

Silicon Schottky Barrier Diode

Features

- High surge capability
- Low forward voltage drop
- Small surface mounting type
- Ideal for automated placement
- Ultrafast reverse recovery time
- Low power losses, high efficiency

Applications

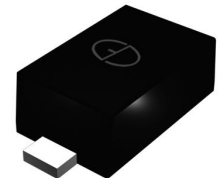
- Low Voltage
- Free Wheeling
- Switching circuit
- High-Frequency Inverters

Mechanical Characteristics

- Package: SOD-523
- Marking Information: See Below
- Case Material: "Green" Molding Compound
- UL Flammability Classification Rating 94V-0
- Terminal Connections: See Diagram Below

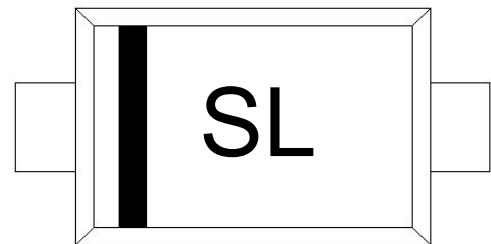
Description

SKY diodes is made of the principle of metal- semiconductor junction formed by the contact between metal and semiconductor .Therefore, SKY is also known as metal-semiconductor (contact) diode or surface barrier diode, which is a hot carrier diode



Marking: SL

SOD-523



Schematic Diagram

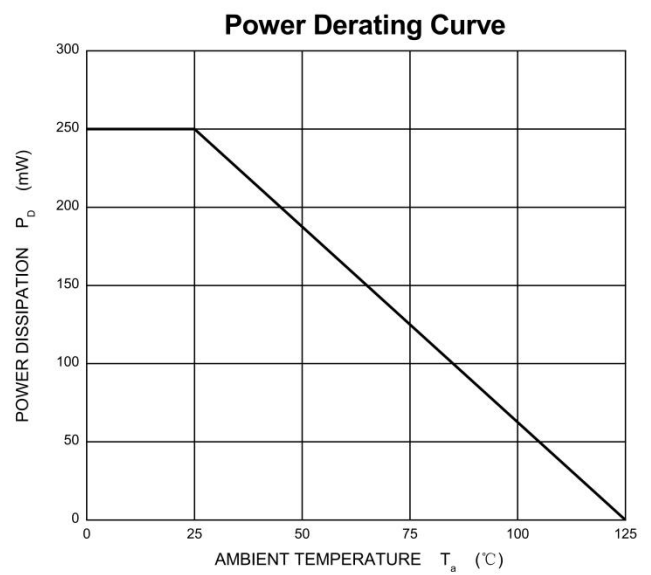
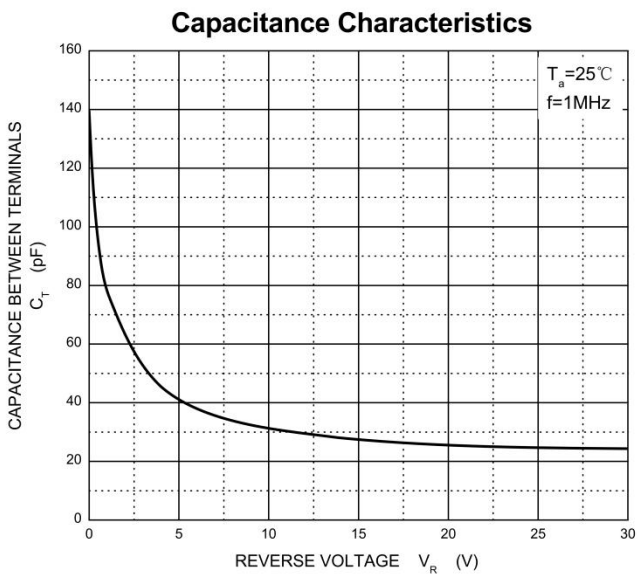
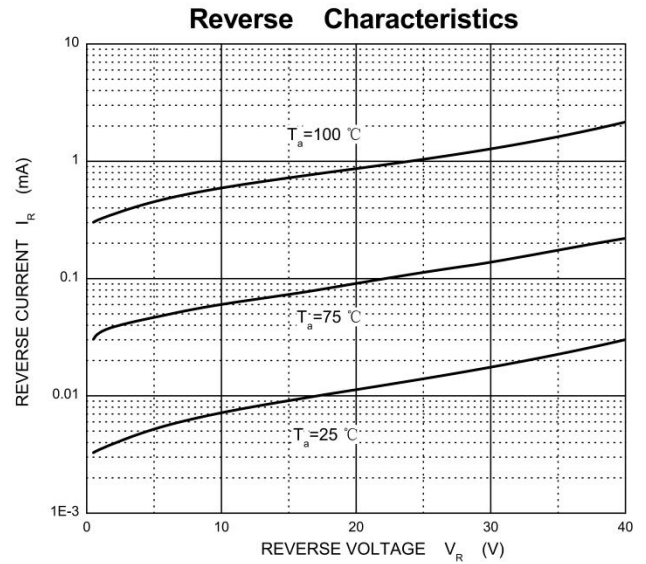
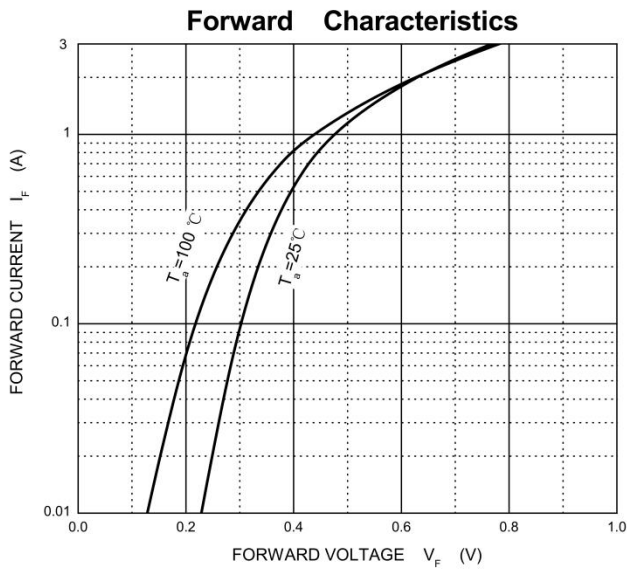


Absolute Maximum Ratings (T _A =25°C unless otherwise noted)			
Parameter	Symbol	Limit	Unit
Non-repetitive peak reverse voltage	V _{RM}	40	V
Peak Repetitive Peak Reverse Voltage	V _{RRM}	40	V
Working Peak Reverse Voltage	V _{RWM}	40	V
DC Blocking Voltage	V _R	40	V
RMS reverse voltage	V _{R(RMS)}	28	V
Average rectified output current	I _O	1	A
Non-repetitive Peak Forward Surge Current@t=8.3ms	I _{FSM}	5	A
Power Dissipation	P _D	250	mW
Thermal Resistance Junction to Ambient	R _{θJA}	400	°C/W
Junction temperature	T _J	125	°C
Storage Temperature	T _{STG}	-55 ~ +150	°C

Electrical Specifications(T _A =25°C unless otherwise noted)						
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse Breakdown Voltage	V _{BR}	I _R = 1mA	40			V
Reverse Leakage Current	I _R	V _R = 40V			1	mA
Forward Voltage	V _F	I _F = 0.5A			0.38	V
		I _F = 1.0A			0.6	V
Total Capacitance	C _T	V _R = 4V, f = 1.0MHz			120	pF

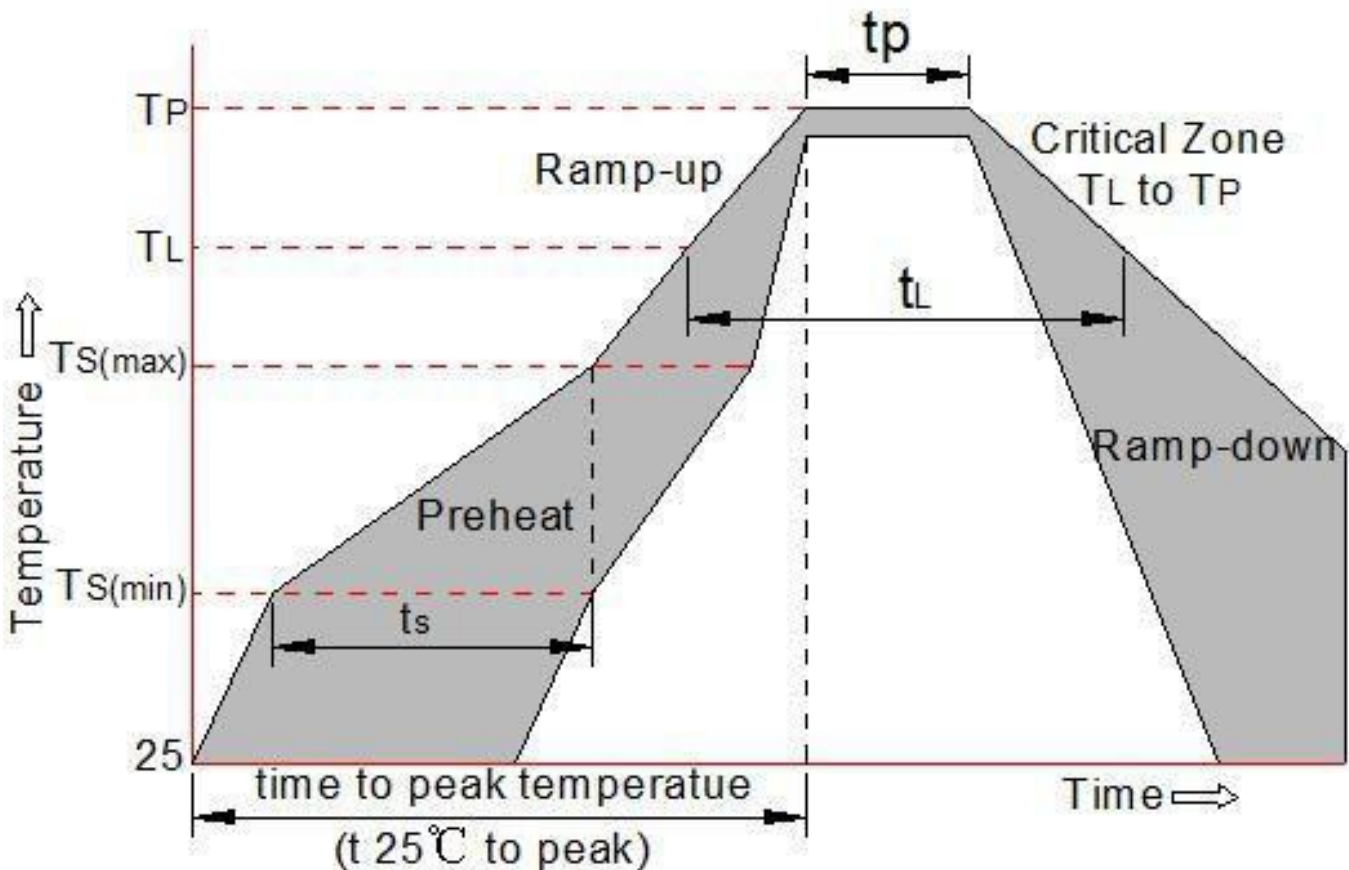
Ratings and Characteristics Curves

($T_A = 25^\circ\text{C}$ unless otherwise noted)



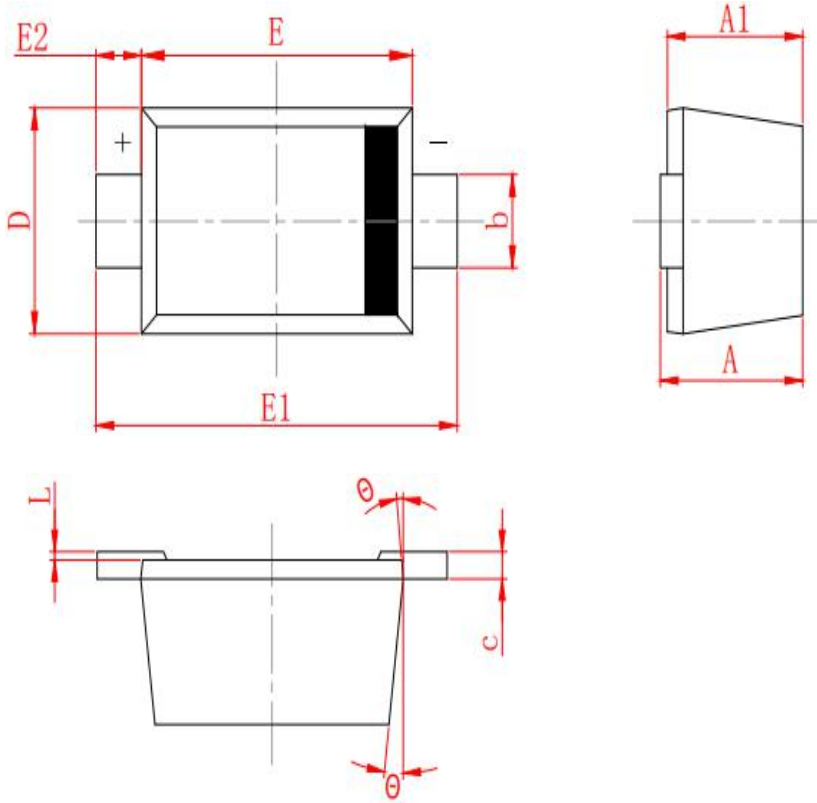
Soldering Parameters

Reflow Condition		Pb -Free assembly (see as bellow)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150 °C
	-Temperature Max($T_{s(max)}$)	+200 °C
	-Time (Min to Max) (t_s)	60 -180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3°C /sec. Max
$T_{s(max)}$ to T_L - Ramp -up Rate		3°C /sec. Max
Reflow	-Temperature(T_L) (Liquid us)	+217 °C
	-Temperature(t_L)	60 -150 secs.
Peak Temp (T_p)		+260(+0/ -5) °C
Time within 5 °C of actual Peak Temp (t_p)		30 secs. Max
Ramp -down Rate		6°C /sec. Max
Time 25 °C to Peak Temp (T_P)		8 min. Max
Do not exceed		+260 °C



Package Outline Dimensions

millimeters



SYMBOL	MILLIMETER	
	MIN	MAX
A	0.530	0.730
A1	0.500	0.700
b	0.280	0.380
c	0.080	0.150
D	0.750	0.850
E	1.100	1.300
E1	1.500	1.700
E2	0.200 REF	
L	0.010	0.070
θ	7° REF	

Revision History

Document Version	Date of release	Description of changes
Rev.A	2022.05.10	First issue

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