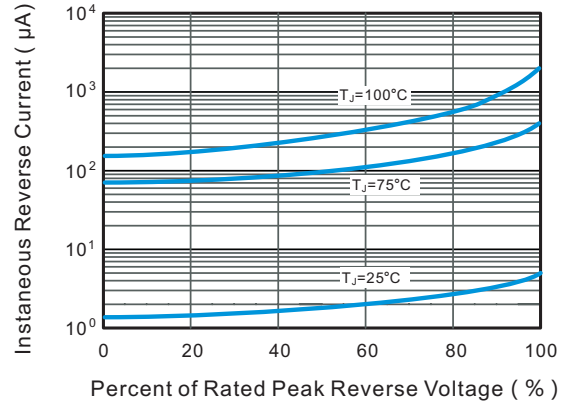


Fig.3 Typical Forward Characteristic

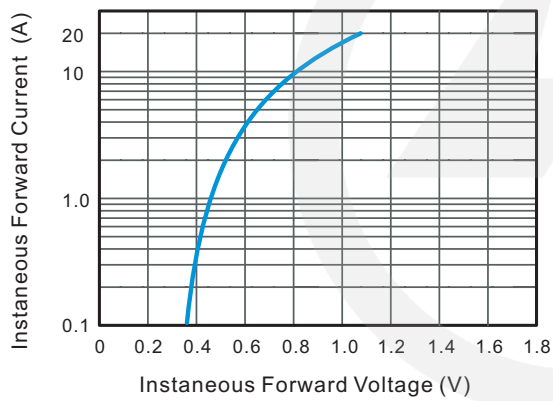


Fig.4 Typical Junction Capacitance

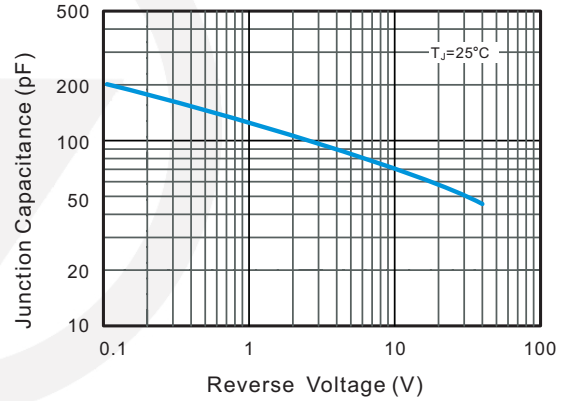


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

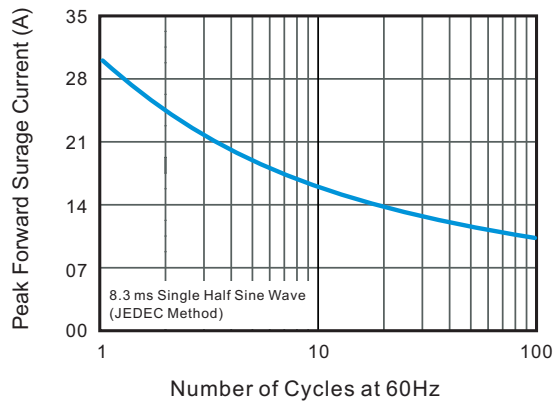
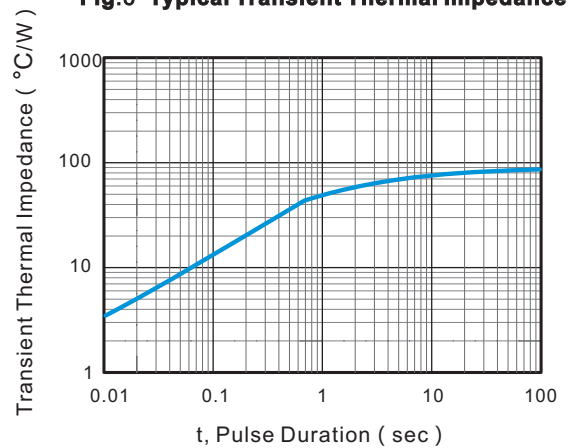
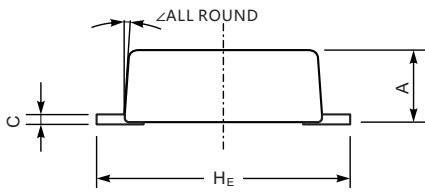


Fig.6 Typical Transient Thermal Impedance

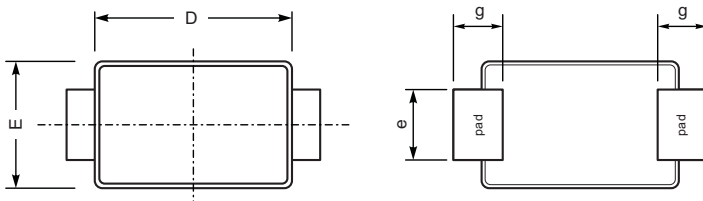


SOD-123FL Package Outline

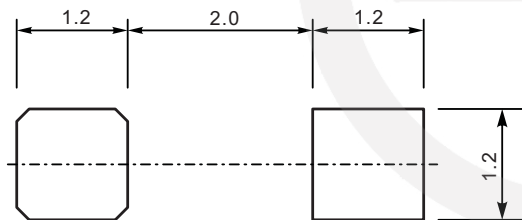
Unit: mm



SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.9	1.35
C	0.12	0.20
D	2.6	2.9
E	1.75	1.95
e	0.8	1.1
g	0.7	0.9
H _E	3.5	3.8
∠	7°	



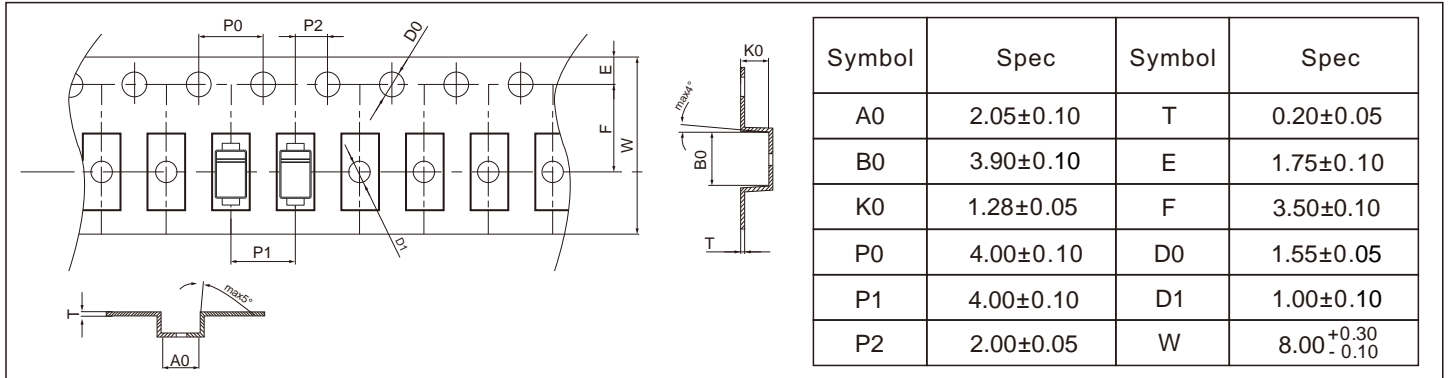
SOD-123FL Suggested Pad Layout



- Note:
1. Controlling dimension: in millimeters.
 2. General tolerance: $\pm 0.05\text{mm}$
 3. The pad layout is for reference purpose only.

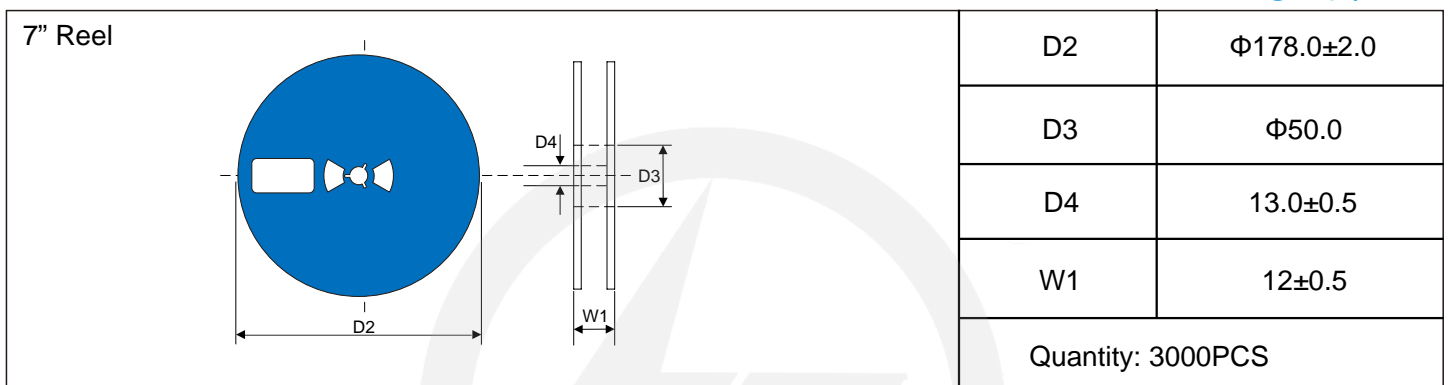
Carrier Tape Dimensions

Unit : mm



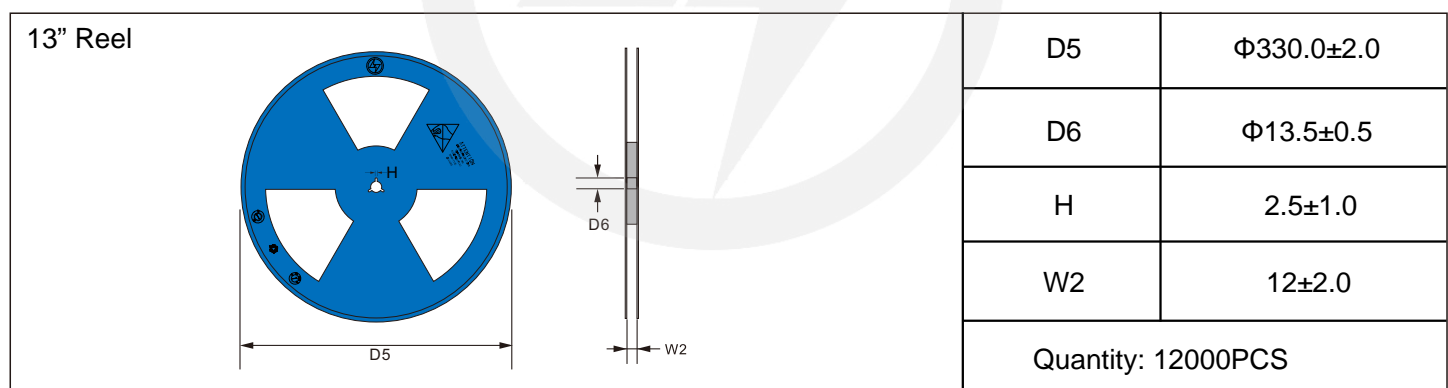
Reel Dimensions

Unit : mm

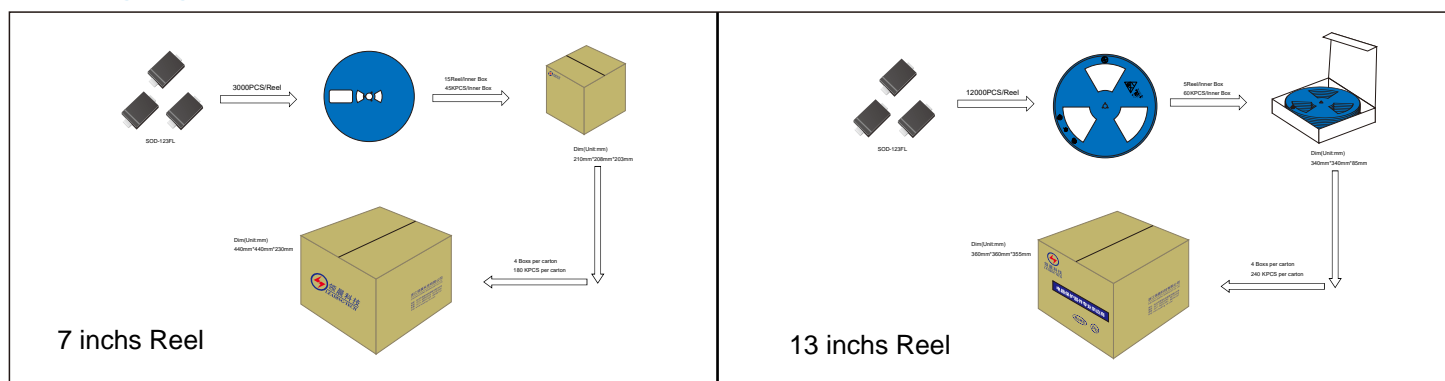


Reel Dimensions

Unit : mm

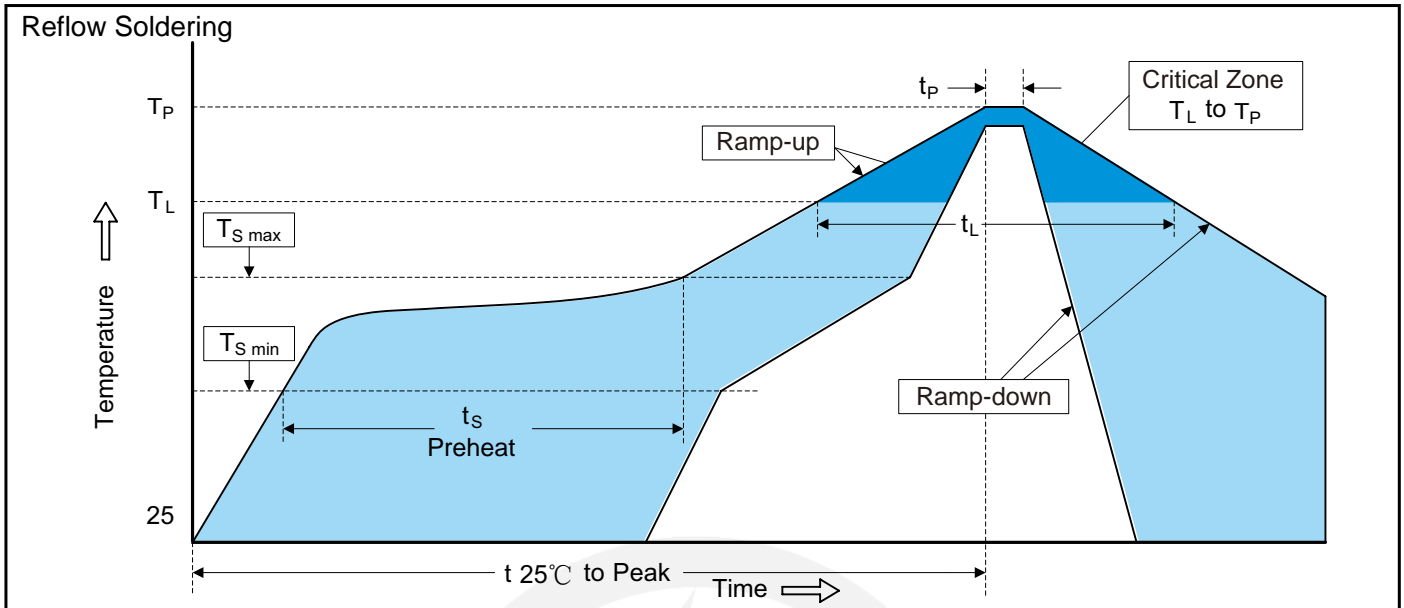


Packaging





Recommended Soldering Conditions



Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T _L to T _P)	3°C/second max.
Preheat	
-Temperature Min (T _{S min})	150°C
-Temperature Max (T _{S max})	200°C
-Time (min to max) (t _s)	60-180 seconds
T _{S max} to T _L	
-Ramp-up Rate	3°C/second max.
Time maintained above:	
-Temperature (T _L)	217°C
-Time (t _L)	60-150 seconds
Peak Temperature (T _P)	260°C
Time within 5°C of actual Peak Temperature (t _p)	20-40 seconds
Ramp-down Rate	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max.

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Version Update information

Series NO.	Enactment/Revision Date	Effective Date	Version	Revision content	Revision Reason	Revision Person	Note
01	2024.5.19	2024.5.19	3.0	New File	/	Ding	
02	2025.06.11	2025.06.11	3.1	Update packaging information	/	Ding	