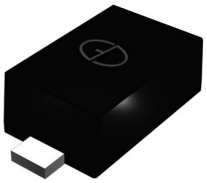
Schottky Barrier Diode

Features

- Small Surface Mounting Type
- Ideal for Automated Placement
- High Surge Capability
- Low Forward Voltage Drop
- Ultrafast Reverse Recovery Time
- Low Power Losses, High Efficiency
- RoHS Compliant

RoHS
COMPLIANT

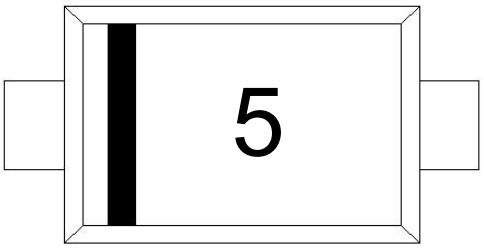


Marking: 5

SOD-523

Applications

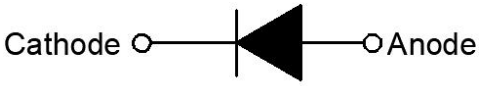
- Low Voltage
- Free Wheeling
- Switching circuit
- High-Frequency Inverters



Mechanical Characteristics

- Package: SOD-523
- Lead Finish:Matte Tin
- Case Material: “Green” Molding Compound
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020

Schematic Diagram



Absolute Maximum Ratings (T_A=25℃ unless otherwise noted)

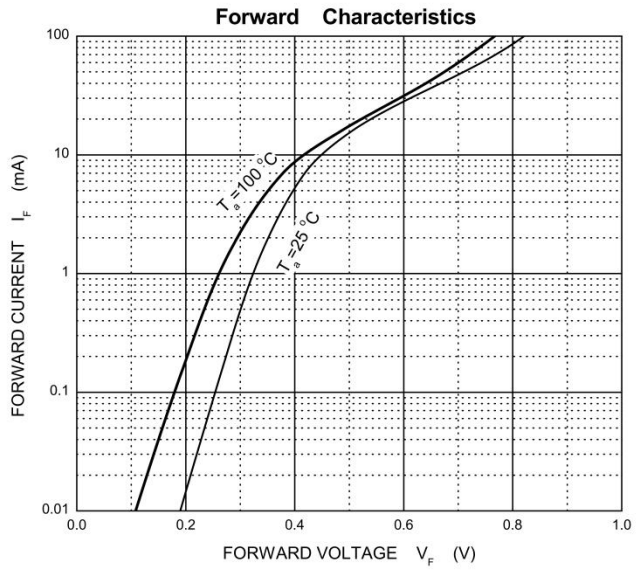
Parameter	Symbol	Limit	Unit
Reverse Voltage (Repetitive Peak)	V_{RRM}	40	V
Reverse Voltage (RMS)	$V_{R(RMS)}$	32	V
DC Blocking Voltage	V_R	40	V
Average rectified output current	I_O	30	mA
Non-repetitive Peak Forward Surge Current@t=8.3ms	I_{FSM}	0.2	A
Power Dissipation	P_D	150	mW
Thermal Resistance Junction to Ambient(Typ)	$R_{\theta JA}$	320	℃/W
Operating Junction temperature	T_J	-55 ~ +125	℃
Storage Temperature Range	T_{STG}	-55 ~ +150	℃

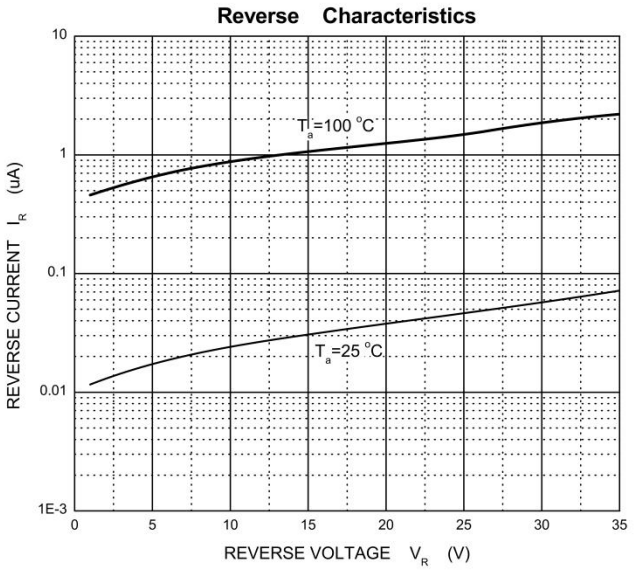
Electrical Specifications(T_A=25℃ unless otherwise noted)

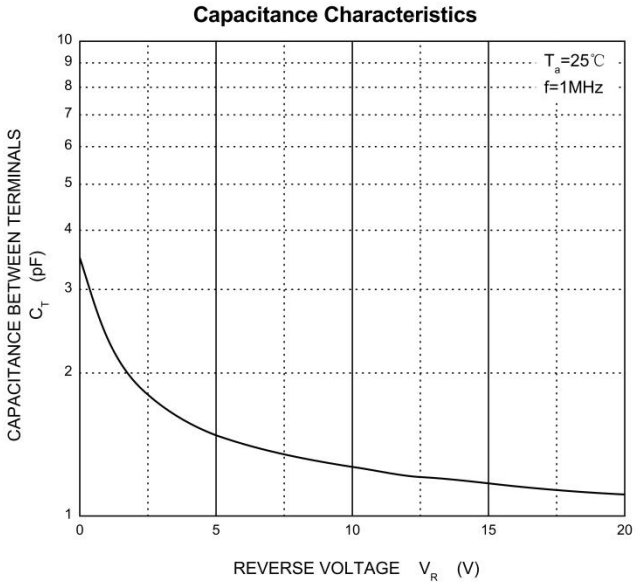
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse Breakdown Voltage	V_{BR}	I_R = 1mA	40			V
Reverse Leakage Current	I_R	V_R = 30V			0.5	uA
Forward Voltage	V_F	I_F = 1mA			0.37	V
Total Capacitance	C_T	VR=1V, f=1MHz		2		p'F

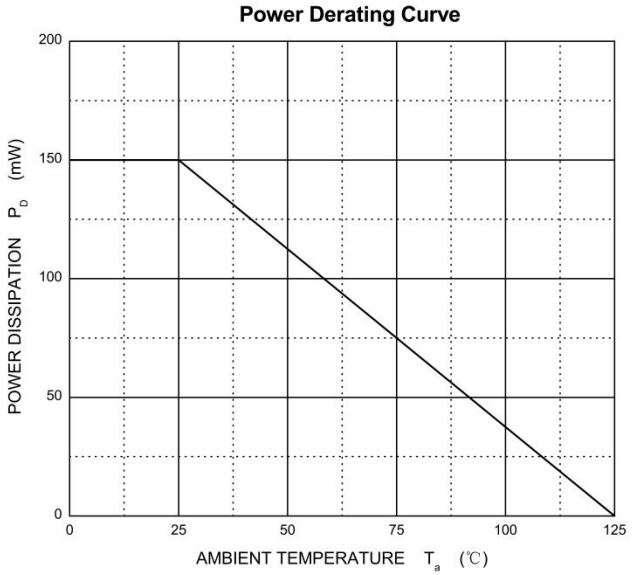
Ratings and Characteristics Curves

(TA = 25℃ unless otherwise noted)



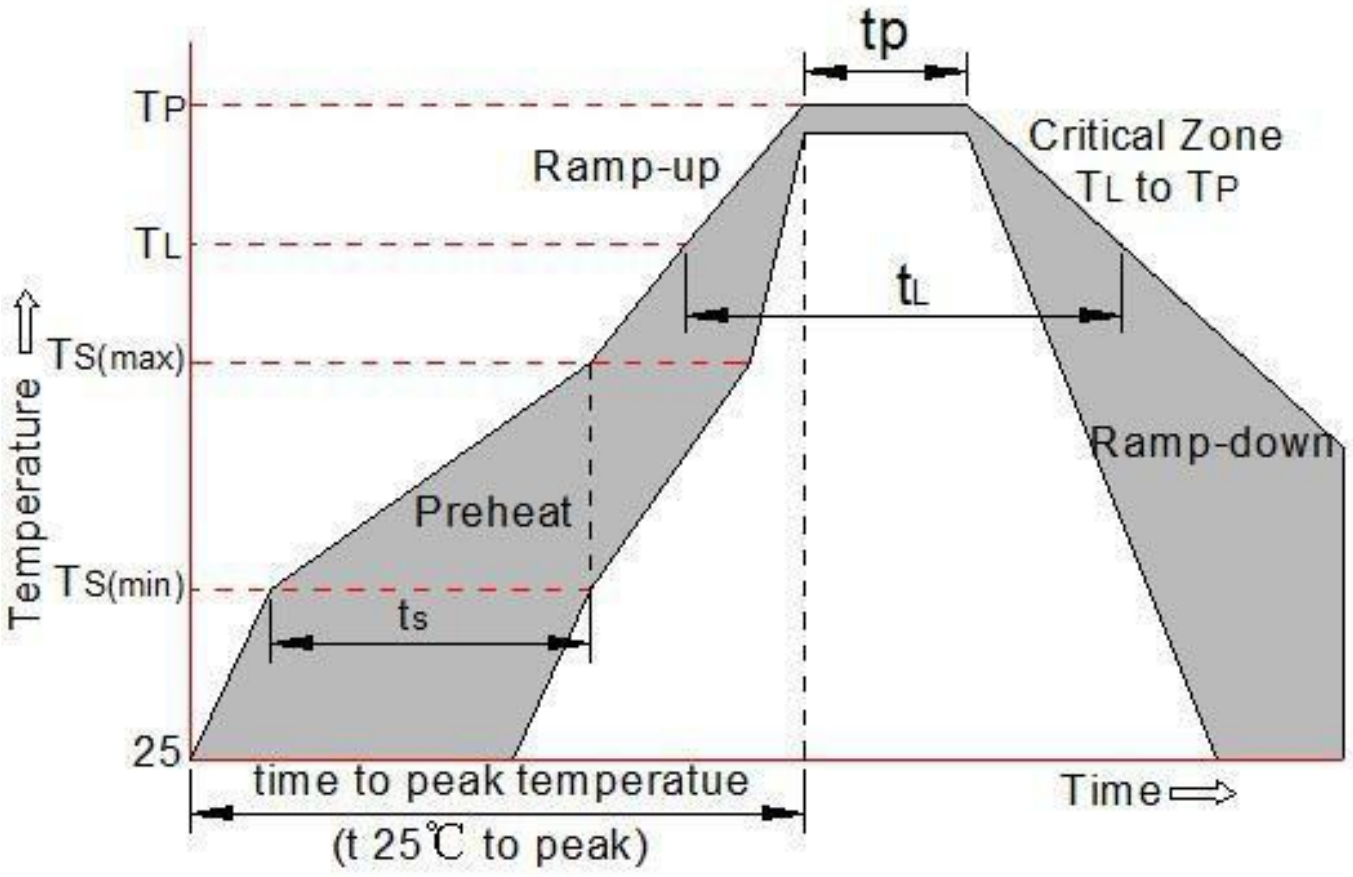






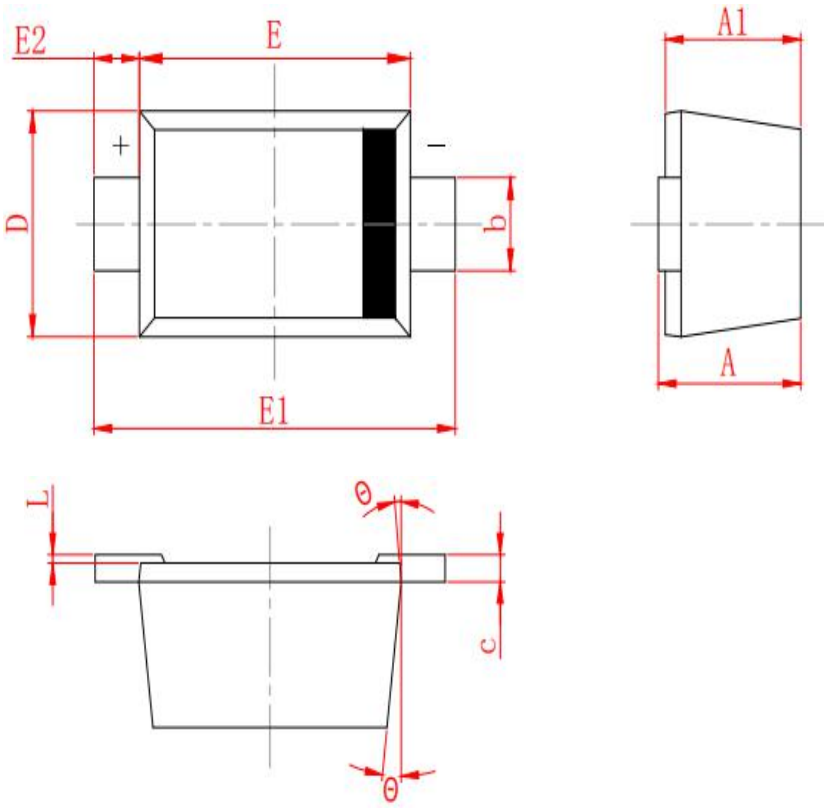
Soldering Parameters

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



Package Outline Dimensions

in inches (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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