Surface Mount Schottky Barrier Rectifier

Features

- Heatsink structure
- Metal silicon junction, majority carrier conduction
- Super Low VF Schottky barrier diodes
- For surface mounted applications
- Low power loss, high efficiency
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

Functional Diagram

Mechanical Data

- Case: SOD-123HE
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 14mg/0. 0005oz
- Polarity: Color band denotes cathode end
- Marking:P14

Maximum Ratings (Ta=25℃ unless otherwise noted)

Parameter	Symbols	LTP14HE	Units
Maximum repetitive peak reverse voltage	V_{RRM}	40	V
Maximum RMS voltage	V_{RMS}	28	V
Maximum DC blocking voltage	V_{DC}	40	V
Maximum average forward rectified current	$I_{F(AV)}$	1.0	A
Peak forward surge current 8.3 ms single half sinewave superimposed on rated load	I_{FSM}	10	A
Operating junction temperature range	T_j	- 55 to + 125	℃
Storage temperature range	T_{stg}	- 55 to + 150	℃

Electrical Characteristics (Ta=25℃ unless otherwise noted)

Parameter	Test Conditions	Symbols	LTP14HE	Units
Minimum Breakdown voltage	T_a = 25°C, I_R=1mA	V_{BR}	40	V
Maximum instantaneous forward voltage	I_F=1A, Ta=25℃	V_F	0.60	V
Maximum DC reverse current at rated DC blocking voltage	T_a = 25°C	I_R	50	uA
Typical junction capacitance	4.0 V, 1 MHz	C_J	60	pF

Ratings and Characteristics Curves

Fig.1 Forward Current Derating Curve

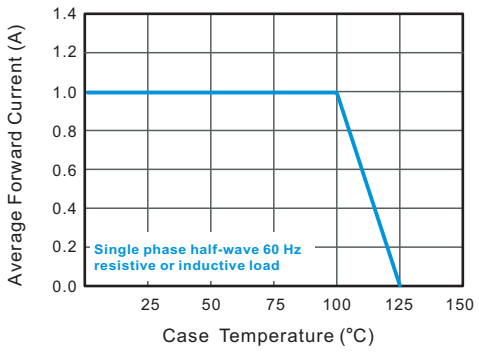


Fig.2 Typical Reverse Characteristics

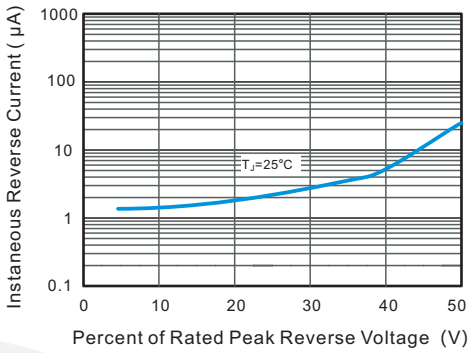


Fig.3 Typical Forward Characteristic

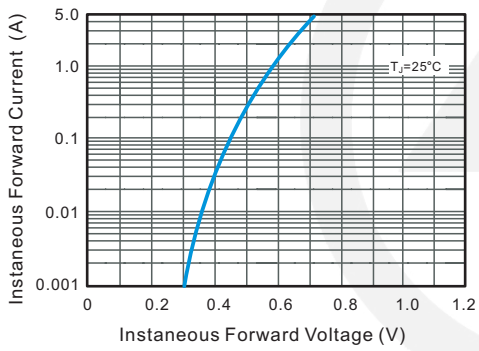


Fig.4 Typical Junction Capacitance

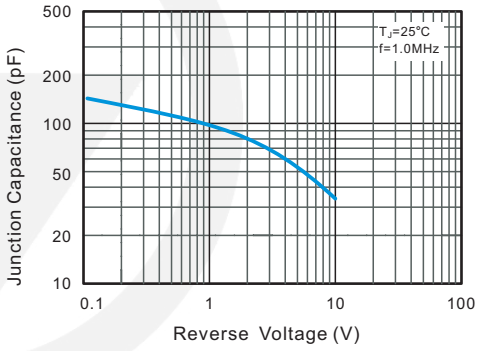
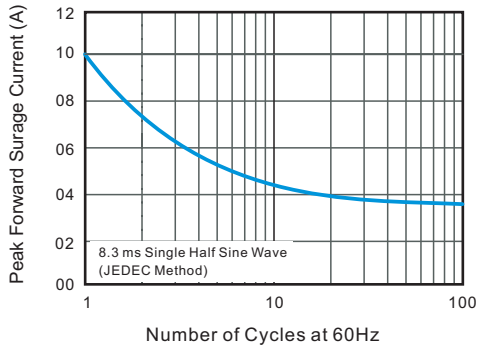
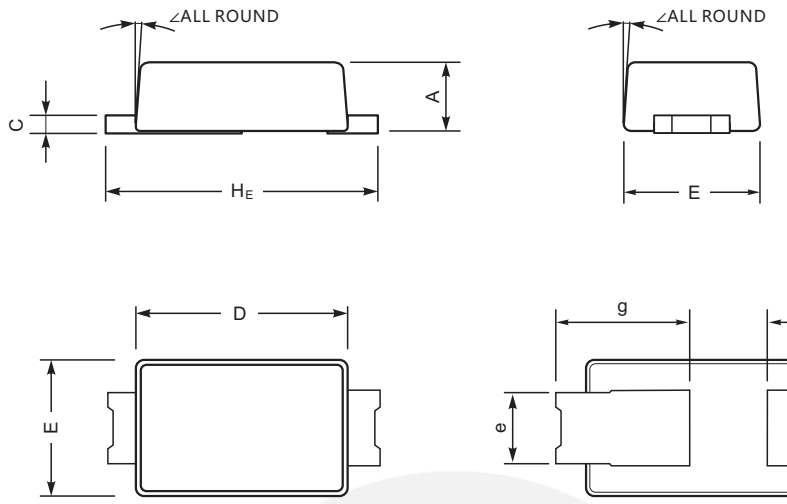


Fig.5 Maximum Non-Repetitive Peak Forward Surage Current

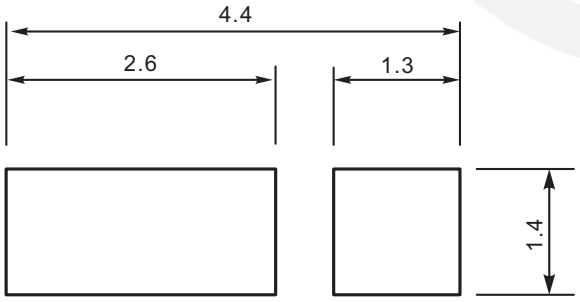


SOD-123HE Package Outline



UNIT		A	C	D	E	e	g	L	H_E	∠
mm	max	1.0	0.3	2.9	1.9	1.15	2.0	1.1	3.8	12°
	min	0.8	0.2	2.7	1.7	0.8	1.5	0.7	3.5	

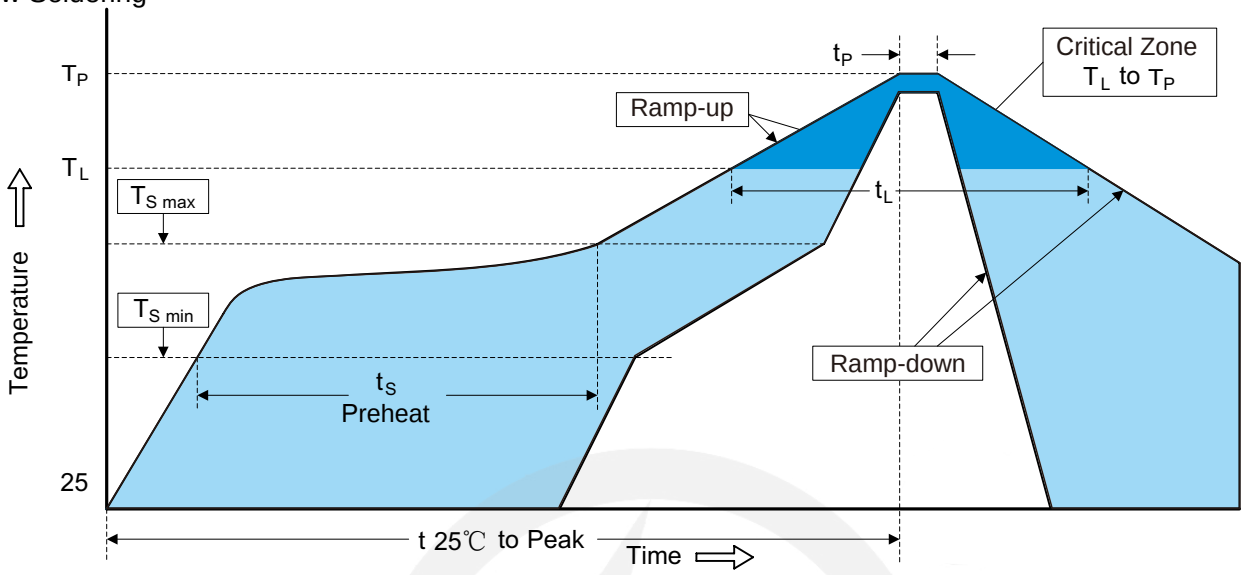
SOD-123HE Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm
3.The pad layout is for reference purpose only.

Recommended Soldering Conditions

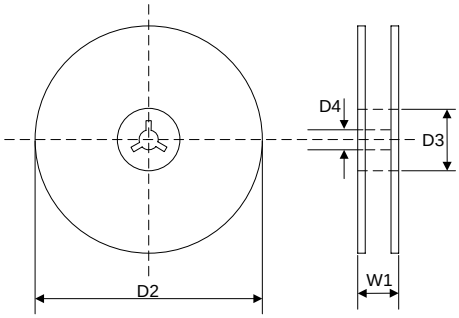
Reflow Soldering



Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3℃/second max.
Preheat -Temperature Min ($T_{S\ min}$) -Temperature Max ($T_{S\ max}$) -Time (min to max) (t_S)	 150℃ 200℃ 60-180 seconds
$T_{S\ max}$ to T_L -Ramp-up Rate	 3℃/second max.
Time maintained above: -Temperature (T_L) -Time (t_L)	 217℃ 60-150 seconds
Peak Temperature (T_P)	260℃
Time within 5℃ of actual Peak Temperature (t_P)	20-40 seconds
Ramp-down Rate	6℃/second max.
Time 25℃ to Peak Temperature	8 minutes max.

7” Reel



D2	Φ178.0±2.0
D3	Φ50.0Min.
D4	Φ13.0±0.5
W1	16.0±2.0
Quantity: 3000PCS	